
Magistrate Teresa O'Sullivan
NSW State Coroner



Inquests and Inquiries into the 2019/2020 NSW Bushfire Season

Findings and Recommendations
Volume 1



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**'Guwiyang the Lightning Fire Tree' (2020),
Belanje.**

The storyline is how an old tree takes on the form of lightning which glows at night within its stem and leaves. Guwiyang means fire and talks about the importance of Indigenous cultural burning that prevent uncontrollable wildfires and rejuvenates the earth surface for renewal. The tree represents lightning to remind us of caring for our Country – through fire burning practices that are essential for a healthy environment. Since Colonisation – we have ignored the inherent capabilities of thousands of years of practice in best ways to manage the land and seas. We have witnessed the devastation that has resulted from this. It is time to care for the needs of not only humans but the animals, plants and our unique cultural landscapes.

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Findings and
Recommendations

Volume 1

March 2024

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List of Abbreviations

AAS	Air Attack Supervisor
ABM	Air Base Manager
ABS	Anti-lock Braking System
ADR	Australian Design Rules
AEBS	Advanced Emergency Braking System
AED	Automatic External Defibrillator
AFAC	Australasian Fire Authorities Council
AFI	Authorised Fire Investigator
AGL	Above Ground Level
AOCG	Affected Owners Community Group
AOM	Air Operations Manager
ARO	Aviation Radio Operator
AS	Australian Standard
ATSB	Australian Transport Safety Bureau
AWS	Automated Weather Station
Bureau	Bureau of Meteorology
BRC	Bushfire Risk Classification
CAD	Computer Aided Dispatch
CASA	Civil Aviation and Safety Authority
CFA	Country Fire Authority, Victoria
CHI	Continuous Haines Index
COPS	Computerised Operational Policing System
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DCI	Detective Chief Inspector
DIC	Deputy Incident Controller
DI	Detective Inspector
DFMC	Dead Fuel Moisture Content
DSC	Detective Senior Constable
DS	Detective Sergeant
DSS	Detective Senior Sergeant
ENA	Energy Networks Australia

ESC	Electronic Stability Control
EW	Emergency Warning
FBA	Fire Behaviour Analyst
FCC	Fire Control Centre
FCNSW	Forestry Corporation of New South Wales
FETS	Forensic Evidence & Technical Services Command
FFDI	Forest Fire Danger Index
FFM	Forest Fire Management, Victoria
FGV	Fire-Generated Vortex
FICU	Fire Investigation and Compliance Unit
FOPS	Falling Object Protective Structure
FPR	Fire Progression Report
FRAT	Flight Risk Assessment Tool
FRNSW	Fire and Rescue New South Wales
GPATS	Global Position and Tracking Systems Pty Ltd
GVM	Gross Vehicle Mass
HLI	House Loss Index
IAP	Incident Action Plan
IC	Incident Controller
ICAM	Incident Cause Analysis Method
ICC	Incident Control Centre
ICON	Incident Control Online
IMT	Incident Management Team
LAT	Large Air Tanker
LGA	Local Government Area
LSC	Leading Senior Constable
MFU	Major Fire Update
MOU	Memorandum of Understanding
MUARC	Monash University Accident Research Centre
NAFC	National Aerial Firefighting Centre
NPWS	National Parks and Wildlife Service

NRSC	National Resource Sharing Centre
NSWPF	NSW Police Force
OIC	Officer-in-Charge
OPS	Operator Protective Structure
PLO	Public Liaison Officer
PPE	Personal Protective Equipment
PSBI	Pre-Summer Bushfire Inspection
RAFT	Remote Area Firefighting Team
RART	Rapid Aerial Response Team
RFS	NSW Rural Fire Service
RH	Relative Humidity
ROPS	Rollover Protection System
RSC	Rollover Stability Control
SAD	State Air Desk
SAO	Specific Area of Origin
SEAT	Single Engine Air Tankers
SC	Senior Constable
SES	State Emergency Service
SITREP	Situation Report
SOC	State Operations Controller
SOP	Standard Operating Procedure
SRT	Static Rollover Threshold
SSGT	Senior Sergeant
TOBAN	Total Fire Ban
UHF	Ultra High Frequency
VLAT	Very Large Air Tanker
VMP	Vegetation Management Plan
W&A	Watch and Act

Part 1

2019/2020 NSW
Bushfire Season and
NSW Bushfires Coronial
Inquiry: Overview

1

1. Introduction and context

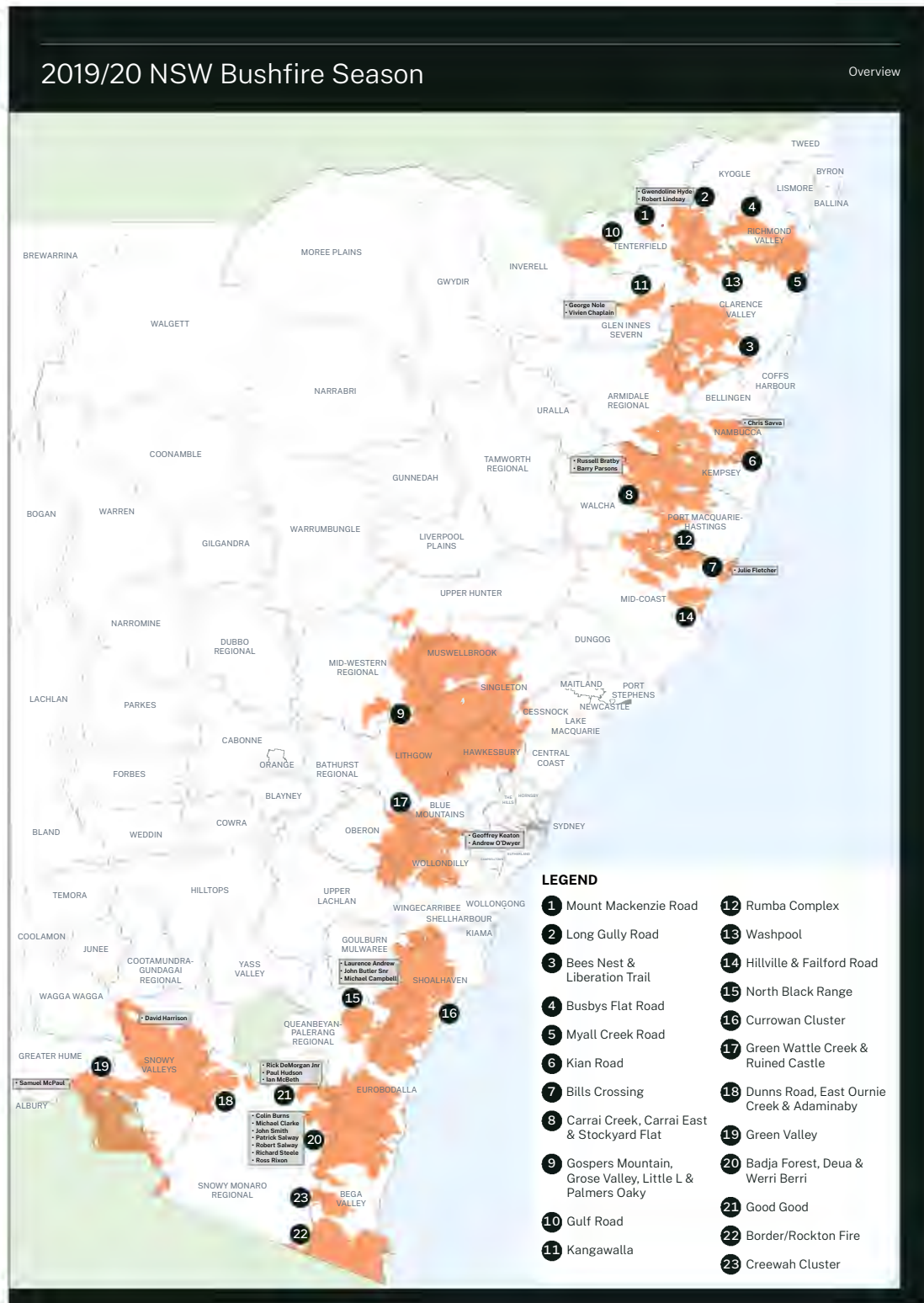
The 2019/2020 bushfire season

1. The 2019/2020 NSW bushfire season was one of the most catastrophic on record. It was unprecedented in scale and intensity.
2. Estimates suggest there were 11,774 fire incidents across New South Wales during the season which lasted for 8 months from July 2019 until March 2020.¹ A state-wide State of Emergency was declared by the Premier three times between November 2019 and January 2020. The last fires were extinguished on 2 March 2020 after 240 consecutive days of burning.² The 2019/2020 NSW RFS Annual Report states from July 2019 - June 2020, across the state there were 43 Section 44 declarations made, TOBANs were declared on 60 days, including ten days of statewide TOBAN.
3. Tragically twenty-five people died in connection with the fires, including seven firefighters. It is important at the outset to honour them and to acknowledge those who have endured a loss in, what can only be described as, truly horrific circumstances.
4. The people who sadly lost their lives in connection with the 2019/2020 NSW bushfires were:
 - a. Laurence Andrew
 - b. Russell Bratby
 - c. Colin Burns
 - d. John Butler
 - e. Michael Campbell
 - f. Vivien Chaplain
 - g. Michael Clarke
 - h. Rick DeMorgan Jr
 - i. Julie Fletcher
 - j. David Harrison
 - k. Paul Hudson
 - l. Gwendoline Hyde
 - m. Geoffrey Keaton
 - n. Robert Lindsay
 - o. Ian McBeth
 - p. Samuel McPaul
 - q. George Nole
 - r. Andrew O'Dwyer
 - s. Barry Parsons
 - t. Ross Rixon
 - u. Patrick Salway
 - v. Robert Salway
 - w. Christopher Savva
 - x. John Smith
 - y. Richard Steele

¹ NSW Bushfire Inquiry Report, p. 21.

² NSW Bushfire Inquiry Report, p. 21.

5. The immense loss this represents to their families, friends and communities is acknowledged and has been, and continues to be, remembered during the course of these hearings.
6. I have been moved by the personal stories I have heard during this Inquiry. The losses are immeasurable and the path to healing has no doubt been difficult. The compassion and determination shown by communities during the bushfires and continuing to this day is clear evidence of the strength of the human spirit. I offer my heartfelt condolences.
7. The fires burnt over 5.52 million hectares of land which equates to approximately 7% of the State's total land area, 39% of New South Wales State Forest and 35% of New South Wales NPWS estates. This was the largest recorded area of land burnt by bushfires in the State's history and the full extent of impact is shown in the orange areas below:



8. The sheer scale and ferocity of the fires burning simultaneously meant that resources were stretched across the State. This impacted the ability to deploy resources where required within the State and/or also share interstate resources where fires were overlapping or burning simultaneously in the ACT, Queensland, Victoria, South Australia and Western Australia.³
9. The NSW fires also destroyed 2,476 houses, 3 schools, 284 facilities, 5,559 outbuildings, and damaged 1,034 homes, 196 facilities and 2,017 outbuildings.⁴ Almost 90,000 kilometres of boundary fencing was damaged and according to some reports the number of livestock confirmed to have perished across the State exceeds 13,000 in number.
10. These figures are estimates only. Not everyone affected by the fires reported damage to the authorities or wished to participate in investigations conducted on behalf of the Coroner.
11. Fortunately, there were 14,567 homes saved by the heroic efforts of emergency service personnel.⁵
12. The fires also had a very significant impact upon flora and fauna with large numbers of native wildlife killed or injured, and with the loss of native forests and grasslands that served as wildlife habitat and housed ecosystems. Over 330 threatened species and 37 threatened ecological communities protected under national environmental law were in the path of the fires.⁶
13. It is estimated that more than 800 million animals were killed in NSW as a result of the fires. More than 25% of the most suitable koala habitat in eastern New South Wales was within fire affected areas. The Commonwealth Wildlife and Threatened Species Bushfire Recovery Expert Panel has released a list of 191 invertebrate species known or presumed to have been severely affected by the fires nationally.⁷
14. These fires also had a devastating impact upon First Nations peoples, the traditional custodians of the land. Many nations, tribes and clans live in the fire-affected areas. Throughout these findings, where possible, I reference the lands of affected First Nations peoples.
15. As the fires merged it has been a challenging exercise to determine which fire destroyed or damaged which property. This was a fire season like no other and the scale of loss is difficult to truly comprehend or adequately quantify.
16. It has been estimated that the national financial impacts are over \$10 billion.⁸ On 28 May 2020, the Insurance Council of Australia advised that insurance claims from the bushfires in 2019 and 2020 across NSW, Queensland, Victoria and South Australia numbered 38,181, with estimated losses of \$2.32 billion. NSW accounted for 81 per cent of these losses, or \$1.88 billion.⁹
17. These figures are important but do not capture the human tragedy or impact upon the community's collective psyche. Stories of personal experience have helped those of us who were not directly affected by the fires, to understand how the events of that summer ravaged local communities.
18. Against this background it is also remarkable that the loss of life arising from these fires was not higher.
19. The hearings were conducted in the knowledge that the trauma and grief that the fires wrought persists long after the last flame was extinguished and that as communities grappled with the immediate aftermath of these fires, they were further threatened by the arrival of COVID-19 and in some areas, further devastation caused by flooding.
20. Whilst COVID 19 affected all of us, it is particularly important to recognise the people who had to take shelter during the 2020 lockdown in borrowed accommodation, or bunkered down with family or friends, or who camped out in tents or caravans or sheds or makeshift shelters on their property whilst trying to work out how to rebuild their lives, where to rebuild their lives, and how to keep safe from a pandemic and subsequent natural disasters that followed.

³ NSW Bushfire Inquiry Report, p. 2.

⁴ NSW Bushfire Inquiry Report at p. 2.

⁵ NSW Bushfire Inquiry Report at p. 21.

⁶ Royal Commission into National Natural Disaster Arrangements at p. 353, [16.2].

⁷ NSW Bushfire Inquiry Report at p. 243.

⁸ Royal Commission into National Natural Disaster Arrangements at p. 5.

⁹ Australian Disaster Resilience Knowledge Hub: <https://knowledge.aidr.org.au/resources/black-summer-bushfires-nsw-2019-20/>.

Investigations and Inquiries

21. A number of inquiries at a local, state and national level have already occurred in relation to the 2019/2020 bushfires including:
 - a. the NSW Bushfire Inquiry was established by the NSW Parliament and chaired by Dave Owens APM, and Mary O’Kane (the **NSW Bushfire Inquiry**) with the Final Report delivered on 31 July 2020;
 - b. the Royal Commission into National Natural Disaster Arrangements established with Air Chief Marshal Mark Binskin AC, the Honourable Dr Annabelle Bennett AC SC, and Professor Andrew Mackintosh appointed as Royal Commissioners (the **Royal Commission**) with the Final Report delivered on 28 October 2020; and
 - c. the Senate Finance and Public Administration References Committee – Lessons to be learned in relation to the Australian bushfire season 2019-20 (the **Senate Inquiry**) with an Interim Report delivered on 7 October 2020 and the Final Report delivered in December 2021,

((a–c) referred to collectively as the **Earlier Inquiries**).
22. An audit was also performed by the NSW Auditor-General on how effectively the RFS plans and manages the firefighting equipment needed to prevent, mitigate, and suppress bushfires for the period of 2017-2022 (the Audit) with the Planning and Managing Bushfire Equipment Report published on 27 February 2023.
23. The Court’s approach to the coronial inquests and inquiries, including those that would proceed to hearing, was informed by the extensive work performed by the Earlier Inquiries, particularly the work of the NSW Bushfire Inquiry.

2019/2020 NSW Bushfires Coronial Inquiry

24. More than 110 fires were reported to the Coroner arising from the 2019/2020 bushfire season. This number is an approximation because many of the briefs of evidence that are ‘counted’ as one fire, in fact involved investigations into a number of smaller fires that later merged or coalesced.
25. Twenty-five deaths were reported to the Coroner in connection with the 2019/2020 bushfire season.
26. In 2020, I sought the assistance of the Department of Communities and Justice, Legal in relation to this Inquiry. Given the scale of the subject matter, a dedicated legal team was established.
27. Each of the fires and deaths reported was accompanied by a brief of evidence collated by NSW Police. Each brief was reviewed to determine whether further investigations were required. Some additional evidence was obtained in matters where the Assisting Team determined additional information was required and NSW Police and other government agencies, such as the RFS, were able to respond to requisitions arising.
28. Part of the challenge lay in the sheer volume of material that had to be investigated, analysed, and compiled, including:
 - a. more than 600,000 pages of produced material including witness statements, maps, photographs, reports, operational records and organisational documents; and
 - b. substantial electronic evidence, including video footage and audio recordings.
29. As issues emerged and became clear, those assisting adopted a consultative approach towards official agencies and other parties affected by the proceedings. As part of that approach, they undertook meetings with a view to understanding how the Inquiry might be able to utilise the knowledge and information held by those concerned. This enabled a greater and more efficient understanding of issues for examination by the Court and consensus on procedural issues that might otherwise have been contested in directions hearings. This included meetings with legal representatives for FRNSW, FCNSW, NPWS, NSWPF and the RFS. While some directions hearings were still required, given the size and length of this Inquiry, the number was confined.

30. A pivotal part of the Assisting Team's work also involved speaking with the families of those who lost their lives. These communications were critical in making sure family members, often at a time of great personal distress, understood the Court process and their role, were able to communicate their questions or concerns, and to facilitate the opportunity for those families to share with the Court a tribute to their loved one should they wish to do so.

Public submissions

31. The Court also sought public submissions from those who had been directly affected by the bushfires and about what they experienced. An open public invitation was issued by the Inquiry on 16 June 2021 seeking submissions from affected residents, emergency and support personnel, organisations, and the public.
32. Submissions were primarily received during June – July 2021 via the Court's Bushfire webpage and also direct email. To enable as many people as possible to have their say, the deadline was extended to October 2021.
33. To make sure the submission process was as inclusive as possible, dedicated phone and email contacts with the Inquiry Team were also made available to the public in the event they were unable to make a submission via the online process.
34. Each submission received was read, reviewed and catalogued by the Inquiry and was also considered when determining which matters might proceed to a representative case study hearing into discrete systemic issues.
35. The submissions received varied in length and detail. The majority of the submissions were provided in response to specific fires that had been identified for public hearing or were provided in response to the season as a whole. There were also some submissions received that addressed particular topics, including, in particular, backburning and aerial firefighting. Each of these topics are addressed later in these findings.
36. The Court appreciated the willingness of the community to share these personal stories. For many people, the trauma of the fires is ongoing and was compounded by the COVID-19 pandemic and other natural disasters that have occurred since. These submissions have enabled a better understanding of the full impacts of this fire season and assisted the Court in the consideration of relevant issues during this Inquiry. I extend my thanks to those who took the time to make a submission.
37. A list of the submissions received is found in Volume 2, Part 11, Appendix 8 and includes details of those who gave permission to have their information published.

Focus of inquests and inquiries

38. It is not the function of this Court to review all of the matters already addressed in the Earlier Inquiries which had a different scope, intended focus and level of resourcing.
39. Section 27(1) of the *Coroners Act 2009* (NSW) (**the Act**) requires an inquest to be held if it has not been sufficiently disclosed what the manner and cause of a person's death was. A coronial inquest is a public examination of the circumstances of a person's death to determine the manner and cause of death. It is not the purpose of these proceedings to lay blame or to make decisions about the liability of any person or organisation because of the fires. It is also not the role of this Court to make findings about compensation or damages.
40. I determined that an inquest would be held into each of the 25 lives lost in connection with the 2019/2020 bushfire season.
41. The primary role of a coroner during an inquiry is to establish the cause and origin of a fire. If the cause and origin is clear, a court hearing may not be necessary.
42. I determined that 41 fires would proceed to an inquiry. With respect to the remaining reported fires, I dispensed with the holding of an inquiry under section 31 of the Act.

43. A Coroner can also make recommendations if it is necessary or desirable. Recommendations are an important part of a coronial process and can help improve public health and safety and prevent similar events from happening again. In this context, the Court has a unique opportunity to build on the work of the Earlier Inquiries and to consider the responses to Recommendations arising from them.

The hearing process

44. The hearings were conducted in two stages. Firstly, a series of inquests and inquiries were held focussed on determining the cause and origin of each fire, and manner and cause of each death in connection with the fires (the **Stage 1 hearings**). Further information about the Stage 1 hearings is detailed in Parts 3 – 6 of these findings.
45. Following completion of the Stage 1 hearings, an assessment was made about systemic issues of public importance requiring further analysis by the Court by way of representative case study (the **Stage 2 hearings**). There were 17 fire inquiries identified as representative case studies to be used as a vehicle to explore six discrete topics. The scope of each topic for hearing was communicated to parties through an Issues List. Consideration was also given to whether any other Recommendations were necessary or desirable to be made by this Court.
46. Further information about the Stage 2 hearings is detailed in Volume 2, Parts 8 and 9 of these findings. There is also a summary of the work performed by the Earlier Inquiries and the Audit, and the progress made on responses to Recommendations arising from those earlier reviews.
47. Given the voluminous amounts of material and the challenging timetable, the Court issued General Case Management Directions on matters of procedure. A Virtual Court Room Protocol and Procedure, together with a Media Guidelines and Live Streaming Protocol was also issued to ensure the smooth running of the proceedings. These were adapted on account of public health orders.
48. To make the Inquiry as accessible as possible, and facilitating the principle of open justice, the proceedings were streamed live each day to the public and media via YouTube. In part it was necessitated due to COVID-19 restrictions.

The hearing

49. Public hearings commenced with an opening address on 25 August 2021. Counsel Assisting outlined how the hearings were to be conducted and issues that were expected to arise.
50. Before commencing the Opening Address, the Court was privileged to have a Welcome to Country provided by Yvonne Weldon, Chairperson of the Metropolitan Aboriginal Land Council.
51. Ms Weldon's beautiful words are captured below:

Hello, ladies, gentlemen, sisters, brothers, and all the family members of those who lost lives in the 'Black Summer' Bushfires. My name is Yvonne Weldon. I am a Wiradjuri woman from Cowra, here in New South Wales. I'm from the waters of the Kalari, which later became known as the Lachlan, and of the Murrumbidgee Rivers. I am the elected chairperson of the Metropolitan Local Aboriginal Land Council, who are the culture authority under the Aboriginal Land Rights Act, for the land that I am on. I would like to pay my respects to all Elders, past and present, to all First Nations, and to everyone who is present today.

Welcome to Country is an age-old tradition. It is more than just words, it is a spiritual process by honouring the ancestors' footsteps we are all walking in, continuing the practice of the many generations before us, to the many generations to come. The boundaries of our traditional owners are known and are lived through my people's unbroken relationship with this Country. The Eora Nation's Country covers the Hawkesbury from the North, the Nepean in the West and the Georges River in the South. On behalf of the Metropolitan Local Aboriginal Land Council, the Elders, and the members, I welcome everyone to the lands of the Burramattagal. I acknowledge the Burramattagal People, whose spirits and ancestors will always remain with these lands, our Mother Earth.

Across this beautiful continent of ours, there are hundreds of Nations, tribes and clans, that have existed here for over 60,000 years. The First Nations of this continent, are the oldest, continuously living culture of the world. And as we are all gathered today, let us all remember and reflect about the many lives that were lost, their families, friends and communities. The towns and communities that were struck with devastation, and the suffering that is still being felt by the loss of life, and that of our flora and fauna. My People have always listened and learnt from each other, the environment, animals, elements and our ancestors. We don't live in isolation of culture, spirit, land and water. Because we are one.

We need to reflect upon what has taken place to change what should never happen again. The Metropolitan Local Aboriginal Land Council and I extend our deepest sympathy to the families who lost loved ones, and to everyone who was impacted through responding, caring and helping. Our society, our State, and this Country are grateful for what you stood for and for what you have possibly changed for all of our futures. To give us all strength, let us all draw upon my People's spirits, as I continue on our journey. May my People's spirits walk with you and guide you as we strive forward for us all.

Again, on behalf of the Metropolitan Local Aboriginal Land Council, welcome to Burramattagal Land. This always was, always will be, Aboriginal Land. My thoughts and my prayers are with you.

52. The Court continued its work over the course of 78 sitting days (excluding directions hearings), spanning 6 September 2021 – 10 August 2023, and heard evidence relating to 25 inquests, 41 fire inquiries and six representative case studies (involving 17 fires).
53. The size and geographic spread of the fires meant it was not possible for the Court to travel to each affected community to conduct hearings locally. The planned conduct of these proceedings, and the Court's ability to travel and have scheduled sittings in some regional locations, was significantly impacted by the COVID-19 pandemic. The Court adapted quickly to these challenges to ensure the important work of this Court could be completed as quickly as possible and relocated the hearings to the Coroners Court Complex at Lidcombe. All hearings were conducted from Lidcombe, apart from a 2-week sitting in Katoomba during June 2022.
54. Coupled with the pandemic were the devastating floods that had a substantial impact on the Northern Region of the State in early 2022. The Court remained unable to travel as a result and was taking evidence relating to the fires across the same area shortly after this natural disaster occurred and amidst recovery efforts.

Evidence

55. There was a separate brief of evidence prepared for each inquest and inquiry matter, and these were supplemented for the Stage 2 hearings. Together they comprised more than 44,500 pages of evidence tendered (excluding substantial electronic material).
56. A critical component of the evidence was witness testimony. Not everyone that saw, heard or experienced something related to a fire, or was involved in some way, could be called as an oral witness. Statements were received from witnesses and tendered into evidence. Only those who had something to contribute in a forensic sense that extended beyond the content of their statement, or whose account needed to be tested in some way, were called to give evidence. As a result, more than 190 witnesses gave oral evidence.
57. It was regrettable, but necessary, that with public health orders in place at the time, many witnesses were required to give their evidence remotely. The Court and legal representatives were also prevented from visiting the scene of many fires and the affected communities in a way that might have enhanced the understanding of evidence of certain witnesses.
58. It is a credit to all involved that the parties and witnesses were able to make themselves available to participate remotely, even under exceptionally trying circumstances. This required a great level of coordination and cooperation from all parties and their legal representatives who participated in the hearings via AVL.

Non-publication Orders

59. Non-publication Orders were made on 6 September 2021, 14 December 2021, 3 February 2022, 16 June 2022, 7 September 2022 and 20 March 2023, which prohibit the publication of various information and particular evidence contained in the briefs of evidence. The Orders can be obtained on application to the Coroners Court Registry.

Acknowledgements

60. I wish to acknowledge the strength and patience of the families and friends of those who lost their lives during the course of these fires.
61. I acknowledge the ongoing resilience of local communities. There were many individual acts of kindness, selflessness and bravery during the course of active firefighting efforts but also in the lead up to and aftermath of the fires. The camaraderie shown as they pulled together during relief and recovery efforts was remarkable.
62. I acknowledge the work and dedication of emergency services personnel, both career and volunteer, who put their own safety on the line to protect these communities, day after day, week after week, month after month during these catastrophic fires. Many of them did so when their own homes and family were at risk from the fires. These were selfless and brave acts, and the community owes them a debt of gratitude.
63. I also acknowledge the work and dedication of the Police Coronial Investigation Team and the difficult work done by them following the aftermath of these terrible fires to undertake their important investigative work.
64. The assistance received from legal representatives and parties involved during the Inquiry is to be commended. In particular, the work required by agencies such as the NSWPF and RFS in responding to the coronial investigation and these proceedings has been substantial, often alongside other operational responsibilities, whether firefighting work or the protection of people and property.
65. Finally, I would like to express my appreciation and gratitude for the extraordinary and tireless work done by my Assisting Team during the conduct of the coronial investigation and throughout the course of this Inquiry. The subject matter was technically complex but also vast in scale. A substantial amount of work was required, including liaising with various government agencies and other parties of interest, reviewing and analysing a significant amount of material, understanding the complexities of the evidence, identifying expert witnesses, compiling a substantial brief of evidence, managing the legal representatives for parties involved, interfacing with the public and assisting with preparing this Report. They have also sensitively, and with empathy, liaised with family members during what have been very distressing circumstances for those involved. The Court proceedings would also not have run as smoothly without the capability and technical expertise of the Inquiry Support Officers in conjunction with the Court's Coronial Information and Support Program Team who also provided invaluable support to families during this stressful time. I cannot understate the importance of each person's contribution to this Inquiry.

Concluding comments

66. While much has occurred since the 2019/2020 bushfire season, the trauma and the loss experienced by communities across the State is not forgotten. It will continue to be felt in the future and underlines the continued importance of these inquiries.
67. The Intergovernmental Panel on Climate Change (**IPCC**) is the United Nations body for assessing the scientific literature related to climate change, including its impacts and options for responding to it. Its objective is to provide governments, at all levels, with scientific information they can use to develop climate policies. While acknowledging that uncertainties exist in climate projections, the Report predicts with very high confidence that further climate change is inevitable, with the rate and magnitude dependent on the emission pathway.¹⁰
68. Ultimately, the IPCC Report notes that Australia's ability to adapt to climate change rests on better coordination and collaboration between government agencies, communities, Aboriginal and Torres Strait Islanders, not-for profit organisations and businesses to help prepare for climate impacts (such as wildfires, heatwaves, and droughts) in combination with future climate risks integrated into their decisions and planning. Work is already being undertaken but more adaptation is needed in light of the ongoing and intensifying climate risks. Australia's ability to adapt to climate change impacts also rests on every region in the world playing its part in reduction of greenhouse gas emissions.¹¹
69. I address my Findings and Recommendations as follows.

¹⁰ Exhibit 61, General Brief of Evidence – Stage 2, Tab 65, p. 4708; Tab 64, p. 4602 and 4609.

¹¹ Exhibit 61, General Brief of Evidence – Stage 2, Tab 65, p. 4716; Tab 64, p. 4659–4669.

2. Structure of Findings and Recommendations

These Findings and Recommendations are divided into 2 Volumes and 11 Parts as follows:

VOLUME 1

Part 1 – contains the introduction and context for the 2019/2020 NSW bushfire season and NSW Bushfires Coronial Inquiry.

Part 2 – contains a list of the Recommendations.

Part 3 – contains the introduction and context for the Stage 1 inquest and inquiry hearings.

Part 4 – details each inquest and inquiry that occurred in the *Southern Region*, including the Court’s conclusions on evidence, findings and any recommendations in each matter.

Part 5 – details each inquest and inquiry that occurred in the *Northern Region*, including the Court’s conclusions on evidence, findings and any recommendations in each matter.

Part 6 – details each inquest and inquiry that occurred in the *Central/Metro Region*, including the Court’s conclusions on evidence, findings and any recommendations in each matter.

Part 7 – contains Testimonials provided by family members of those who lost their lives.

VOLUME 2

Part 8 – contains an overview of the work performed by the Earlier Inquiries, and progress made in response to the Recommendations arising from those processes.

Part 9 – contains the introduction and context for the Stage 2 representative case study hearings.

Part 10 – details each Stage 2 hearing topic and the Court’s conclusions on evidence, findings and recommendations.

Part 11 – contains the Appendices:

- Appendix 1 – Legal Team Assisting the State Coroner
- Appendix 2 – Inquiry Support Officers
- Appendix 3 – Legal Representatives for Interested Parties and Other Persons
- Appendix 4 – Police Coronial Investigation Team
- Appendix 5 – Witness List
- Appendix 6 – Exhibits
- Appendix 7 – Inquiry Statistics
- Appendix 8 – Public Submissions
- Appendix 9 – Counsel Assisting’s summary from Earlier Inquiries
- Appendix 10 – Counsel Assisting’s summary concerning Indigenous Land Management Practices
- Appendix 11 – Counsel Assisting’s summary concerning Climate Change
- Appendix 12 – Counsel Assisting’s summary of the IPCC Report – Chapter 11
- Appendix 13 – Counsel Assisting’s summary concerning Aerial Resources

Part 2

Recommendations

2

1. To the Commissioner of the NSW Rural Fire Service

Recommendation 1

The NSW Rural Fire Service review its training for Aviation and Incident Management Roles and ensure (if it does not already) that the training emphasises that tasking decisions for Very Large Air Tankers and Large Air Tankers are not to be made at a local Incident Management Team level, but at the level of State Operations.

Recommendation 2

The NSW Rural Fire Service develop a Flight Risk Assessment Tool for decisions about the tasking of Large Air Tankers/Very Large Air Tankers.

Recommendation 3

The NSW Rural Fire Service identify further guidance in its *Operating Guidelines for Air Tanker Operations* thresholds or assessment considerations for what constitutes 'forecast adverse weather, poor visibility, turbulence', such that an Initial Attack certified pilot requires a Birddog and/or Air Attack Supervisor.

Recommendation 4

The NSW Rural Fire Service amend its Operational Management Procedure: *Rejection of Aviation Dispatch/Tasking* to consistently record that, as well as a tasking rejection, the reason for the tasking rejection is to be communicated by the State Air Desk to other aircraft tasked, or likely to be tasked, to that region.

Recommendation 5

Policies/procedures be developed to ensure that pilots are provided with the following information:

- a. weather forecast for the shift or tasking area, including fire danger and expected winds;
- b. any local area assets' rejections of taskings, where the reasons for the rejection of tasking would be relevant to other aircraft;
- c. any reports received from the local area, including information from other aircraft and ground crews as to conditions such as wind conditions and visibility;
- d. any known hazards;
- e. contact details (including phone numbers and radio frequencies) for the fire ground or target, as well as other aircrafts assigned to the incident;
- f. summary of assets in the area, including ground crew and other aircraft, and the status of those assets;
- g. targets or mission intent and locations in formats that can be used by aircrafts, assets for protection and strategy for aerial operations to support the fire ground;
- h. fire status and condition; and
- i. air space, temporary flight restrictions and airport closures.

Recommendation 6

Pilots be provided with any current Incident Action Plans for any fire to which they are tasked. Such Incident Action Plans is to include at a minimum:

- a. contact details (including phone numbers and radio frequencies) for the tasking fireground or target; and
- b. contact details for other aircraft assigned to the incident.

Recommendation 7

The NSW Rural Fire Service, in consultation with stakeholder representatives, consider what improvements may be possible with communication systems and processes between aircraft, incident ground resources, Incident Management Teams and the State Air Desk.

Recommendation 8

On days of heightened fire activity across the State, resources be made available so that the State Air Desk can be organised such that there are duty and aviation officers assigned to specific regions (for example, Central-Metro, Southern, Northern, Western).

Recommendation 9

The NSW Rural Fire Service conduct pre-season briefings/inductions with pilots in respect of NSW Rural Fire Service communications and NSW Rural Fire Service operational functions and capabilities.

Recommendation 10

The NSW Rural Fire Service conduct training simulations for its officers of potential situations where aerial firefighting aircraft will need to be dispatched, with an aim to educate regarding tasking, decision-making and communication.

Recommendation 11

That the NSW Rural Fire Service review its Authorised Fire Investigator training and consider providing refresher training to specifically incorporate the following matters:

- a. that an Authorised Fire Investigator is encouraged, as part of their canvassing, to contact the Police Officer-in-Charge of a bushfire investigation to request any information relating to origin and cause of the fire, obtained by the Officer-in-Charge up to that point, that the Officer-in-Charge is prepared to release;
- b. that an Authorised Fire Investigator may advise the Police Officer-in-Charge of a bushfire investigation of the desirability to seize exhibits if they have not already done so;
- c. that an Authorised Fire Investigator is encouraged as part of their canvassing to contact private landowners or land tenure managers (such as the National Parks and Wildlife Service, the Forestry Corporation of NSW, or Crown Lands NSW) at the area where a bushfire is believed to have originated, to inquire about any information which may be relevant to determining the cause and origin of the bushfire;
- d. that an Authorised Fire Investigator should include within their report any information obtained at the scene which might bear upon their conclusion as to cause and origin, even if that information is contrary to the final conclusion reached; and
- e. the appropriate procedure to be followed when an Authorised Fire Investigator becomes aware of information, after their fire investigation report has been finalised, which causes them to change their opinion as to the cause and origin of the fire.

Recommendation 12

That the NSW Rural Fire Service review Standard Operating Procedures 3.1.9 to:

- a. incorporate matters referred to in Recommendations 11 and 25d; and
- b. provide that, where it is suspected that a wildfire has breached containment lines or proposed containment lines, leading to a significant escalation of a fire, the Fire Investigation and Compliance Unit should consider:
 - i. asking an Authorised Fire Investigator to examine the scene of the containment line breach to determine the cause of the breach; and
 - ii. asking the NSW Rural Fire Service's Predictive Services Unit to undertake modelling to consider what would have occurred if the backburn in question had not been done.

Recommendation 13

The NSW Rural Fire Service review its training for positions within an Incident Management Team to ascertain whether there is scope for improvement to better equip staff to determine:

- a. whether intelligence needs to be verified; and
- b. the appropriate steps to be taken to obtain that verification.

Recommendation 14

The NSW Rural Fire Service investigate the possibility of improved integration of the emergency alert system within the Rural Fire Service system, with a view to limiting the duplication of the entry of information, such as polygons and the text of emergency warnings.

Recommendation 15

The NSW Rural Fire Service develop training for Public Liaison Officers and Incident Controllers that addresses the significance of early warning to communities with limited access to reliable communication systems.

Recommendation 16

The NSW Rural Fire Service amend its policies and training (where required) to ensure that where a breakout prediction has been carried out, the completion of that prediction is logged in the ICON system.

Recommendation 17

In establishing automated alerts in the Athena system, the NSW Rural Fire Service ensure that alerts are to be sent to the Incident Controller, Fire Behaviour Analysts within the Incident Management Team, and the Public Liaison Officer of the completion of any fire prediction within the section 44 declaration area of that Incident Management Team.

Recommendation 18

The NSW Rural Fire Service carry out a review to determine:

- a. appropriate means to better ensure the prompt uploading of reports from the fireground onto the ICON system, including through the use of technology in note taking;
- b. whether there is a need for further training of Incident Management Team personnel to ensure that information relevant to fire prediction is provided promptly to Fire Behaviour Analysts; and
- c. whether there is a means to make available to NSW Rural Fire Service staff recordings of telephone calls and radio messages in the period immediately after the receipt of that call or message.

Recommendation 19

The NSW Rural Fire Service, either itself (if feasible) or through the Australasian Fire Authorities Council, cause the Vesta Mk II fire prediction model to be incorporated within the SPARK software.

Recommendation 20

The NSW Rural Fire Service continue to work with the Bureau of Meteorology towards:

- a. developing fire-atmosphere coupled modelling; and
- b. obtaining a better understanding of the interrelationship between atmospheric instability and bushfire, including to develop ensemble forecasting capabilities, to be integrated into training of Fire Behaviour Analysts and the development or refinement of models for fire prediction.

Recommendation 21

That the NSW Rural Fire Service engage Monash University Accident Research Centre, or an equivalent expert body, to:

- a. establish a fit for purpose set of rollover and falling object test criteria; and
- b. assess potential design solutions for rollover and falling object protection in an experimental setting.

Recommendation 22

That, in its role as a participating member of Australasian Fire Authorities Council, NSW Rural Fire Service is to make representations to Australasian Fire Authorities Council to the effect that Australasian Fire Authorities Council is to consider engaging with Standards Australia in relation to the development of a data supported minimum Australian Standard (or Standards) which addresses the crashworthiness test criteria and experimental setting for testing of rollover protection, falling object protection structures, and cabin strength for frontal impacts for such firefighting appliances, noting that any such representation should not impede the work of NSW Rural Fire Service in implementing safety measures at the State level.

Recommendation 23

That the NSW Rural Fire Service provide Australasian Fire Authorities Council with a copy of the following documents:

- a. Expert Reports of Professor Raphael Grzebieta dated 14 December 2022 and 26 March 2023;
- b. NSW Rural Fire Service: Fleet Safety Summary Report of Monash University Accident Research Centre dated March 2023;
- c. NSW Rural Fire Service: Vehicle Safety Technical Report of Monash University Accident Research Centre dated March 2023;
- d. Transcript of the oral evidence of Professor Grzebieta, Associate Professor David Logan, and Dr Shane Richardson given on 29 March 2023; and
- e. Copy of any findings relevant to:
 - i. the Vehicle Design & Safety Stage 2 Inquiry;
 - ii. the Inquest into the death of Geoffrey Keaton and Andrew O'Dwyer; and
 - iii. the Inquest into the death of Samuel McPaul.

2. To the Commissioner of the NSW Police Force

Recommendation 24

That the NSW Police Force review any related Standard Operating Procedures to incorporate matters referred to in Recommendation 25b to 25d.

3. To the Commissioner of the NSW Rural Fire Service and the Commissioner of the NSW Police Force

Recommendation 25

That in the course of undertaking the five yearly review of the Memorandum of Understanding, Joint Agency Fire Investigation in New South Wales consideration be given to:

- a. directly incorporating the provisions of State Coroner's Bulletin No 22–October 2022;
- b. expressly recording that a bushfire suspected of having started as an unintended result of a strategic backburn may meet criteria requiring a report to the Coroner as relating to a safety issue that is of public interest;
- c. providing that in such cases where there is suspicion of a bushfire having started as an unintended result of a strategic backburn, the NSW Police Force may request modelling from the NSW Rural Fire Service to consider what might have occurred if the backburn had not occurred; and
- d. noting that the Officer-in-Charge of any Police Investigation into a bushfire must be notified (whether by the Forensic Evidence and Technical Services Command or by the NSW Rural Fire Service or both) in the event that a cause and origin examination of a particular scene requested by the Officer-in-Charge is not going to occur as contemplated by the request.

Recommendation 26

That the NSW Rural Fire Service develop, and the NSW Police Force participate in, an additional ICON training and awareness session to assist officers from Strike Force Tronto navigate ICON in order to:

- a. locate information earlier recorded for individual fires that later merge and are managed on ICON as one larger fire or fire complex; and
- b. understand NSW Rural Fire Service naming conventions used when a fire spreads across a Local Government Area or other boundary and is accordingly renamed and managed as a new fire.

4. To the Chief Executive Officer of Essential Energy

Recommendation 27

That those undertaking the re-model of Essential Energy's Bushfire Risk Classification System be:

- a. provided with a copy of any findings relevant to this Inquiry, in addition to the following documents which Essential Energy has submitted it has already provided to the relevant individuals:
 - i. Expert Report of Mr Paul de Mar dated 11 February 2022;
 - ii. Supplementary Expert Report of Mr Paul de Mar dated 4 August 2022;
 - iii. Expert Report of Professor Jason Sharples dated 22 August 2022; and
 - iv. Transcript of the oral evidence of Mr de Mar and Mr Sharples given on 28 September 2022.
- b. tasked to take into account the limitations identified by Mr de Mar and Professor Sharples in the documents referred to in (a) above (as applicable), in developing, and carrying out, the re-model.

Recommendation 28

That a copy of the documents referred to in Recommendation 27a above also be provided to the Chief Executive Officer of Energy Networks Australia to inform the IGNIS Project Team in its ongoing work, as they see fit.

Part 3

Stage 1 Inquests and Inquiries: Introduction and context

3

1. The Court's jurisdiction

Jurisdiction to hold inquests

1. The Court has power under section 21 of the Act to hold an 'inquest' concerning the death of a person where it appears:
 - a. the person died a violent or unnatural death;
 - b. the person died a sudden death the cause of which is unknown; or
 - c. the person died under suspicious or unusual circumstances.

These categories are not exhaustive.

2. An inquest is a public examination of the circumstances of a person's death. The function of this Court is to explore the circumstances in which the death occurred, and to identify opportunities to prevent deaths in similar circumstances.
3. The primary role of a Coroner during an inquest, as set out in section 81(1) of the Act, is to make findings as to:
 - a. the person's identity
 - b. the date and place of the person's death, and
 - c. the manner (or surrounding circumstances), and
 - d. the medical cause of the death.
4. An inquest must be held if the manner and cause of a person's death have not been sufficiently disclosed.
5. There were 25 deaths reported to the Coroner in connection with the 2019/2020 NSW bushfire season. A brief of evidence was prepared by the NSWPF for each of these deaths. The briefs were reviewed, and further investigations undertaken, as necessary, through the Counsel Assisting Team.
6. In many of these cases, the identity of the person and date and place of death were known. The issues for determination by the Court were the manner and cause of each person's death. I determined that each case should proceed to an inquest hearing.

Jurisdiction to hold inquiries

7. The Court has power under section 30 of the Act to hold an ‘inquiry’ concerning the cause and origin of a fire where the Coroner is satisfied the fire has destroyed or damaged any property within the State.
8. The primary role of a Coroner during an inquiry, as set out in section 81(2) of the Act, is to make findings as to the:
 - a. circumstances of the fire (cause); and
 - b. date and place of the fire (origin).
9. An inquiry must be held where the cause and origin of a fire are not sufficiently disclosed.
10. Section 30 also provides the Court the power to hold a ‘general’ inquiry which extends to the examination of all circumstances including, but not limited to, the cause and origin of a fire.
11. There were more than 110 fires reported to the Coroner by the NSWPF during the 2019/2020 bushfire season (consistent with applicable reporting requirements at the time). A brief of evidence was prepared by the NSWPF for each of these deaths. The briefs were reviewed, and further investigations undertaken, as necessary, through the Counsel Assisting Team.
12. I determined that 41 fires should proceed to an inquiry hearing, initially focused upon determining the cause and origin of the relevant fire. These were termed “Stage 1” cause and origin hearings. My consideration with respect to a ‘general’ inquiry is dealt with in Volume 2, Part 9, Section 1.
13. Reported fires that were not required to proceed to an inquiry, were dispensed with under section 31 of the Act.

Recommendations

14. In assessing the surrounding circumstances of a person’s death or a fire, a Coroner must also judge the appropriateness of steps taken (or not taken) at the relevant time by persons or organisations involved having regard to the information that was available to them at the time, and not through the lens of the tragic outcomes that ensued.
15. Pursuant to section 82 of the Act, the Coroner may make any recommendations that are considered ‘necessary or desirable to make in relation to any matter connected’ with the death or fire with which an inquest or inquiry is concerned.

2. Hearing process

1. The Court's approach to the coronial inquests and inquiries that proceeded to hearing was informed by the extensive work performed by the Earlier Inquiries, in particular, the work of the NSW Bushfire Inquiry. It was not the function of this Court to review the matters already addressed in these Earlier Inquiries which had a different scope, intended focus and level of resourcing.
2. For the purposes of the Stage 1 hearings, the State was divided into three geographic regions:
 - a. Southern Region;
 - b. Northern Region; and
 - c. Central/Metro Region.
3. The size and geographic spread of the Fires meant it was not possible for the Court to travel to each affected community to conduct hearings locally. The Stage 1 hearings took place during September 2021 – March 2023 and, where possible, the Court travelled to regional locations. The Court's ability to travel during this time was greatly affected by the impacts of the COVID-19 pandemic and subsequent natural disasters. As a consequence of public health orders, a large number of witnesses were required to give evidence remotely. Members of the public and the media were required to observe the proceedings via a live stream on the Court's YouTube channel.
4. Each Stage 1 hearing commenced with a short opening address about the background for each matter, an overview of evidence and witnesses to be called, and specific issues to be addressed. A brief of evidence was tendered in each matter, variously containing investigation reports, witness statements, expert evidence, photographs, maps, charts, audio and video recordings.
5. Oral evidence was taken from over 150 witnesses including Police officers in charge of the investigations, operational staff directly involved in factual events, experts, eyewitnesses, and other witnesses considered necessary by the Court, for example, where questions arose from written evidence already provided (and contained in the brief of evidence).
6. At the conclusion of the evidence in each inquest, families of those who lost their lives were provided the opportunity to provide a statement to the Court about reflections of their loved ones. Families shared with the Court happy moments, paying tribute through statements, music and photographs, helping us to remember each one for the wonderful person they were. I cannot do justice to these tributes in words. Testaments received by the Court have been set out in these findings in Part 7 – Testimonials, so that anyone who reads them can start to understand the enormity of the loss to their families, friends and community.
7. At the conclusion of each Stage 1 hearing (inquest or inquiry) the matter was adjourned to allow the Court to review the evidence and issues raised in each matter and make a determination about which issues required further review as a case study during Stage 2 hearings. This included consideration with respect to recommendations under section 82 of the Act. Further detail about the Stage 2 hearing process is contained in Volume 2, Part 9, Section 1. Matters that did not proceed to a Stage 2 case study hearing were reserved for findings to be delivered at a later date.

3. Conclusion

8. I address each of the Stage 1 inquests and inquiries in detail (and by Region) as follows.

Part 4

Stage 1 Inquests and
Inquiries: Southern Region

4

1. Introduction

1. The Southern Region of New South Wales, for the purpose of these inquests and inquiries, encompassed the LGAs of Bega Valley Shire, Eurobodalla, Greater Hume, Queanbeyan-Palerang, Shoalhaven, Snowy Monaro, Snowy Valleys, and Wingecarribee.
2. Huge swathes of the Southern Region were burnt in the Fires. The region contained four of the five LGAs which lost the greatest number of houses in New South Wales, being Bega Valley Shire, Eurobodalla, Shoalhaven and Snowy Valley LGAs who lost a total of 1,454 homes between them.
3. Tragically, fifteen people lost their lives in the Southern Region in connection with the fires, including eleven residents, a local firefighter, and three United States aerial firefighters.
4. For the purpose of the hearings, the Southern Region was divided into two areas – Far Southern, and Mid Southern.

Hearing overview

Far Southern

5. The initial tranche of Far Southern group of hearings took place during 6 – 9, 13 – 16, and 20 – 23 September 2021. These hearings were originally scheduled to take place in Cooma. Regretfully, due to public health orders that were in force at the time as a result of the COVID-19 pandemic, the Court and legal representatives were prevented from travelling and the hearings took place at Lidcombe and were broadcast via live stream to the public.
6. The Far Southern hearings comprised the following proceedings:
 - a. Inquiry into the Badja Forest, Forest Road, and Deua National Park (Coondella) Fires;
 - b. Inquest into the death of Colin Harold Burns;
 - c. Inquests into the deaths of Robert John Salway, and Patrick James Salway;
 - d. Inquest into the death of Michael Stanley Clarke (part heard);
 - e. Inquest into the death of Ross Alphonsus Rixon Inquest;
 - f. Inquest into the death of Richard John Steele;
 - g. Inquest into the death of John Robert Smith;
 - h. Inquiry into the Werri Berri Fire;
 - i. Inquiry into the Green Valley, Talmalmo Fire; and
 - j. Inquest into the death of Samuel Ian McPaul.
 - k. Inquiry into the Dunns Road, Ellerslie Range, and East Ournie Creek, Ellerslie Range Fires;
 - l. Inquest into the death of David Andrew Harrison;
 - m. Inquiry into the Adaminaby Complex Fire;
 - n. Inquiry into the Border (Rockton) Fire;
7. A second tranche of hearings took place between 27 – 29 June 2022 for the following proceedings:
 - a. Inquiry into the Good Good, Peak View Fire;
 - b. Inquest into the death of Michael Stanley Clarke (resumed); and
 - c. Inquiry into the Creewah Cluster of Fires (comprising the Creewah Road, Glen Allen Fire; Big Jack Mountain Road, Cathcart Fire; and Postmans Trail, Tantawangalo Fire).
8. A third and final tranche of hearings for the Far Southern Region were completed with the inquests into the deaths of Rick Allen DeMorgan Jr, Paul Hudson, and Ian McBeth taking place on 20 – 23 and 27 March 2023.

Mid Southern

9. The Mid Southern group of hearings took place from 27 - 30 September 2021. While these hearings were originally scheduled to take place in Queanbeyan, the Court and legal representatives remained unable to travel and the hearings were also held at Lidcombe and broadcast via live stream to the public.
10. The Mid Southern hearings comprised the following proceedings:
 - a. Inquiry into the Currowan Cluster of Fires (comprising the Currowan, Clyde Ridge Road Fire, Tianjara, Braidwood Road Fire, Morton Fire, Clyde Mountain Fire, and Charley's Forest (Monga National Park) Fire);
 - b. Inquest into the death of Laurence Alan Andrew;
 - c. Inquest into the death of John Ronald Butler;
 - d. Inquest into the death of Michael Campbell; and
 - e. Inquiry into the North Black Range, Palerang Fire.

Closing Submissions

11. Closing submissions for the Stage 1 Southern Region hearings were heard by the Court during the 5 – 7 September 2022, 24 May 2023, and 7 – 10 August 2023 sittings.

The impacts in more detail

Bega Valley Shire LGA

12. The Bega Valley Shire LGA, encompassed within the lands of the Yuin people, was impacted by the Badja Forest, Forest Road Fire, the Werri Berri Fire, the Big Jack Mountain Road, Cathcart Fire, the Postmans Trail, Tantawangalo Fire, and the Border (Rockton) Fire, which originated as the Snowy 9 – Banana Track Fire in Victoria, but crossed over the NSW Border.
13. Given the Badja Forest, Forest Road Fire crossed multiple LGAs, it is difficult to determine with specificity the extent of damage experienced within the Bega Valley Shire LGA. In total, the Badja Forest Fire burnt approximately 315,000 hectares, and damaged or destroyed at least 1843 structures across three LGAs.¹²
14. Within the Bega Valley Shire LGA, the other Fires burnt a total of approximately 222,500 hectares (including some land from Victoria),¹³ and at least 2019 structures were destroyed or damaged in connection with these Fires including many homes in Kiah, Timbilica, Towamba, Wonboyn, Wadbilliga National Park, Bemboka, Cobargo, Verona, Wandella, and Numbugga.¹⁴
15. These Fires also took the lives of four residents:
 - a. Ross Rixon, resident of Cobargo, died after he sustained burns when returning to his property on 31 December 2019. In the weeks thereafter, he died whilst an out-patient of Concord Repatriation General Hospital.
 - b. Robert Salway, and Patrick Salway, father and son, and residents of Wandella, who died after the Fire reached their property on 31 December 2019.
 - c. Richard Steele, resident of Coolagolite, who died after the Fire reached his property on 31 December 2019.
16. There was also a NPWS Senior Field Officer who sustained some injury when clearing damaged trees in relation to the Postmans Trail Fire.¹⁵

¹² Exhibit 2, Brief of Evidence at p. 70, 116.

¹³ Exhibit 10A, Brief of Evidence at p. 3; Exhibit 16A, Brief of Evidence at p. 4; Exhibit 60A, Brief of Evidence at p. 132, 141.

¹⁴ Exhibit 2, Brief of Evidence, Tab 18; Exhibit 10A, Brief of Evidence at pp. 3–4; Exhibit 16A, Brief of Evidence at pp. 51–52; Tab 10; Exhibit 60A, Brief of Evidence at p. 132; Tab 17.

¹⁵ Exhibit 10A, Brief of Evidence at p. 132.

Eurobodalla LGA

17. The Eurobodalla LGA, encompassed within the lands of the Yuin and Ngarigo people, was affected by the Badja Forest, Forest Road Fire, the Deua National Park (Coondella) Fire, and the Clyde Mountain Fire.
18. Given the Badja Forest, Forest Road Fire crossed multiple LGAs (as detailed at [13] above), it is difficult to determine with specificity, the extent of damage experienced within the Eurobodalla LGA. Notwithstanding, at least 1500 structures in the Eurobodalla LGA were destroyed or damaged in connection with the Fires.¹⁶ The Clyde Mountain Fire on its own burnt almost 100,000 hectares of land in this LGA.¹⁷
19. The lives of three residents were also lost in connection with the Badja Forest, Forest Road Fire:
 - a. Michael Clarke, resident of Bodalla, who died after the Fire reached his property on 23 January 2020.
 - b. John Smith, resident of Nerrigundah, who died after the Fire reached his property on 31 December 2019.
 - c. Colin Burns, resident of Belowra and a NSW RFS volunteer of the Belowra Brigade, who died after the Fire reached his property on 31 December 2019.
20. The Currowan Fire commenced in the Currowan State Forest and spread to a number of LGAs. It was managed initially as four individual Fires, namely, the Currowan Fire (Shoalhaven LGA), Clyde Mountain (Eurobodalla LGA), Charley's Forest (Queanbeyan-Palerang LGA), and Morton Fire (Wingecarribee LGA).
21. The Currowan Fire spread from the Shoalhaven LGA to the Eurobodalla LGA when it crossed the Clyde River on 1 Dec 2020 as the result of spot fires emanating from ember attack.¹⁸ The geographical reach did not end there because on 22 December 2019, the Currowan Fire then merged with another, pre-existing, Fire named the Tianjara Fire (Shoalhaven LGA).

Greater Hume LGA

22. The Greater Hume LGA, encompassed within the lands of the Wiradjuri people, was affected by the Green Valley, Talmalmo Fire, which burned for approximately eight weeks and damaged an area of approximately 46,000 hectares.¹⁹
23. At least 106 structures were destroyed or damaged in connection with this Fire including many homes in Jingellic, Ournie and Talmalmo.²⁰
24. Samuel McPaul, an RFS firefighter of the Morven Brigade, died on duty at the Green Valley, Talmalmo Fire, at a private property in Jingellic on 30 December 2020, after the fire tanker he was in was hit by extreme winds associated with a pyrocumulonimbus fire thunderstorm and was overturned.²¹

¹⁶ Exhibit 2, Brief of Evidence, Tab 18; Exhibit 19A, Brief of Evidence at p. 1511.

¹⁷ Exhibit 19A, Brief of Evidence at p. 1511.

¹⁸ Exhibit 19A, Brief of Evidence at pp. 1513-1514.

¹⁹ Exhibit 11A, Brief of Evidence at p. 478

²⁰ Exhibit 11A, Brief of Evidence at p. 53.

²¹ Exhibit 11A, Brief of Evidence at p. 4.

Queanbeyan-Palerang LGA

25. The Queanbeyan-Palerang LGA encompassed within the lands of the Ngarigo, Ngambri and Ngunnawal people, was affected by the Charley's Forest Fire (Monga National Park) and the North Black Range, Palerang Fire.
26. The Charley's Forest Fire burned for approximately seven weeks and damaged an area of approximately 63,500 hectares,²² destroying or damaging at least 108 structures, including homes in Nerriga and Wog Wog.²³ The North Black Range, Palerang Fire burned for approximately two months and damaged an area of approximately 37,500 hectares, including almost 11,000 hectares within the Tallaganda National Park,²⁴ damaging or destroying at least 30 structures.²⁵

Shoalhaven LGA

27. The Shoalhaven LGA encompassed within the lands of the Yuin people was affected by the Currowan Fire, and the Tianjara, Braidwood Road Fire.
28. The Currowan Fire burned for approximately eleven weeks and damaged an area of approximately 315,000 hectares²⁶ and destroying at least 339 structures including many homes from Currowan north to Tapitallee, and west to Sassafras²⁷. The Tianjara Fire damaged a further 21,500 hectares after burning for one week, avoiding destruction or damage to any structures.²⁸
29. The Currowan Fire resulted in the deaths of three Shoalhaven residents:
 - a. John Butler, resident of Yatte Yattah, who died on 31 December 2019 when the Fire reached his property;
 - b. Laurence Andrew, resident of Yatte Yattah, who died on 31 December 2019 when the Fire reached his property; and
 - c. Michael Campbell, resident of Sussex Inlet, who died on 31 December 2019 when the Fire reached his property.

Snowy Monaro LGA

30. The Snowy Monaro LGA, encompassed within the lands of the Ngarigo people, was affected by the Adaminaby Fire, the Badja Forest, Forest Road Fire, the Border (Rockton) Fire, the Dunns Road (or East Ournie Creek) Ellerslie Range Fire, the Creewah Road, Glen Allen Fire, and the Good Good, Peak View Fire.
31. Given the Badja Forest, Forest Road Fire, the Border (Rockton) Fire and the Dunns Road, Ellerslie Range Fire crossed multiple LGAs, it is difficult to determine with specificity, the extent of damage experienced within the Snowy Valleys LGA for these Fires. In total, the Border (Rockton) Fire burnt approximately 162,800 hectares across three LGAs,²⁹ and the Dunns Road, Ellerslie Range Fire burnt approximately 334,0000 hectares across two LGAs.³⁰ The other Fires burnt a total of approximately 150,300 hectares of land in the Snowy Monaro LGA.³¹
32. In total, the Fires destroyed or damaged at least 70 structures in the towns of Adaminaby, Mount Morgan, Nungar, Shannons Flat, Rockton, Countegany, Jerangle and Numeralla.³²

²² Exhibit 19A, Brief of Evidence at p. 1315, 1317.

²³ Exhibit 19A, Brief of Evidence at p. 1315, 1351.

²⁴ Exhibit 23A, Brief of Evidence at p. 52.

²⁵ Exhibit 23A, Brief of Evidence at p. 1, 75.

²⁶ Exhibit 19A, Brief of Evidence at p. 7.

²⁷ Exhibit 19A, Brief of Evidence at p. 461, 462.

²⁸ Exhibit 19A, Brief of Evidence at p. 1033.

²⁹ Exhibit 16A, Brief of Evidence at p. 4, 51–52.

³⁰ Exhibit 13A, Brief of Evidence at p. 44.

³¹ Exhibit 13A, Brief of Evidence at p. 2; Exhibit 15A, Brief of Evidence at p. 3; Exhibit 16A, Brief of Evidence at p. 4; Exhibit 59A, Brief of Evidence at p. 105; Exhibit 60A, Brief of Evidence at p. 87.

³² Exhibit 2A, Brief of Evidence, Tab 18; Exhibit 13A, Brief of Evidence, Tab 25 (Annexure 2); Exhibit 15A, Brief of Evidence at p. 1; Exhibit 16A, Brief of Evidence at p. 52; Exhibit 59A, Brief of Evidence, Tab 12 (Annexure B); Exhibit 60A, Brief of Evidence, Tab 8.

33. The Fires also affected approximately 90,000 hectares of State Forest of which 37,370 hectares was Softwood plantation and electricity and associated infrastructure owned and maintained by Snowy Hydro.³³
34. Three United States residents and employees of Coulson Aviation, Captain and Pilot Ian McBeth, First Officer and Co-Pilot Paul Hudson and Flight Engineer Rick DeMorgan Jr, died on 23 January 2020 during firefighting operations at the Good Good, Peak View Fire, when the aircraft they were using to drop retardant on an at risk property at Peak View crashed at approximately 1:15pm.³⁴
35. At least 16 people (including firefighters and two members of the public) also sustained an injury in connection with the Dunns Road, Ellerslie Range, Big Jack Mountain Road, Cathcart and Good Good, Peak View Fires.³⁵

Snowy Valleys LGA

36. The Snowy Valleys LGA, encompassed within the lands of the Ngarigo people, was also affected by the Border (Rockton) Fire, and the Dunns Road, Ellerslie Range Fire, the extent of which are previously outlined.
37. Given the Border (Rockton) Fire crossed multiple LGAs (as detailed at [31] above), it is difficult to determine with specificity, the extent of damage experienced within the Snowy Valleys LGA. Notwithstanding, the Dunns Road, Ellerslie Range Fire on its own burnt almost 334,000 hectares of land.³⁶
38. Further, 1090 structures in the Snowy Valleys LGA were destroyed or damaged by the Dunns Road, Ellerslie Range Fire, including at least 193 houses lost in Paddys Flat, the Selwyn Snow Resort, Batlow, Kunama, Tumbarumba, Wondalga, and Yaven Creek.³⁷
39. The Dunns Road, Ellerslie Range Fire also took the life of David Harrison, a resident of Goulburn, who had travelled to his friend's property in Wondalga and died after the Fire reached the property on 4 January 2020.

Wingecarribee LGA

40. The Wingecarribee LGA encompassed within the lands of the Ngambri and Ngunnawal people was affected by the Morton Fire, which burned for approximately six weeks, and damaged an area of approximately 23,000 hectares.³⁸
41. At least 27 structures were destroyed or damaged in connection with this Fire, including many homes in Bundanoon, Tallong and Wingello.³⁹

Conclusion

42. It is clear that the Fires in the Southern Region were enormous in size and had an immense impact on the communities in these areas.
43. In total, they burnt a total of approximately 1,628,369 hectares of land, resulting in the damage or destruction of 4,380 structures, including individuals' homes and businesses, and the loss of fifteen lives.
44. I address each inquest and inquiry identified above as follows.

³³ Exhibit 13A, Brief of Evidence at p. 315.

³⁴ Exhibit 66, Brief of Evidence at p. 22.

³⁵ Exhibit 13A, Brief of Evidence at p. 339; Exhibit 59A, Brief of Evidence at p. 104.

³⁶ Exhibit 13A, Brief of Evidence at p. 44.

³⁷ Exhibit 13A, Brief of Evidence at p. 314, 509.

³⁸ Exhibit 19A, Brief of Evidence at p. 1745.

³⁹ Exhibit 19A, Brief of Evidence at p. 1653.

2. Badja Forest, Forest Road Fire and Deua National Park (Coondella) Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Badja Forest, Forest Road Fire and the Deua National Park (Coondella) Fire, also referred to at times as the Coondella Fire.

Introduction

2. The Badja Forest Fire commenced on 27 December 2019 and burned for approximately 10 weeks until it was recorded 'Out' on 4 March 2020.⁴⁰ The Fire encompassed the lands of the Yuin and Ngarigo people, within the Snowy Monaro and Eurobodalla LGAs. It damaged approximately 315,500 hectares, and at least 1,800 structures were destroyed or damaged, including many homes.⁴¹
3. The Deua National Park Fire commenced on 30 December 2019 and burned for approximately two weeks. The Fire damaged an area of approximately 2,500 hectares of land across the Eurobodalla LGA, encompassed within the lands of the Yuin people. No structures were destroyed or damaged in connection with this Fire, and fortunately no lives were lost.
4. While these findings are limited to the cause and origin of the Badja Forest Fire and Deua National Park Fire, it should be noted that, tragically, seven individuals died in connection with the Badja Forest Fire being Colin Burns, Michael Clarke, Ross Rixon, Robert Salway, Patrick Salway, John Smith and Richard Steele. The circumstances of their deaths are considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of these individuals' deaths are located in Sections 3 – 8 following.

Chronology of events

5. On 27 December 2019, a large lightning band spread over the South Coast, and a storm moved through the area for a period of around four hours.⁴² The weather conditions on and leading up to this date were hot, with the maximum temperature on 27 December 2019 of 31.3 degrees. There had been no rain in the area and heavy winds were recorded.⁴³ There was also a lot of extremely dry fuel load, which would have been able to be ignited very easily.
6. On the evening of 27 December 2019, local residents of Countegany, Jeff Crowe and his wife Jacqueline, observed a fire burning in a logging coupe at the intersection of Badja Forest Road and Tuross Falls Road.⁴⁴ In his statement to Police, Mr Crowe said "*I would estimate the fire was approximately one to two hectares in size when I first saw it. I immediately called triple zero*".⁴⁵
7. The 000 call was answered at 9:33pm and logged by the RFS. By 9:40pm, the Numeralla RFS Brigade, led by Captain Terry Myers, was en route to the suspected area of origin. The Numeralla RFS Brigade made attempts to contain the Fire, including water suppression, clearing firebreaks around the Fire, and a request for aerial suppression.⁴⁶

⁴⁰ Exhibit 2A, Brief of Evidence at p. 9.

⁴¹ Exhibit 2A, Brief of Evidence at pp. 70, 116.

⁴² Exhibit 2A, Brief of Evidence at pp. 23–25.

⁴³ Exhibit 2A, Brief of Evidence at pp. 521–523.

⁴⁴ Exhibit 2A, Brief of Evidence at pp. 410, 416.

⁴⁵ Exhibit 2A, Brief of Evidence at p. 411.

⁴⁶ Transcript for 6 September 2021 T 24:22-26; Exhibit 2A – Brief of Evidence at p. 71.

8. Between midnight 27 December 2019 and midnight 28 December 2019, the Badja Forest Fire spread through dense forest at a rate of 3 kilometres per hour.⁴⁷ There were also further lightning strikes recorded in the vicinity of the Badja Forest Fire during this time, which could have ignited further fires.⁴⁸
9. Over the next few days, the Badja Forest Fire spread in an easterly direction and was fuelled by strong westerly winds. The Fire impacted on many townships, including but not limited to, Wadbilliga, Yowrie, Wandella, Coolagolite, Dignams Creek, Cobargo and Quaama, while heading towards Bermagui.⁴⁹
10. On 30 December 2019, the Badja Forest Road and Tuross Falls Road Fires commenced a significant rapid downslope run. By 9:43pm on this date, the Fires were mapped as having spread 6 kilometres to 10 kilometres downslope to the south-east. On this day the Deua National Park Fire was first detected on a linescan at approximately 1:00pm⁵⁰.
11. The rapid downslope run continued through the night, and by the morning of 31 December 2019, the Fire had spread 35 kilometres south-east downslope.⁵¹
12. Many community members fled their homes in precarious conditions and on short notice. Cobargo RFS Brigade members drove to the area of Yowrie and knocked on the doors of every house to warn residents of the impending fire.⁵² Evacuation notices were posted and distributed. In Cobargo, residents were evacuated to the showground.⁵³ The Quaama RFS station was also used as an evacuation centre, with about 50 people housed in the station with their pets.⁵⁴ Throughout the night, in various areas, firefighters juggled responding to requests for assistance from the public, attending to spot fires, and assessing property.
13. Further, due to the particular fierceness of the Fire on 31 December 2019, Colin Burns, Robert Salway, Patrick Salway, Richard Steele and John Smith lost their lives. Ross Rixon suffered facial burns on that day, and subsequently died in hospital on 18 January 2020.⁵⁵

⁴⁷ Exhibit 2A, Brief of Evidence at p. 44.

⁴⁸ Exhibit 2A, Brief of Evidence at p. 47–48.

⁴⁹ Exhibit 2A, Brief of Evidence at p. 340.

⁵⁰ Exhibit 2A, Brief of Evidence at p. 3.

⁵¹ Exhibit 2A, Brief of Evidence at p. 50, 53.

⁵² Exhibit 2A, Brief of Evidence at p. 268.

⁵³ Exhibit 2A, Brief of Evidence at p. 272.

⁵⁴ Exhibit 2A, Brief of Evidence at p. 294.

⁵⁵ Exhibit 2A, Brief of Evidence at p. 53.

14. From 31 December 2019 to 4 January 2020, Fire Profession Reports (**FPR**) show that the Fire slowed. As of 3 January 2020, the Deua National Park Fire had burnt approximately 1,600 hectares (as indicated in the mapping below) and was predicted to merge with the Badja Forest fireground:⁵⁶

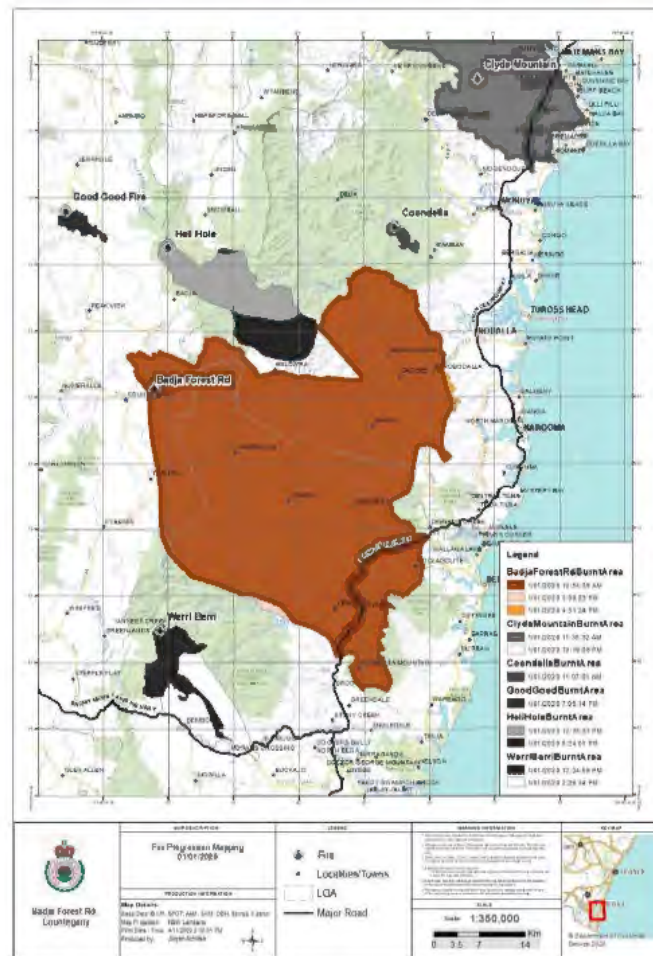


Figure 87 Fire Progression Mapping 0000, 1/01/2020 to 0000 2/01/2020 (1:350,000 scale)

15. From around 4 January 2020, and due to worsening weather conditions in the Bega Valley, the Fire then spread considerably, approximately 12 kilometres to the south-east and then approximately 5 kilometres to the north.⁵⁷ In the weeks that followed, the Fire continued to burn steadily but more slowly.

⁵⁶ Exhibit 2A, Brief of Evidence at p. 3

⁵⁷ Exhibit 2A, Brief of Evidence at p. 60.

16. On 23 January 2020, there was severe progression of the Fire through Bodalla. It was on this day that Michael Clarke died at his property.⁵⁸ The Fire continued to spread around 1 kilometre per day and merged with a number of other Fires (as demonstrated by the mapping below on 24 January 2020):



Figure 10 Fire Progression Mapping 0000, 23/01/2020 to 0000, 24/01/2020 (1:150,000 scale)

17. The Fire was eventually recorded 'Out' on 4 March 2020 after burning for a total of 68 days.⁵⁹

Cause and origin

Badja Forest Fire

18. Evidence as to the cause and origin of the Badja Forest Fire was centred around the expert opinions of DSS Gregory Moon attached to the NSWPF FETS, Ian Cook, AFI of the RFS and OIC, DSC Glenn Bradley.
19. DSS Moon told the Court he was directed towards the intersection area of Badja Forest Road and Tuross Falls Road as being the potential area of origin by eyewitness information provided by local resident Mr Crowe, and the subsequent attendance of a Numeralla Fire Brigade to that location.⁶⁰

⁵⁸ Exhibit 2A, Brief of Evidence at p. 66–68.

⁵⁹ Exhibit 2A, Brief of Evidence at p. 70.

⁶⁰ Transcript for 7 September 2021 T 56:4-14.

20. DSS Moon, accompanied by several other personnel including Mr Cook, conducted a site inspection on 9 January 2020, and stated the fuel loads in that area were altered due to a logging process months earlier.⁶¹ He said there was a large amount of debris from the trees in the harvesting process, much of which was pushed into piles. He further stated that the opposite side of Badja Forest Road, and the south side of Tuross Falls Road, was heavily vegetated with eucalyptus plants and underlining growth.⁶²
21. DSS Moon confirmed in oral evidence that the weather leading up to 27 December 2019 was dry and hot, with heavy winds.⁶³ He referred to information obtained from GPATS, which recorded the times of detection and locations of lightning strikes on the afternoon of 27 December 2019 in the area near the intersection of Badja Forest Road and Tuross Falls Road. DSS Moon stated that this area was particularly impacted by lightning activity between 3:30pm and 4:00pm. Subsequent to his assessment of the GPATS data, as well as a site and aerial inspection, DSS Moon indicated that in his view it was probable that the Badja Forest Fire was caused by one particular lightning strike at 3:37pm. That strike was recorded on GPATS as within 200 metres of the initial fireground.⁶⁴
22. Mr Cook confirmed that the fuel loads in the area of origin on 27 December 2019 were extremely high and modified and would therefore have ignited easily.⁶⁵ At the site inspection on 9 January 2020, Mr Cook adopted the standard RFS methodology to identify the area of origin. That is, he conducted an examination around the burnt ground in the general area of origin in a counter-clockwise direction, in a spiral or serpentine pattern.
23. Mr Cook informed the Court that the location of several advancing fire indicators, together with the angle of char and staining, led him to a general area of origin towards the intersection of Badja Forest Road and Tuross Falls Road.⁶⁶ Mr Cook was unable to identify a SAO. However, he identified a tree/stump that may have been struck by lightning (as demonstrated in the image below).⁶⁷



D025
Potential Lightning Strike at top of tree, south edge of loading area

⁶¹ Exhibit 2A, Brief of Evidence at p. 231.

⁶² Exhibit 2A, Brief of Evidence at p. 231; Transcript for 7 September 2021 T 56:35-42.

⁶³ Transcript for 7 September 2021 T 56:47-57:1.

⁶⁴ Transcript for 7 September 2021 T 57:13-39; Exhibit 2A, Brief of Evidence at p. 223.

⁶⁵ Transcript for 6 September 2021 T 44:18-30.

⁶⁶ Transcript for 6 September 2021 T 45:35-42.

⁶⁷ Exhibit 2A, Brief of Evidence at p. 186.

24. Mr Cook also informed the Court that he excluded other possible causes of the Fire, such as campfires, debris burning, smoking/cigarette butts and powerlines.⁶⁸
25. DSC Bradley was unable to conduct a ground or aerial inspection of the site, however relied on eyewitness accounts and investigations carried out by the RFS and DSS Moon, including in respect of lightning strikes. DSC Bradley confirmed in oral evidence that the likely area of origin of the Fire was the intersection area of Badja Forest Road and Tuross Falls Road. He also agreed with DSS Moon's and Mr Cook's hypothesis that the Fire likely started by a lightning strike to a tree at around 3:37pm.⁶⁹

Deua National Park Fire

26. The Deua National Park Fire was first identified by an RFS linescan on 30 December 2019 in the Deua National Park. This data revealed that the Fire first appeared in the vicinity of the Coondella Fire Trail, between Serpent Road and the Wamban Fire Trail.⁷⁰
27. Specifically, RFS AFI Darin Howell informed the Court that the Fire's general area origin was approximately 800 metres from the intersection of the Coondella Fire Trail and the Wamban Fire Trail.⁷¹ He received information from the IC at Moruya that the Fire was thought to have started on 30 December 2019 at about 1:00pm and was provided with RFS lightning strike mapping.⁷²
28. Mr Howell said that he, SES crew and the NSWPF conducted a site inspection on 7 January 2020. The area was in very steep countryside, and it took the group around four hours to get there. The path needed to be cleared with chainsaws. Ropes and harnesses had to be used to get down the escarpment. When the area that was believed to be the area of origin was reached, Mr Howell stated that he moved from left to right (in a serpentine fashion) to follow the advancing indicators with the lateral indicators. He said he then came to an area where the advancing indicators stopped and backing indicators commenced. He said that this is called the transition zone, which is where the Fire likely started.⁷³
29. Mr Howell also informed the Court of his view that the most likely cause of the ignition was by lightning strike and identified a particular large tree that appeared to have been struck by lightning.⁷⁴ Mr Howell excluded other causes of fire due to the lack of evidence of any competent ignition source in the remote terrain of the general area of origin.⁷⁵

⁶⁸ Transcript for 6 September 2021 T 47:5-36.

⁶⁹ Transcript for 6 September 2021 T 16:13-15, 22:8-9. Exhibit 2A, Brief of Evidence at p. 34.

⁷⁰ Exhibit 2A, Brief of Evidence at p. 3.

⁷¹ Transcript for 6 September 2021 T 52:27-33.

⁷² Transcript for 6 September 2021 T 49:44-50:7.

⁷³ Transcript for 6 September 2021 T 50:14-51:26.

⁷⁴ Transcript for 6 September 2021 T 51:37-50.

⁷⁵ Transcript for 6 September 2021 T 52:1-15.

Section 81 Findings

30. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

Badja Forest, Forest Road Fire

The Badja Forest, Forest Road Fire commenced on 27 December 2019 near the intersection of Badja Forest Road and Tuross Falls Road in Countegany.

The Badja Forest, Forest Road Fire was caused by lightning strike to a tree on 27 December 2019 at approximately 3:37pm.

Deua National Park (Coondella) Fire

The Deua National Park (Coondella) Fire commenced sometime during the days prior to 30 December 2019 in the Deua National Park near the intersection of the Coondella and Wamban Firetrails.

The cause of the Deua National Park (Coondella) Fire was a lightning strike to a tree in the days prior to 30 December 2019.

31. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of the Findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS. This is detailed in Volume 2, Part 10, Section 3.

3. Colin Burns

Why was an inquest held?

1. In this inquest, Colin's identity is known, as is the date and place of his death. For this reason, the inquest into Colin's death focused on the manner and cause of his death.

Introduction

2. Colin Harold Burns was found deceased in his burnt-out vehicle on Belowra Road, Belowra NSW after attempting to defend his property from the Badja Forest Fire.
3. On 31 December 2019, the Badja Forest Fire took a substantial run of unanticipated proportions, and swept through the township of Belowra, impacting properties including Mr Burns' bushland property known as 'Jilliby Farm'.
4. In the morning of 31 December 2019, Colin had driven away from his property to escape the Fire. He was discovered at 8:25am later that morning in his vehicle, approximately 1.5 kilometres from his property. The cause of his death was found to be 'thermal injury'.
5. Colin was 72 years old when he died. Colin was a resident of Belowra and lived on Jilliby Farm, a property which had been originally purchased by his parents when he was six years old. Colin, with his brother Bruce, spent much of their childhood in the south coast at Jilliby Farm. Later in life, Colin and Bruce both bought properties on the adjoining land.
6. Colin had been an active member of the Belowra RFS since the 1980s and was deeply passionate about the work of the RFS. Apart from volunteering, he was also employed in the mining industry and travelled extensively for his work before retiring early at age 39.
7. Colin led a very active and vigorous life even after retirement. According to his long-time partner, Estrella ('Threlly'), Colin loved spending time in the bush and enjoyed camping. He was also very fit and an avid runner, having been a dedicated member of a long-standing running group of friends, named the 'Hash House Harriers'.

Chronology of events

8. Colin's property, Jilliby Farm, was located on top of ridge at 3682 Belowra Road, Belowra. The 1500 acre property was difficult to access by road and set in very remote and dense bushland. The property had cattle and included three distinct cottages, with one cottage on Woila Creek and isolated to the west of his other two cottages, one in which Colin lived.
9. On 27 December 2019, the Badja Forest Fire ignited from a lightning strike at the intersection of Badja Forest Road and Tuross Falls Road in Countegany.⁷⁶ Burning in dense forest with extremely high fuel loads, the Fire had begun to spread at a rapid speed.
10. In the afternoon of 27 December 2019, Colin left Sydney to drive back to his farm in Belowra, having spent the Christmas period in Sydney with his partner, Threlly.⁷⁷ According to Threlly, Colin went back to the farm for a fire drill, as Colin was a long-time member of Belowra RFS, and to attend a New Year's party. He left Sydney in his single cab Nissan Patrol tray top utility.
11. At 2:00am on 27 December 2019, Colin arrived at Jilliby Farm and a local friend was there to meet him. Colin called Threlly to tell her of his safe arrival.⁷⁸

⁷⁶ Exhibit 2A, Brief of Evidence at p. 410, 416; Transcript for 7 September 2021 T 56:4-14.

⁷⁷ Exhibit 3, Brief of Evidence at p. 2, 32.

⁷⁸ Exhibit 3, Brief of Evidence at p. 32.

12. On 28 December 2019, Colin remained at the farm and spoke with Threlly over the telephone on three occasions. In one conversation, Colin said to Threlly: *"The fire is only 15 kilometres away from me"*. Threlly replied: *"Oh my god. You better do something"*. Colin said: *"Oh don't worry, I'll be okay. All I need is there"*.⁷⁹ According to Threlly, Colin reassured her that he was preparing himself for fire, having laid out all his water pumps.
13. At 2:30am on 28 December 2019, Colin telephoned Belowra RFS Captain Ewan Thomson and discussed the Badja Forest Fire which was approaching his property from the west. Both Colin and Mr Thomson were concerned for Colin's property, prompting Mr Thomson to request further resources from Moruya FCC.⁸⁰
14. On 28 or 29 December 2019, Colin telephoned Threlly again and told her that the power was out and that he could only contact her by mobile phone.⁸¹
15. At approximately 9:30am on 30 December 2019, Mr Thomson, Bodalla RFS Group Officer Richard Sealy, and Nerrigundah RFS Captain Ron Trefold arrived at Colin's property. The group took Colin with them to inspect the Badja fire front.⁸² According to the oral evidence of Mr Thomson, the Fire at that stage had not progressed a great deal down the mountain towards Colin's place from what he had seen the previous day. The Fire was moving reasonably slowly but had a very extended front, such that its ends could not be seen. In Mr Thomson's view, the Fire appeared to have a two-kilometre frontage. At that point, Colin expressed concern for his property.⁸³
16. The RFS group returned Colin to Jilliby Farm and left to inspect the Tuross Falls Road Fire front.
17. The RFS later returned to assist Colin to prepare his property from the approaching fire. At that stage, there were two RFS tankers (Dalmeny 7 and Belowra 7) and five RFS personnel on Colin's property clearing rubbish and fuel from around his cottages. RFS member, Peter Knight, in his statement to Police says that they sprayed water around the main house and shed and heard *"the fire roaring up the valley towards us"*.⁸⁴
18. In addition to assisting Colin with preparing his property, the RFS were also attending to other duties throughout the day. Mr Thomson informed the Court in oral evidence that they were very worried about another fire on the southern end, approximately 22 kilometres away, which appeared to be the biggest threat to the valley.⁸⁵
19. Colin's closest neighbour, and nearby resident, Donna Dance gave oral evidence that it was about midday on 30 December 2019 when she observed the flashing lights of the fire brigade vehicles behind Colin's home, five kilometres from her home. She told the Court that at that time, the Fire was not moving quickly and that it was very still with no wind - she saw no movement in the leaves on the trees.⁸⁶
20. At around 1:30 or 2:00pm, the Fire impacted Colin's property destroying the first of his three cottages, located to the west of his property. Colin remained on his property in an attempt to save his other cottages from the Fire.⁸⁷
21. From about 2:00pm, spot fires were evident approximately four kilometres from Colin's two remaining cottages. Local RFS brigades were unable to access them due to the topography of the property. According to Mr Thomson, the Fire was expanding but not at a rapid rate at this stage.⁸⁸
22. At approximately 3:00 to 4:00pm, Mr Thomson attempted to help Colin to get his pump working on his trailer, with no success.⁸⁹

⁷⁹ Exhibit 3, Brief of Evidence at p. 32.

⁸⁰ Exhibit 3, Brief of Evidence at p. 36.

⁸¹ Exhibit 3, Brief of Evidence at pp. 32–33.

⁸² Exhibit 3, Brief of Evidence at p. 42; Transcript for 7 September 2021 T 67:16.

⁸³ Transcript for 7 September 2021 T 67:26–28.

⁸⁴ Exhibit 3, Brief of Evidence at p. 47.

⁸⁵ Transcript for 7 September 2021 T 68:21–23.

⁸⁶ Transcript for 7 September 2021 T 75:20–45.

⁸⁷ Exhibit 3, Brief of Evidence at pp. 36–37.

⁸⁸ Exhibit 3, Brief of Evidence at p. 36.

⁸⁹ Exhibit 3, Brief of Evidence at p. 40.

23. At 6:00pm, Threlly telephoned Colin. In that conversation Colin stated: *"You ring me at the wrong time. Can you follow up with Dame Nelly to see where they are"*. Threlly said: *"Okay, okay I'll follow up now."*⁹⁰ This was the last time Threlly spoke with Colin.
24. Threlly telephoned Colin's friend Ross Kate, also known as "Dame Nelly", to convey that Colin is waiting for him at the farm. Dame Nelly said, *"I'm sorry, all the roads are closed and diverting them to the shelter"* and people were not permitted to pass through.⁹¹
25. At 6:10pm, Threlly again telephoned Colin a number of times, but he was not answering.
26. At approximately 8:00pm, Mr Thomson sent his RFS crew (Richard Sealy, Peter Knight and the crew of Dalmeny 7) back to Belowra Fire Shed to have a rest as the Fire at that stage appeared to slow down and was heading in a more southerly direction.⁹² According to his oral evidence, Mr Thomson stayed up with Colin to monitor the Fire throughout the night with another member of the brigade, Trevor Kincaid, who had made his own way to Colin's place just after dark.⁹³
27. In the early hours of 31 December 2019, the weather had changed.
28. In oral evidence, Ms Dance said that at midnight, the Fire seemed to appear very dangerous at the western end of the valley and was *"now quite dangerous looking along the southern region, what we call Spring Mountains"*.⁹⁴ She told the Court that the Fire had crowned the mountain and was starting to come down the other side, *"that was when I realised that it was up the top of the mountain"*.⁹⁵ By 1:00am, *"a very, very fierce north westerly wind started and came through"*.⁹⁶
29. At approximately 2:30am, Mr Thomson received a call from Mr Sealy who told him that his crew in Dalmeny 7 had been called to Nerrigundah.⁹⁷
30. According to his statement, Mr Sealy said it was at 3:00am that he saw Colin sitting on his porch. At that time, Mr Sealy said to Colin: *"I'm going out on patrol and have a look at the fire for you"*. Colin wanted the tankers back at his place. Mr Sealy said *"We are now working on saving lives and not property. I advise that you get out and go to the fire station."* Colin told him that he wanted to stay and defend his property. Mr Sealy said: *"We will try and patrol it and try to get back"*.⁹⁸
31. There is discrepancy in the evidence concerning the time that Mr Kincaid left Colin's property, though little turns on this. The evidence is that Mr Kincaid left to return to Belowra Fire Station, so that he could protect his own property, somewhere between the hours of 2:30am and 4:00am.⁹⁹
32. Mr Thomson informed the Court that after the Dalmeny 7 tanker and Mr Kincaid left, he remained for a further 30-40 minutes to wind up the fire hose lines that had been laid out to defend Colin's property. He then drove in the Belowra 7 tanker to observe how far away the Fire was. Mr Thomson's assessment was that the Fire had changed direction. He told the Court:

"It was a very warm northwester blowing, and the fire was sweeping more to the south and had slowed down in the direction towards Colin's buildings".¹⁰⁰
33. At around 4:00 or 5:00am, Ms Dance observed that the Fire was on the southern side of the valley on the Spring Mountain and was blowing back on itself.¹⁰¹

⁹⁰ Exhibit 3, Brief of Evidence at p. 33.

⁹¹ Exhibit 3, Brief of Evidence at p. 33.

⁹² Exhibit 3, Brief of Evidence at p. 36.

⁹³ Transcript for 7 September 2021 T 68:45-49.

⁹⁴ Transcript for 7 September 2021 T 76:5-11.

⁹⁵ Transcript for 7 September 2021 T 76:18-19.

⁹⁶ Transcript for 7 September 2021 T 77:26-27.

⁹⁷ Transcript for 7 September 2021 T 69:2-6.

⁹⁸ Exhibit 3, Brief of Evidence at pp. 43-44.

⁹⁹ Exhibit 3, Brief of Evidence at pp. 49-50.

¹⁰⁰ Transcript for 7 September 2021 T 69:36-38.

¹⁰¹ Transcript for 7 September 2021 T 77:24-27.

34. At about 5:00 to 5:30am, Mr Thomson had awoken Colin who had been sleeping. Mr Thomson told the Court that at that stage he was very concerned that the Fire appeared to be a bigger threat to the southern or middle section of Belowra Valley and so made the decision to leave Colin as more people were going to be at risk on the southern end of the valley. Mr Thomson and Colin had a brief conversation about a fire plan prior to Mr Thomson leaving.¹⁰²
35. There is no evidence of any person having contact with Colin after Mr Thomson left Colin's property on the morning of 31 December 2019.
36. Mr Thomson headed to Belowra Fire Station in the Belowra 7 tanker where he picked up crew member, Mr Knight, before attending to another nearby property. While defending that property, Mr Thomson received a call on UHF radio to return to the Belowra Fire Shed as it was expected to come under threat. In response, Mr Thomson called the Dalmeny 7 crew to take over at the property that he had been protecting.¹⁰³
37. After arriving at the Fire Shed, Mr Thomson received a call from Mr Sealy who informed them of another house under threat on the southern end of the valley. The Fire Shed at that time was not under immediate threat. Mr Thomson requested the Dalmeny 7 tanker return to the Fire Shed to protect those who had gathered there. Mr Thomson informed that Court that there were a lot of people at the Fire Shed who had sought safety after evacuating their properties.¹⁰⁴
38. Mr Thomson and Mr Knight continued to work throughout the night defending properties.
39. At about 7:25am, Ms Dance noticed spot fires starting along the western side of her house. She left the property with her family to inspect their second property. They travelled along Belowra Road to the west. At about 8:20am, before they reached the front gate to their second property, they encountered a burnt-out vehicle by the side of Belowra Road, approximately 1.5 kilometres from Colin's property. The vehicle had a trailer hitched to the back which had flipped over. Ms Dance and her husband Keith recognised the vehicle as belonging to Colin. Mr Dance approached the vehicle and saw a deceased body inside.¹⁰⁵
40. At midday, Mr Thomson returned to the Belowra Fire Station. There he approached Mr and Ms Dance and enquired about Colin.¹⁰⁶ They told him that they found Colin's burnt vehicle and that the road was still too dangerous to travel on, owing to fallen and falling trees.
41. Mr and Ms Dance informed the NSWPF and the local RFS members of the discovery.
42. On the afternoon of 31 December 2019, DSC Peter Gillett of the NSWPF was tasked to commence an investigation into the whereabouts of Colin. He was aware of the report of the burnt-out vehicle.
43. Due to the fire activity, there was widespread radio, electricity and mobile phone outages and the conditions precluded any search and rescue for 24–48 hours.¹⁰⁷
44. On 1 January 2020, Mr Thomson and another RFS member drove back into Colin's property and located his burnt-out vehicle with the upturned trailer. They cordoned off the area.¹⁰⁸
45. On 2 January 2020, DSC Gillett and DI Sacha Debnam from Wollongong Crime Scene Section, FETS undertook examinations of the scene and the burnt-out single cab Nissan Patrol tray top utility vehicle, later confirmed to be owned by Colin. The Ute faced in an easterly direction on Belowra Road, Belowra. It was positioned against the cutting with the attached trailer tipped on its side. The trailer had been manufactured for use in firefighting with the capacity to carry a 1000 litre water cube, pump, hoses and associated equipment.¹⁰⁹

¹⁰² Transcript for 7 September 2021 T 69:42-46; Exhibit 3, Brief of Evidence at p. 37.

¹⁰³ Transcript for 7 September 2021 T 70:21-32.

¹⁰⁴ Transcript for 7 September 2021 T 70:21-32.

¹⁰⁵ Exhibit 3, Brief of Evidence at p. 79; Transcript for 7 September 2021 T 78:15-35.

¹⁰⁶ Transcript for 7 September 2021 T 70:48-50.

¹⁰⁷ Exhibit 3, Brief of Evidence at p. 52.

¹⁰⁸ Exhibit 3, Brief of Evidence at p. 52.

¹⁰⁹ Exhibit 3, Brief of Evidence at pp. 53–54.

46. On 10 January 2020, Forensic Pathologist Bernard l'Ons performed an autopsy. The official cause of death on the autopsy report authored by Mr l'Ons on 18 February 2020 was "thermal injury".¹¹⁰
47. On 20 January 2020, a DNA identification report positively identified the remains located within vehicle as those of Colin Burns. Identification was confirmed by comparing samples from the remains located and those from swabs from personal effects of Mr Burns.¹¹¹

Witness evidence

48. The evidence before me indicates that Colin made a decision to stay at his Jilliby Farm property for as long as he could in order to protect it from the approaching Badja Forest Fire. He then drove in an easterly direction away from his property before the Fire reached him on Belowra Road, approximately 1.5 kilometres from his home.
49. In oral evidence and in his statement, Mr Thomson told the Court of his conversations with Colin at the time of the Fires. He recalled that after Colin lost his first cottage to the Fire, he expressed an intention to stay on the property to defend the remaining cottages and that he "*insisted that he would stay there*".¹¹² Mr Thomson also recalled that before he left Colin's property at about 5:00am on 31 December 2019, the following conversation took place:

Mr Thomson: "If your life is threatened, leave and go to the fire shed."

(Colin did not verbally reply, but nodded in agreement)

Mr Thomson: "I don't think I'll be able to get back to assist you if your house comes under threat later."

*(Colin again nodded and was provided an RFS radio to maintain contact if need be).*¹¹³

50. According to the evidence before the Court, this was the last conversation Colin had with respect to any fire plan.
51. Colin was determined to remain on his property to save it from the Fire. In Mr Thomson's statement about his last conversation with Colin, he expressed his view:

*"Having known Colin as a very strong person, I knew that he would not leave his property until the absolute last minute".*¹¹⁴

52. Mr Kincaid, who knew Colin since the 1970s, expressed a similar view in his statement to the NSWPF:

*"I knew Colin to be a very strong-willed person and one who was very hard to be dissuaded once he had made up his mind on a subject."*¹¹⁵

53. Colin's partner Threlly indicated in her statement to the NSWPF:

*"He (Colin) is sometimes stubborn and wants things his way. He would have wanted to protect his farm".*¹¹⁶

54. Colin's closest neighbour, Ms Dance, described in oral evidence and in her statement to the NSWPF, that the Badja Forest Fire that swept through Belowra destroyed their two houses, shed and fencing on the evening of 31 December 2019. She described that the Fire "*moved with frightening ferocity and intensity, spitting fireballs in its path*".¹¹⁷ Ms Dance estimated that spot fires had descended on her property, which neighboured Colin's property, at about 7:25am.¹¹⁸

¹¹⁰ Exhibit 3, Brief of Evidence at p. 21.

¹¹¹ Exhibit 3, Brief of Evidence at pp. 9-10.

¹¹² Transcript for 7 September 2021 T 68:39-40.

¹¹³ Exhibit 3, Brief of Evidence at p. 37.

¹¹⁴ Exhibit 3, Brief of Evidence at p. 37.

¹¹⁵ Exhibit 3, Brief of Evidence at p. 50.

¹¹⁶ Exhibit 3, Brief of Evidence at p. 31.

¹¹⁷ Exhibit 3, Brief of Evidence at p. 79.

¹¹⁸ Transcript for 7 September 2021 T 77:33-41.

55. Ultimately, the overnight conditions were significantly different to that anticipated. During the Court's General Inquiry into Fire Prediction, David Philp gave evidence that the sheer spread of the Fire was a consequence of long-distance spotting as the Fire moved down the valley. That could entail spotting 30 kilometres and beyond downwind.¹¹⁹ Dr Jonathan Marsden-Smedley agreed this was a plausible explanation. Spotting at such distances was beyond the comprehension of any of the models used by RFS during the 2019/2020 bushfire season.¹²⁰
56. DSC Gillett conducted an examination of the scene where Colin's vehicle was located and provided a statement in which he expressed his opinion that the vehicle was being driven in the early hours of 31 December 2019, and it was likely that visibility would have been greatly diminished by thick smoke, embers, and fire. He believed that the vehicle failed to negotiate a right-hand bend, with the trailer impacting with the cutting causing it to overturn onto its right-hand side. This capsizing of the trailer caused the vehicle to become disabled. He formed this opinion based on the physical evidence of skid and gouge marks which were consistent with the collision occurring between the trailer and the cutting. He was unable to conclude as to whether Colin got out of the vehicle prior to seeking shelter within it.¹²¹
57. In relation to the location of the fire hose and pumps located on the ground, DSC Gillett believes that they may have fallen from the back of the trailer as it overturned. There is no evidence to suggest that there was any attempt made to use the hoses as they were rolled up and not connected to the fire pump.¹²²
58. DSC Gillett is of the view that due to the horrendous fire conditions; Colin may have been driving erratically and panicked whilst attempting to drive through fire and smoke. He suggested that had Colin taken immediate action on the warnings he was given to seek shelter at the Fire Shed, he would likely have survived the Badja Forest Fire.¹²³
59. According to the statement in evidence of DI Debnam who examined the vehicle and scene, it was likely that Colin had attempted to negotiate a sweeping right-hand curve on a downwards camber, on a narrow, unsealed road. As a result of this manoeuvre, the trailer ended up on its offside. DI Debnam proffered two reasons that may have caused this to occur:
- a. the trailer swinging wide on the curve, clipping the cutting causing an impact mark and then rolling over, with the vehicle continuing a short distance before coming to rest; or
 - b. the trailer rolling due to centrifugal forces and either the vehicle or trailer impacting the cutting, causing an impact mark before coming to rest.¹²⁴

¹¹⁹ Transcript for 4 April 2023 T 1314:32-37.

¹²⁰ Transcript for 4 April 2023 T 1314:32-37.

¹²¹ Exhibit 3, Brief of Evidence at p 54, 57.

¹²² Exhibit 3, Brief of Evidence at p. 57.

¹²³ Exhibit 3, Brief of Evidence at p. 57.

¹²⁴ Exhibit 3, Brief of Evidence at p. 71.

Section 81 Findings

60. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Colin Harold Burns.

Date of death

Colin died on 31 December 2019.

Place of death

He died in his car on Belowra Road, Belowra NSW.

Cause of death

The cause of his death was thermal injury.

Manner of death

Colin died in his vehicle in the morning of 31 December 2019 after his car was disabled while driving east trying to escape the Badja Forest Fire.

61. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS. This is detailed in Volume 2, Part 10, Section 3.
62. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Colin's family and loved ones, friends, and community for their loss.
63. At the conclusion of the evidence in the inquest, a moving family statement was read out and photographs were shared on behalf of Colin's partner, Threlly. It is reproduced in Part 7 – Testimonials.

4. Robert Salway and Patrick Salway

Why was an inquest held?

1. In this inquest, the identities of Robert John Salway and Patrick James Salway are known, as is the date and place of their deaths. For this reason, the inquest into Robert and Patrick's deaths focused on the manner and cause of their deaths.

Introduction

2. Mr Robert Salway and Mr Patrick Salway were father and son. They were found deceased on a paddock of their property, known as 'Wingrove,' at 787 Wandella Road, Wandella NSW, after attempting to defend it from the Badja Forest Fire.
3. The Badja Forest Fire, which had been burning since 27 December 2019, swept through the township of Wandella, impacting properties on 31 December 2019 including Wingrove, where Robert and Patrick lived with their families.
4. Robert and Patrick were putting out spot fires in a paddock on their property when they became caught in a firestorm which hit at approximately 7:25am on 31 December 2019. They were discovered deceased 50-80 metres from the western side of the main residence shortly after the firestorm passed through.

Robert

5. Robert Salway was 63 years old when he died. He was a fifth-generation dairy farmer whose passion lied in cattle farming. Robert was described as a man who was content with life on the farm and never felt the need to travel. He had an extraordinary love for the land which drove him to continue to work on his farms and share his knowledge of cattle with the community all throughout his life and into his older years.
6. Robert married Janelle in 1977 and together they had six children, the youngest of which was Patrick. Robert is remembered as a cherished and dedicated family man who shared his love for the land with his children, who eventually grew up and took over the dairy farm. He adored spending time with his grandchildren and loved watching them play sport and swim on the farm.

Patrick

7. Patrick Salway was born on 9 January 1990 and was 29 years old when he died. He was the youngest of five children to Robert and Janelle Salway and was often doted on by his older siblings as the 'baby' of the family.
8. Patrick grew up to be a caring and community-minded person and was always the first person to lend a hand to those who needed help. He was known for his dedicated work ethic as a skilled engineer and dairy technician which helped him to run a successful engineering business on his property.
9. Patrick is remembered as a talented and adventurous young man who loved horse-riding, bull-riding, football, fishing and cross-country motorbike riding.
10. Patrick left behind his wife, Renee and one young child, Harley, together with his mother, Janelle, and four older siblings.

Chronology of events

11. At the time of the Fires, Robert and his wife Janelle lived at ‘Wingrove’, a 220-acre cattle farm. The rural property, located 8.4 kilometres northwest of the township of Cobargo, was mostly cleared pasture for grazing cattle. They had 140 head of cattle and 12 horses. The property was divided into multiple paddocks by electric fencing and had a main residence: a three bedroom, double-brick farmhouse.
12. Patrick and his wife Renee lived in another self-contained house on the property, detached from the main residence. They had one young child, Harley. Patrick ran his engineering business out of the shed on the property.
13. Two to three days before the impact of the Badja Forest Fire on Wandella, Peter Anderson, a landowner and adjoining neighbour of the Salways, observed a fire to the west of his property. In his oral evidence to the Court, Mr Anderson indicated that a friend who had been unsuccessfully trying to put in a firebreak with a bulldozer on top of the mountain in the Countegany area told him: *“it’s uncontrollable, we can’t stop it and it’s on its way towards you people”*.¹²⁵
14. On 30 December 2019, Robert and Janelle visited Robert’s mother in a nursing home in Bega. They saw a family member who was also a member of the RFS, who told them that the Badja Forest Fire was getting worse and that they should return home and prepare their property.¹²⁶
15. At around 1:30pm, Patrick and Renee had a conversation about the Fires which were burning towards Wandella. Patrick told Renee that there was ash starting to fall from the sky and that he was going to have to prepare for the Fires in case they arrived.¹²⁷ Sometime that afternoon, they went into Bega to pick up a Horse Truck and Gooseneck trailer with the intention of taking their horses to Bega Showground for refuge the following day.
16. At around 2.30pm to 3:00pm, Robert and Janelle returned to ‘Wingrove’ to prepare the property for the impending fire. They moved cattle, connected hoses to taps around the house, and filled tanks with water, positioning these at the side of the house.¹²⁸
17. Throughout the afternoon and evening of 30 December 2019, Robert and Patrick spent hours helping friends and neighbours in Wandella prepare their own properties for the Fire. Patrick selflessly assisted others very late into the night.
18. Earlier that evening at 7:52pm, Renee sent Patrick an SMS message asking him why he was staying put and putting himself at risk. According to Renee, Patrick replied to say that it was all good, that he would be fine, and would be home later.¹²⁹
19. At 10:23pm, Renee received a text message from Patrick to inform her that he was actively fighting the Fires at Alcock’s farm, the home of a client of Patrick’s. He was ploughing a firebreak around the dairy and house.¹³⁰
20. In his oral evidence, Mr Anderson told the Court that he observed from a hill at the back of his house a red glow to the west of his property which was the fire front heading their way. He described the Fire as *“roaring like a raging bull”* coming out of the mountains.¹³¹ He told the Court that the weather conditions that evening of 30 December 2019 were calm, with little wind but very warm.¹³²
21. The immense spread of the Fire on the evening of 30 December 2019, and the following morning, was unexpected.

¹²⁵ Transcript for 7 September 2021 T 85:20-25.

¹²⁶ Exhibit 6, Brief of Evidence at p. 42.

¹²⁷ Exhibit 6, Brief of Evidence at p. 27.

¹²⁸ Exhibit 6, Brief of Evidence at pp. 42-43.

¹²⁹ Exhibit 6, Brief of Evidence at p. 28.

¹³⁰ Exhibit 6, Brief of Evidence at p. 28.

¹³¹ Transcript for 7 September 2021 T 87:2-4.

¹³² Transcript for 7 September 2021 T 86:36-48.

22. At around 12:20am on 31 December 2019, Renee telephoned Patrick. Patrick told her that he had been allowed passage to return home through the Snowy Mountains highway which was road-blocked.¹³³ Renee informed Patrick that the Fire was coming in the direction of the property and of her intention to take Harley away to her mother's home in Mystery Bay as she could hear the rumble of the Fire.
23. Following that conversation, Robert appeared at Renee's house on his quad bike. They had a conversation in which Robert told Renee that Patrick had better return quick.
24. At 12:24am, Renee sent Patrick a text message to convey that Robert asked him to hurry home.¹³⁴
25. At 12:51am, Renee sent Patrick a text message warning him that the Fire was going to be hot and big. Renee headed to Mystery Bay where she dropped off their son Harley at her mother's house.¹³⁵
26. About 2:10am, Renee returned home to see that Patrick had also arrived home. They had a conversation about the Fires and their plan whilst organising and preparing the property for the approaching fires.¹³⁶
27. In the early hours of 31 December 2019, the Salways had transported their horses to Cobargo Showground for safety.
28. At some point prior to the Fires descending on Wingrove, Renee left to return to Mystery Bay as Harley was not settling.
29. At 4:00am, Robert, Patrick and Janelle were outside the family farmhouse observing the Fires which were travelling in an easterly direction before changing directions twice then headed towards their property.¹³⁷
30. According to the oral evidence of Mr Anderson, the glow from the Fire and its roar became stronger and louder throughout the evening and early hours of 31 December 2019. He told the Court that around 4:45pm, the weather conditions changed dramatically with temperatures reaching towards 40 degrees and the wind blowing at 30 to 40 knots from the west, which to him was remarkable for that time of the morning.¹³⁸ He said that the Fire turned at Yowrie and headed around towards Quaama, along the back end of Quaama and became hotter as it turned then towards them from a west to south-west direction, before diverging and coming from various directions.¹³⁹ It was at this point when the embers hit, "*dropping little bombs everywhere*".¹⁴⁰
31. In her statement to the NSWPF, Janelle indicates that whilst watching the Fires she saw embers fall into their paddocks. At that point, Robert and Patrick worked together to battle the Fire and to create firebreaks around the farmhouse, dairy and outbuildings. Robert was on the quad bike with a spray tank attached, attending to spot fires while Patrick was driving the tractor with a disc plough in an effort to construct firebreaks around the property. Janelle drove around the property on a motor bike.¹⁴¹
32. Janelle describes that as she was driving on the motorbike towards the machinery shed, she could feel the intensity of heat from the Fire. She felt the blue metal stones of the driveway hitting her with their heat. She observed pine trees behind the work shed on fire and then drove back to the farmhouse to check on Robert and Patrick. After feeling out for a hose in the dark to put out fires on the steps to the farmhouse, she shouted out for Robert and heard him say "Patrick, Patrick" in a faint voice.¹⁴²

¹³³ Exhibit 6, Brief of Evidence at p. 20.

¹³⁴ Exhibit 6, Brief of Evidence at p. 20.

¹³⁵ Exhibit 6, Brief of Evidence at p. 20.

¹³⁶ Exhibit 6, Brief of Evidence at p. 21.

¹³⁷ Exhibit 6, Brief of Evidence at p. 36.

¹³⁸ Transcript for 7 September 2021 T 88:3-14.

¹³⁹ Transcript for 7 September 2021 T 87:33-44.

¹⁴⁰ Transcript for 7 September 2021 T 87:50.

¹⁴¹ Exhibit 6, Brief of Evidence at p. 3, 36.

¹⁴² Exhibit 6, Brief of Evidence at pp. 36-37.

33. At approximately 7:25am, a fire-thunderstorm, known as a pyrocumulus event, hit the paddock in the area where Patrick and Robert were working, about 50 to 80 metres to the west of the farmhouse.¹⁴³
34. Janelle observed thick smoke and rode her bike to the back of the farmhouse where she observed that the roller doors to the shed had been blown out, including the whole eastern side of the shed wall which had bent around a water tank. Janelle then heard Robert say again “Patrick, Patrick” and was trying to find him. When the smoke and darkness started to clear, Janelle found the bodies of Robert and Patrick on the paddock in different locations.¹⁴⁴
35. At 8:15am, Janelle Salway contacted emergency services.¹⁴⁵
36. At 2:00pm, NSW Police attended the property. They had been unable to attend earlier due to the active fire and obstruction of the access roads.¹⁴⁶
37. On 6 January 2020, DSS Moon attended the property to undertake an examination of the scene.¹⁴⁷
38. On 8 January 2020, Forensic Pathologist Bernard l’Ons performed an autopsy on both Robert and Patrick Salway. The official cause of death on the autopsy reports of 27 and 28 February 2020, respectively, was “thermal injury”.¹⁴⁸

Witness evidence

39. The evidence before me indicates that Robert and Patrick Salway planned to protect their property as they believed they were in a good position to deal with any approaching fires. They had worked together to plough fire breaks and extinguish spot fires. They then most likely made the decision to head back towards the house to seek protection from the approaching fire front before they were caught in a pyrocumulous event at approximately 7:25am on 31 December 2019.
40. In her statement to the NSWPF, Renee indicates that in the early hours of 31 December 2019, she discussed the Fires with Patrick, and their plan was not to leave the property but to protect it as Robert had assured them that the property was prepared and that there was nothing around the property for the Fire to impact.¹⁴⁹ Janelle gave similar evidence in her second statement to the NSWPF. She said that Robert felt they were in a good position to deal with any spot fires easily as their property was mostly cleared, with very little grass, given the drought.¹⁵⁰
41. In oral evidence, and in his statement to the NSWPF, Mr Anderson, the Salways’ closest neighbour, told the Court that at about 4:45am or 5:00am on 31 December 2019, the RFS drove up and down Yowrie Road, warning residents to evacuate. This occurred prior to the Fire impacting their properties. Mr Anderson recalled that he did not heed the warning to evacuate as he believed that he could protect his property as he had ample water and was not alone.¹⁵¹
42. Mr Anderson explained to the Court that he had no idea where the fire front was because “*the spot fires were just bombing everywhere*” and had come together as one unit.¹⁵² He described that at about 5:30am spot fires had rolled through, and the conditions became worse with the Fires developing into a firestorm:

“The fires which were burning were travelling at an extreme speed and burning paddocks which had very little fuel in them. The fire was two metres in height and rolling like a wave in the ocean”¹⁵³... “I’ve seen nothing like it in my lifetime”¹⁵⁴

¹⁴³ Exhibit 6, Brief of Evidence at p. 54.

¹⁴⁴ Exhibit 6, Brief of Evidence at p. 37.

¹⁴⁵ Exhibit 6, Brief of Evidence at p. 22.

¹⁴⁶ Exhibit 6, Brief of Evidence at p. 3.

¹⁴⁷ Exhibit 6, Brief of Evidence at p. 57.

¹⁴⁸ Exhibit 6, Brief of Evidence at p. 12; Exhibit 7, Brief of Evidence at p. 12.

¹⁴⁹ Exhibit 6, Brief of Evidence at p. 29.

¹⁵⁰ Exhibit 6, Brief of Evidence at p. 40.

¹⁵¹ Exhibit 6, Brief of Evidence at p. 75; Transcript for 7 September 2021 T 90:3-24.

¹⁵² Transcript for 7 September 2021 T 88:28-34.

¹⁵³ Transcript for 7 September 2021 T 89:5-8.

¹⁵⁴ Transcript for 7 September 2021 T 80:29-30.

43. Mr Anderson believed that he was on the edge of the firestorm when it passed through before it headed down towards the Salway property. He was of the view that Patrick and Robert must have been in direct line of the firestorm.¹⁵⁵
44. DSS Moon, attaching to the NSWPF FETS is of the expert opinion that the initial fire front from the Badja Forest Fire moved through the Salway property and a pyrocumulus event followed.¹⁵⁶
45. According to DSS Moon, the initial fire front damaged a number of Salway's paddocks. He considers that Robert and Patrick continued to work to contain the spotting and the damage done by the initial fire front. They likely continued to plough the burnt paddocks and attempted to put out spot fires. He formed the view that the pyrocumulus event hit the area at around 7:25am, at which point Robert and Patrick were likely attempting to head back to the property to shelter, having had little to no warning of the impending firestorm.¹⁵⁷
46. In his expert report, DSS Moon outlined that the indicators of this pyrocumulus event were:
- a. the extreme damage to the trees at the location and the surrounding properties, which indicates extreme winds;
 - b. the destruction of a number of properties to the north-west of the location which suffered the direct events of the cyclonic winds. This included evidence of the spread of debris, including parts of vehicles moved up to 500 metres from their original positions; and
 - c. the destruction of the tractor and quad bike.¹⁵⁸
47. Moreover, the winds in the firestorm uprooted large trees in the immediate area and limbs from the trees were found strewn over 100 metres from where they once stood.¹⁵⁹ The force of the wind removed the roller doors and the sides wall of the Colourbond steel shed from its footings, as indicated in the evidence of Janelle.¹⁶⁰
48. DSS Moon outlined the indicators that supported his opinion that Robert and Patrick were heading towards the house to seek protection from the approaching fire front:
- a. the direction of travel of the tractor was towards the house and from the north-east, evidence from as shown by the plough marks leading away from the rear of the disc plough. Patrick had only moved a short distance from the tractor before collapsing near the fence.
 - b. the apparent path of the quad bike was towards the south-east, evident from the damage occasioned to the fence and pickets bent over near the location of the tractor. It appeared that Robert had hit the fence at speed and was either thrown off or dismounted the quad bike and moved back towards the tractor after pushing over the fence.¹⁶¹
49. In his statement, Aaron Salway told investigating Police:
- "I don't think Dad or Patrick would have risked their lives to stay if they knew what was coming their way. I believe that they thought they would be able to stay and protect the property. The fire was so swift and severe that they could not know what was happening till the fire hit them."*¹⁶²
50. The same sentiment was conveyed by Janelle, who said in her statement:
- "I think we prepared well for a normal fire. We have dealt with them before and each year we reduced hazards around the property. I don't think anyone could have been prepared for what impacted upon our property that morning"*¹⁶³

¹⁵⁵ Exhibit 6, Brief of Evidence at p. 75.

¹⁵⁶ Exhibit 6, Brief of Evidence at p. 54.

¹⁵⁷ Exhibit 6, Brief of Evidence at p. 54, 62.

¹⁵⁸ Exhibit 6, Brief of Evidence at p. 72.

¹⁵⁹ Exhibit 6, Brief of Evidence at p. 21.

¹⁶⁰ Exhibit 6, Brief of Evidence at p. 36-7.

¹⁶¹ Exhibit 6, Brief of Evidence at p. 55.

¹⁶² Exhibit 6, Brief of Evidence at p. 48.

¹⁶³ Exhibit 6, Brief of Evidence at p. 43.

Section 81 Findings

51. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The persons who died were Robert John Salway and Patrick James Salway.

Date of death

Robert and Patrick died on 31 December 2019.

Place of death

They died at 787 Wandella Road, Wandella.

Cause of death

The cause of their deaths was thermal injury.

Manner of death

Robert and Patrick died while attempting to protect their family's property during a fire called the 'Badja Forest Fire'.

52. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS. This is detailed in Volume 2, Part 10, Section 3.
53. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Patrick and Robert's family and loved ones, friends, and community for their loss.
54. At the conclusion of the evidence in the inquest, moving family statements were read out on behalf of Robert's wife and Patrick's mother, Janelle, and Patrick's wife, Renee. They are reproduced in Part 7 – Testimonials.

5. Michael Clarke

Why was an inquest held?

1. In this inquest, Michael Stanley Clarke's identity is known, as is the date and place of his death. For this reason, the inquest into Michael's death focused on the manner and cause of his death.

Introduction

2. Michael Clarke died on 23 January 2020 at 488 Bumbo Road, Bodalla as a result of the Badja Forest Fire impacting his property.
3. On 23 January 2020, a change in weather conditions provoked the sudden and severe progression of the Badja Forest Fire, which swept through the township of Bodalla, impacting properties including Michael's property.
4. Michael was at his property at the time of the Fire. His remains were discovered on 24 January 2020 by a friend of Michael's, Hayden Van Den Heuvel.
5. Michael Clarke was 59 years old when he was found deceased. Michael had four siblings and grew up moving all around Australia with his parents, both of whom were in the Royal Australian Air Force.
6. In the 1970s, the Clarke family settled in Broulee. However, Michael found himself drawn back to the general southcoast area and in his late 20s, he purchased a property on Bumbo Road, in Bodalla with an old friend, Paul Van Den Huevel. The property was about 130 hectares of dense bushland. Michael eventually built a house on a parcel of cleared land at the top of the steep hill on the property. For many years, Michael lived there with his late partner Pam, who passed away 2013. After Pam's death, Michael continued to live on the property by himself.
7. Michael loved music, dancing and reading. He also enjoyed woodworking and doing timber work on his land. He was familiar with the surrounding area and would always lend a hand to help around.
8. Michael is remembered as a kind, gentle and respectful character who found the positive in everyone.
9. Friends of Michael have since named a pedestrian bridge near his home 'Mick's Bridge' in remembrance of Michael who would often fish there:



Chronology of events

10. In the months prior to his death, Michael's physical health had deteriorated in significant ways.
11. Michael's family observed he was suffering from frequent dizzy spells and would often have to go and lay down. He had a history of heart and lung disease and according to his sister, Carolyn, was a heavy drinker and smoker.¹⁶⁴ Due to his increasingly poor health, Michael received frequent visits from family members who checked up on him, brought him food and helped clean around the house.

Admission to Moruya District Hospital

12. On 2 January 2020, Michael was admitted to Moruya District Hospital after complaining of worsening recurrent fainting spells and dizziness, chest pain, significant weight loss and trouble swallowing. He reported to hospital staff that he had fainted a number of times and awoken on the floor. By the time of his hospital admission, Michael stated that he could not get from the bed to the toilet.¹⁶⁵
13. Michael further reported that he took four panadeine forte tablets a day to manage chronic pain from injuries he had sustained to his leg in an accident many years ago. When asked about his alcohol use, Michael denied getting withdrawal symptoms if he didn't drink.¹⁶⁶
14. During his admission, a CT scan showed no evidence of malignancy but did reveal moderate emphysema of the lungs and duodenal wall thickening, suspicious for duodenitis.¹⁶⁷
15. Moruya Hospital had some theories about what might be making Michael so unwell but they needed to explore a range of possibilities. The Moruya Hospital records refer to a "*current crisis precipitated by ?dehydration ?withdrawal (ETOH or codeine), long deterioration with cachexia [meaning extreme weight loss] and swallowing difficulties (? Underlying malignancy not yet identified), untreated cardiac illness ?progressive AS*".¹⁶⁸
16. Whilst he was in Moruya Hospital, Michael was visited by family and friends. Some thought that he looked a bit better than he had before he went into hospital but he was still obviously unwell. When his mother, Ingrid, went to visit him, Michael complained about all the tests he had to undergo. Ingrid stated "*I think he just really wanted to go home. He told me that he was dying and that he wanted to die at home. I think he was depressed*".¹⁶⁹

The move to The Canberra Hospital

17. On 10 January 2020, Michael was admitted to The Canberra Hospital (**TCH**) to further investigate possible malignancy cancer and other matters including his heart health.
18. The admission records for TCH refer to Michael's long-term use of panadeine forte to manage his leg pain. He was prescribed a norspan patch, a prescription only opioid analgesic used to treat long-term, moderate to severe pain.¹⁷⁰
19. Michael was also continued on a range of other medications to try and manage his pain and nausea whilst further investigations took place and while his diet was supplemented with essential micronutrients. TCH records show that Michael was being monitored for alcohol withdrawal at least over the first six days of his admission and without anything of concern prompting the need for additional medical review being recorded.¹⁷¹
20. Michael was fortunate to have family nearby in Canberra. His sister Shelley was a regular visitor, taking him food and washing his clothes and spending time with him. In addition, he had his nephew Ben and old school friends Nick Voce and Rick Bawden also visit him in hospital.

¹⁶⁴ Exhibit 4, Brief of Evidence at pp. 35, 42–43.

¹⁶⁵ Exhibit 4, Brief of Evidence at p 170.

¹⁶⁶ Exhibit 4, Brief of Evidence at p. 171.

¹⁶⁷ Exhibit 4, Brief of Evidence at p. 172.

¹⁶⁸ Exhibit 4, Brief of Evidence at p. 172.

¹⁶⁹ Exhibit 4, Brief of Evidence at p. 40.

¹⁷⁰ Exhibit 4, Brief of Evidence at p. 171.

¹⁷¹ Exhibit 4, Brief of Evidence at pp. 309–310.

21. Numerous tests were conducted in TCH. Investigations included a range of blood and other pathology testing repeated on several days throughout the admission. Michael had gastrointestinal biopsies performed with no evidence of invasive malignancy found.¹⁷² He also had a chest x ray, echocardiogram, wore a cardiac holter to monitor his heart rate, and had a barium swallow study.¹⁷³ These tests showed increased left ventricular wall thickening and inflammation of the mucosal lining of the digestive tract, but none of these results neatly explained the entirety of Michael's symptoms.¹⁷⁴ Further investigations were deemed necessary.
22. The nursing observations recorded that Michael was mostly alert as to time and place throughout the admission at TCH but at times he appeared anxious and on occasions his behaviour was very strange.
23. These records are consistent with what Michael's sister Shelley observed. She said:

*"during my visits I noticed that Michael would talk to me somewhat 'normally' however he was irritable at times and he was clearly having hallucinations. An example of this is that he told me that our dad had been to visit and they had had a terrific time and a good conversation and that it was great to see him: however our father died in 2012. There were several other examples of this behaviour during this time".*¹⁷⁵
24. On 15 January 2020, nursing observations recorded "*patient appears anxious as constantly moving about, straightening things when not asleep*".¹⁷⁶ Then in the early hours of 16 January 2020 he was recorded as being a "*little disoriented to place*".¹⁷⁷
25. Later that day the medical team requested a neurological consult, asking whether there might be a neurodegenerative disorder leading to Michael's symptoms, including his orthostatic or postural hypotension, which refers to an abnormal drop in blood pressure when a person stands up after a period sitting or lying down.¹⁷⁸
26. The neurological consultation took place later that day at a time when Michael was alert and orientated. As with the other investigations, the neurology consult provided some information but no simple answer. The consultant agreed that investigations such as gastroscopy should continue, along with further review to see if there was a malignancy causing his symptoms.
27. The neurological consult also hypothesised that Michael's history was consistent with an autonomic dysfunction, namely an abnormality in Michael's autonomic nervous system which affected the functioning of major organs including the heart and intestines. The progress note from this consultation said "*some cerebellum signs could be alcohol related but raise possibility of MSA.C*". 'MSA.C' is a reference to Multiple System Atrophy Cerebellar: a rare condition of the nervous system.¹⁷⁹
28. While Michael was not diagnosed with this condition, he unfortunately left the hospital before a diagnosis was settled.

Events of 16-19 January 2020

29. On 17 January 2020, the day after his neurology consult, nursing staff observed Michael to be mildly confused. He was asking for directions to the TAB and the shops. Michael later left the hospital and somehow made his way to the Southern Cross Club. Michael collapsed at the Club and staff called an ambulance.¹⁸⁰
30. Club staff described Michael as acting really bizarrely. He was confused, wandering around, unsteady and was unable to have a conversation with staff.

¹⁷² Exhibit 4, Brief of Evidence at p. 110.

¹⁷³ Exhibit 4, Brief of Evidence at p. 133, 208.

¹⁷⁴ Exhibit 4, Brief of Evidence at p. 134.

¹⁷⁵ Exhibit 4, Brief of Evidence at p. 48-3.

¹⁷⁶ Exhibit 4, Brief of Evidence at p. 238.

¹⁷⁷ Exhibit 4, Brief of Evidence at p. 238.

¹⁷⁸ Exhibit 4, Brief of Evidence at p. 344.

¹⁷⁹ Exhibit 4, Brief of Evidence at p. 240.

¹⁸⁰ Exhibit 4, Brief of Evidence at p. 48-4, 335.

31. When ambulance staff attended, they too observed Mr Clarke to be agitated, speaking out inappropriately, mumbling to himself and not making sense. They conducted what is called a Secondary Survey which recorded Michael's behaviour was bizarre, he had a small haematoma to his parietal skull, he had a poor ability to organise his thoughts, short attention span, poor memory, lack of insight and impaired judgement.¹⁸¹
32. Club staff noticed Michael was wearing hospital identification and ambulance staff were then able to track down the fact that he was currently admitted to TCH. He was taken back to TCH where he remained confused. Mr Clarke underwent a brain CT which showed no evidence of intracranial pathology.
33. On 17 and 18 January 2020, TCH instigated neurological observations of Michael.
34. Michael was noted to be mildly confused at times across the late evening and early morning of 17-18 January, but by around 12:20pm in the afternoon, no confusion or disturbed behaviour was reported.
35. The nursing notes that follow reported Michael as being alert and oriented but on one occasion is noted as repeating himself.¹⁸²
36. Then late in the day on 19 January 2020, there was another incident of strange behaviour. Michael was reported as being occasionally confused and was trying to search through the sharps bin looking for a comb.¹⁸³

Events of 20 January 2020

37. In the early hours of the morning on 20 January 2020, Michael again left TCH. Whilst nursing staff attempted to encourage him to stay, he had been admitted as a voluntary patient and was free to leave even against medical advice.¹⁸⁴ Other accounts suggested that TCH staff did not want to confront Michael because he was displaying an angry demeanour.
38. Clearly concerned, TCH staff contacted Security and the ACT Police. The ACT Police contacted their NSW counterparts in case Michael was making his way home to NSW. This led to the NSWPF contacting Michael's mother, Ingrid, and requesting a photo of her son and details of any places he might go in Canberra. She told them about Shelley's house, which was not too far away from TCH.¹⁸⁵
39. Meanwhile, Police in Moruya travelled out to Bumbo Road looking for Michael but couldn't locate him. The Police who attended were not able to easily identify Michael's property at all.
40. At this time, Shelley was in Queanbeyan for a musical event. She received a call from her mother saying Michael had left hospital the previous night. Shelley drove home and saw Michael walking down the driveway from her backyard. She was pleased to see her brother but quickly worked out something was not right with him. In her words:

"After greeting him and starting to talk to Michael, I became aware that he was not at all well and, in my opinion, not in his right mind. He was saying to me that he spent the night in my back yard, sleeping in a small tent I had in the yard and that the dogs were keeping him warm. I have no dogs. I also saw that he had an opened bottle of Bourbon with him that I assumed that he had bought. Michael was also telling me a story about how the security guards were following him all night and that he was hiding from them on the way home. My nephew Ben had arrived at my home by this stage. Michael was trying to convince Ben to take him home to the coast and that if he didn't, he was dead to him. This was totally out of character for Michael."¹⁸⁶

¹⁸¹ Exhibit 4, Brief of Evidence at p. 335.

¹⁸² Exhibit 4, Brief of Evidence at p. 351.

¹⁸³ Exhibit 4, Brief of Evidence at p. 351.

¹⁸⁴ Exhibit 4, Brief of Evidence at p. 154.

¹⁸⁵ Exhibit 4, Brief of Evidence at p. 41.

¹⁸⁶ Exhibit 4, Brief of Evidence at p. 48-4.

41. The family tried to get a community mental health assessment team to come and see Michael, but the team stated they would notify the Police to attend, presumably because there was no acute mental health risk described.
42. The ACT Police arrived and requested an ambulance attend. ACT Police had already been notified by TCH about the hospital's concerns for Michael's wellbeing. According to Police documents, the concerns expressed by TCH were that "*patient has 'on and off' confusion, history of collapsing, angina, weight loss, TCH staff have concerns for his welfare due to his ailments and propensity to collapse*"¹⁸⁷. Police were also made aware of the fact that Michael had been engaging in some unusual behaviour at times on the ward.
43. According to ACT Police, "*Mr Clarke refused to return to TCH stating that all he wanted to do was to return back home. Police negotiated for a lengthy period of time, but Mr Clarke continued to refuse to return to hospital, stating that they weren't doing anything to help him and that he wanted to be with his dogs. Police spoke with Ms Shelley Clarke, the sister of Mr Clarke, who stated that Mr Clarke was not himself and that he was putting himself at risk by leaving with his medical conditions. Ms Clarke was unable to articulate any reasons why Mr Clarke presented a risk (other than misadventure) to himself or to other persons*".¹⁸⁸
44. Ambulance staff arrived and recorded that Michael refused all care and refused assessment. He denied any suicidal thoughts or thoughts of self-harm and told them he just wanted to go home.¹⁸⁹
45. These observations from Police and Ambulance are relevant for the purposes of considering whether there were grounds to detain Mr Clarke, against his wishes, under provisions of the *Mental Health Act 2015 (ACT)* (**'Mental Health Act'**).
46. Section 80 of the Mental Health Act provided as follows:
 - (1) *A police officer or authorised ambulance paramedic may apprehend a person and take the person to an approved mental health facility if the police officer or paramedic believes on reasonable grounds that —*
 - (a) *the person has a mental disorder or mental illness; and*
 - (b) *the person has attempted or is likely to attempt —*
 - (i) *suicide; or*
 - (ii) *to inflict serious harm on the person or another person.*
 - (c) *the person —*
 - (i) *requires an immediate examination by a doctor; and*
 - (ii) *does not agree to be examined immediately.*
47. Mr Clarke's behaviour was unusual and out of character, but it did not meet the threshold prescribed within the Mental Health Act.
48. This is confirmed by consideration of the contemporaneous record of ACT Ambulance in the course of their secondary survey. This returned a markedly different result to the survey completed on 17 January 2020 when Mr Clarke collapsed at the Southern Cross Club. On 20 January 2020, there was no anxiety recorded or other abnormality. Whilst Michael's breath smelt of alcohol, his behaviour, insight, perception and responses were recorded as normal and appropriate. His speech was of normal content, rational, normal rate and volume, and his thought content and flow was also recorded as normal.¹⁹⁰
49. However, this is in contrast with Shelley's observations of her brother and the bizarre behaviour he displayed when she arrived home to find him coming down her driveway.

¹⁸⁷ Exhibit 4, Brief of Evidence at p. 350.

¹⁸⁸ Exhibit 4, Brief of Evidence at p. 352.

¹⁸⁹ Exhibit 4, Brief of Evidence at p. 339.

¹⁹⁰ Exhibit 4, Brief of Evidence at p. 340.

50. Hence, while it was possible that Michael’s mental health or his neurological functioning, tied in with his physical health, was beginning to deteriorate, the evidence suggests Mr Clarke’s behaviour did not reach the threshold for involuntary detention in a mental health facility and neither police nor the people that knew him best, his family, were able to persuade him to return to hospital voluntarily.
51. ACT Police ultimately drove Michael to a bus station, and he took the bus to the coast. Shelley was understandably distressed by this turn of events. She said *“I called Mum and explained to her that I was sorry that I didn’t manage to get him back to hospital or convince the officers to take him back to hospital. I was very concerned for Michael’s well-being, as was Ben. I really did feel that he wasn’t capable of making good decisions for himself”*.¹⁹¹

Events on Michael’s return to the coast

52. Michael returned to his mother’s home at Tomakin on the evening of 20 January 2020. According to his sister, Carolyn, he seemed okay but was exhausted. They had a discussion about TCH wanting him to stay in hospital there.¹⁹² Michael told his sister he didn’t want to stay and would not be going back to TCH. She said: *“I could see that this conversation was making Michael frustrated and a bit angry, so we just started talking about nice things”*.¹⁹³
53. Michael stayed at this mother’s place the next day too. Ingrid stated *“Again he seemed ok but he was very insistent that he wanted to go back to his property at Bodalla. I tried to talk about his drinking and he got very angry but not violent. He said that he would go out the way he wanted to. Michael seemed okay that night”*.¹⁹⁴
54. Michael’s brother Shane said *“Michael stayed with us at mum’s house for a couple of days. Michael seemed okay. He seemed a lot better than when he left for Canberra. He was in bed a lot, happy to just relax after being in hospital. He was a bit weary, but he was otherwise fine”*.¹⁹⁵
55. It is clear that Michael may have shared different things with different family members.
56. Notably, no one in Michael’s family reported further instances of bizarre or confused behaviour whilst he has staying at his Mum’s house.
57. On 22 January 2020, Michael returned to his own property on Bumbo Road. According to Carolyn, *“Michael woke up and was adamant that he wanted to go home. My mum and I again tried to get him to stay but it fell on deaf ears and he wanted to go home”*.¹⁹⁶
58. His brother Shane and friend Brad Dunn took Michael home and they both stayed for the day. They did some cleaning up round the place whilst Michael rested. They also ran some errands for him including seeing the vet to pick up one of Michael’s dogs, Evy, who had gone missing.¹⁹⁷
59. At this point Michael’s cars had been moved to a neighbouring property. Shane offered to go and collect one of the cars for Michael to use but Michael said he didn’t need one as he would just relax out on the farm and wasn’t planning on doing any work.
60. Michael’s neighbours, such as Robert Eder who gave oral evidence in Court on 8 September 2021 and friends such as Paul and Hayden Van Den Heuvel, were unaware at this stage that Michael had returned home to Bumbo Road.¹⁹⁸

¹⁹¹ Exhibit 4, Brief of Evidence at p. 48-5.

¹⁹² Exhibit 4, Brief of Evidence at p. 62.

¹⁹³ Exhibit 4, Brief of Evidence at p. 37.

¹⁹⁴ Exhibit 4, Brief of Evidence at p. 41.

¹⁹⁵ Exhibit 4, Brief of Evidence at p. 45.

¹⁹⁶ Exhibit 4, Brief of Evidence at p. 37.

¹⁹⁷ Exhibit 4, Brief of Evidence at p. 45.

¹⁹⁸ Exhibit 4, Brief of Evidence at pp. 51–52.

The Badja Fire

61. During this time, the Badja Forest Fire was burning.
62. This Fire was first ignited by a lightning strike on the afternoon of 27 December 2019 at the intersection of Badja Forest Road and Tuross Falls Road in Countegany. The fire burnt fiercely for the first few days, in particular on 31 December 2020, and continued to burn more steadily for some weeks. Due to a change in weather conditions there was sudden and severe progression of the Fire on 23 January 2020. It was in these circumstances that Michael died.
63. On 1 January 2020, Michael's neighbour, Mr Eder observed an orange glow and fire in the area to the west of his property. Fortunately, by the next morning on 2 January 2020, the Fire had not impacted Mr Eder's property. This is some three weeks prior to the time when the Fire in fact moved through.¹⁹⁹
64. During the following week, in light of predictions for worsening conditions, Mr Eder and his wife then set about preparing for arrival of fire with extra hoses and pumps and a plan to move cattle and evacuate if needed. According to Mr Eder, the RFS had also completed a large fire break to the west of their property prior to 23 January 2020 and they felt fairly safe where they were.²⁰⁰ Shane Clarke says his brother was similarly aware that the RFS had been clearing a fire break with bulldozers out the back of the Eder property somewhere to the west.²⁰¹
65. The fire arrived on Bumbo Road with little warning on 23 January 2020. Mr Eder says "*it felt like a normal day as we just went about our normal farming activities*"²⁰², albeit Mr Eder qualified in his oral evidence that while his wife and his routine that day was normal, the weather was not, and it was "*very windy ... incredibly windy*".²⁰³
66. Shane Clarke provides a similar account to Mr Eder. At around 2:40pm, Shane Clarke called Michael who told him everything was fine, he had just got up, had brekky and a cuppa and fed the dogs. There was no indication that fire was threatening.²⁰⁴
67. Paul Van Den Heavel went to his Bumbo Road property and says he could not tell the Fire was close at that point.²⁰⁵
68. At about 12:30pm on 23 January 2020, Mr Eder and his wife, Barbara, were eating lunch when the RFS arrived and said that fire activity was increasing and they needed to decide whether to stay or leave.²⁰⁶ There is nothing to suggest that the RFS located and spoke to Michael at this time and the Eders were unaware at that time that Michael had returned home from hospital. Locals could see that his car was still parked out at the creek flat of Mr Eder's farm.
69. Recollections differ as to the precise events that followed and who spoke to whom and when. Shane Clarke noticed that the wind was getting heavier and hotter around Broulee and then heard that Moruya was being threatened by fire. He made immediate plans to get to Moruya and evacuate his brother.²⁰⁷
70. Shane rang his brother to ask if he was alright. Michael said "*Yeah. I think it's coming. The shed's just lit up. It was a grass fire before that.*" Shane clarified that the shed Michael was referring to was only 10 metres from Michael's home. He asked his brother "*Are you going to be alright?*". Michael said "*Yeah I think so. I gotta get back out there*".²⁰⁸
71. This was the last known conversation with Michael.

¹⁹⁹ Exhibit 4, Brief of Evidence at p. 51.

²⁰⁰ Exhibit 4, Brief of Evidence at p. 51.

²⁰¹ Exhibit 4, Brief of Evidence at p. 46.

²⁰² Exhibit 4, Brief of Evidence at p. 51.

²⁰³ Transcript for 8 September 2021 T 100:36.

²⁰⁴ Transcript for 8 September 2021 T 95:27.

²⁰⁵ Exhibit 4, Brief of Evidence at p. 54.

²⁰⁶ Exhibit 4, Brief of Evidence at p. 51.

²⁰⁷ Exhibit 4, Brief of Evidence at p. 46.

²⁰⁸ Exhibit 4, Brief of Evidence at p. 46.

72. At around 4:00 to 5:00pm that evening, Mr Eder received a call from Shane Clarke advising that Michael was actually at his property. Following this phone call, Mr Eder tried to get to Michael's property on his quad bike but couldn't reach it on his first attempt due to fire activity and trees across the road.²⁰⁹
73. Later that night at about 7.00pm, Mr Eder again attempted to drive to Michael's place and this time was able to get through. The house was completely flattened with only the fire place and chimney still standing. Mr Eder went to check on other neighbours and then had to return to fight the Fire on his property.²¹⁰
74. Meanwhile, Shane Clarke made every attempt to reach his brother driving south with fire on both sides of the highway. Cars were flashing their lights and waving their arms to warn Shane and his friend, Tom Ward, of fire conditions ahead. They reached Bumbo Road and saw a fire truck just past the cattle grid. The RFS crew said they had just pulled their trucks out and there was no way Shane and Mr Ward could get up there. Shane said his brother was up there and an RFS officer said hopefully someone had got him out.²¹¹
75. Shane and Hayden Van Den Heuvel, son of Paul Van Den Heuvel, later spoke and Hayden went to look for Michael once conditions permitted. He saw the house was decimated but there was no sign of Michael.²¹²
76. The following day, on 24 January 2020, Hayden Van Den Heuvel later returned to the property after again speaking to Shane who asked him to check the shower recess in the property. This was because Michael had mentioned previously that one of his plans was that if a fire came through his property, he could sit it out in the shower. This time he looked in the rubble in the location where the bathroom had been. He found evidence of human remains.²¹³
77. This was understandably an incredibly distressing moment for Mr Van Den Heuvel and his actions in searching for Michael should be specifically acknowledged and honoured.
78. The remains Hayden Van Den Heuvel discovered were later recovered and subjected to DNA analysis. This confirmed they were the remains of Michael Clarke.²¹⁴
79. On 31 January 2020, an autopsy was performed by Forensic Pathologist Bernard l'Ons. The official cause of death on the autopsy report authored by Mr l'Ons on 9 July 2020 was "thermal injury (incineration)".²¹⁵
80. In the aftermath of his brother's death, Shane Clarke raised concerns that he had heard that the RFS had started backburning a couple of days before the Fire passed through.
81. It is clear that there were and are community concerns about the use of back burns as a containment strategy in the course of fighting the Badja Forest Fire. However, the evidence that has been collated in the course of the Stage 1 hearing show that the backburns that allegedly escaped during the course of the Fire don't tie in with the events of 23 January 2020 on Bumbo Road. The subject backburns during the Badja Forest Fire either commenced after 23 January 2020 and/or in locations far removed from Bodalla.
82. It seems that in the lead up to 23 January 2020, the RFS in fact ceased back burning efforts because RAFTs were being used and the Fire that impacted upon Bumbo Road is believed, at least by the RFS, as being the main wildfire and not an escaped backburn.

²⁰⁹ Exhibit 4, Brief of Evidence at p. 51–52.

²¹⁰ Exhibit 4, Brief of Evidence at p. 52.

²¹¹ Exhibit 4, Brief of Evidence at p. 47.

²¹² Exhibit 4, Brief of Evidence at pp. 47–48.

²¹³ Exhibit 4, Brief of Evidence at p. 48.

²¹⁴ Exhibit 4, Brief of Evidence at p. 11.

²¹⁵ Exhibit 4, Brief of Evidence at p. 10.

Witness evidence

83. In his statement to the NSWPF, Shane Clarke provided a description of the state of his brother's property at the time of the Fire. He says "*It had been really dry at the property for many years and Michael's property was pretty overgrown and the bush had a lot of fuel on the grounds and dry grasses. The bush was that thick you couldn't even walk through it*".²¹⁶
84. Mr Dunn says that on the day they dropped Michael home, "*we spoke about the bushfires around the area. There wasn't a lot said because we thought most of the fires had been put out and it was pretty much finished...We thought the fires had come and gone and they were pretty much finished*".²¹⁷
85. In oral evidence, Mr Eder described the events of 23 January 2020 and his efforts to locate Michael at his property.
86. Mr Eder gave evidence that following the visit from the RFS members at midday on 23 January 2020, conditions deteriorated significantly throughout the afternoon. At 2:00pm, the Eder's property was hit by an ember attack. According to Mr Eder, it began "*raining embers*" and there were "*fires everywhere*".²¹⁸ He decided to leave but stopped at a gate post to put out a fire there on his way out and then saw the Fire had closed in and he decided to stay. While Mr Eder attempted to put out spot fires on his property, he noticed the hill where Michael lived was also on fire.²¹⁹
87. Mr Eder estimated that the distance between his property and Michael's property was approximately 350 metres. However, due to the property being surrounded by heavy bushland, he did not have a direct line of sight to Michael's home.²²⁰
88. At around 4:00 to 5:00pm that evening, Shane Clarke called and informed Mr Eder that Michael had told him the shed outside his property was on fire and that the phone line had then disconnected.²²¹ Mr Eder attempted to drive up to Michael's property on his quad bike but was unsuccessful due to trees having fallen across the roads.
89. About three hours later, when the ember attack at subsided, Mr Eder successfully travelled to Michael's property on his quad bike. He observed "*the whole bush had burned and all that was left standing was the chimney*".²²²
90. A similar account was provided by Hayden Van Den Heuvel who attended Michael's property at the request of Shane Clarke in the early hours of 24 January 2020. He said as he drove up into the general property area, "*all I could see was fire and flames. The weather conditions at the time were calm but I knew that the main fire front had passed, as everything in its path had burnt. The surroundings were apocalyptic, and it looked like hell*".²²³
91. On 24 January 2020, SC Alyx McEvoy attached to the Goulburn Crime Scene Section, FETS attended Michael's property to conduct a scene examination. He observed that the ground around Michael's dwelling was covered with soot and no green vegetation was present. The dwelling itself was heavily damaged by the Fire with sections of walls and metal roof sheeting having collapsed, warped and oxidised.²²⁴ SC McEvoy concluded that Michael had likely sought refuge from the Fire in the shower of his property in an attempt to cover himself with water. However, due to its ferocity, both Michael and his property were consumed by the Fire.²²⁵

²¹⁶ Exhibit 4, Brief of Evidence at p. 48.

²¹⁷ Exhibit 4, Brief of Evidence at p. 63.

²¹⁸ Transcript for 8 September 2021 T 101:28-29.

²¹⁹ Transcript for 8 September 2021 T 101:16.

²²⁰ Transcript for 8 September 2021 T 98:43-50.

²²¹ Transcript for 8 September 2021 T 102:20-23.

²²² Transcript for 8 September 2021 T 103:13-14.

²²³ Transcript for 8 September 2021 T 96:28-38.

²²⁴ Exhibit 4, Brief of Evidence at pp. 23-24.

²²⁵ Exhibit 4, Brief of Evidence at p. 30.

Section 81 Findings

92. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Michael Stanley Clarke.

Date of death

Michael died on 23 January 2020.

Place of death

He died at his home at 488 Bumbo Road, Bodalla.

Cause of death

The cause of his death was thermal injuries (incineration).

Manner of death

Michael died on 23 January 2020 from thermal injuries sustained during the course of the 'Badja Forest Fire.'

93. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS. This is detailed in Volume 2, Part 10, Section 3.
94. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Michael's family and loved ones, friends, and community for their loss.
95. At the conclusion of the evidence in the inquest, Michael's sister, Shelley shared a heartfelt family statement and photographs on behalf of the Clarke family. It is reproduced in Part 7 – Testimonials.

6. Ross Rixon

Why was an inquest held?

1. In this inquest, Ross Alphonsus Rixon's identity is known, as is the date and place of his death. For this reason, the inquest into Ross's death focused on the manner and cause of his death.

Introduction

2. Ross Rixon sustained facial burns when the fire front of the Badja Forest Fire passed through his property in Cobargo on 31 December 2019.
3. On the evening of 30 December 2019 and following morning, the Badja Forest Fire took a substantial run of unanticipated proportions and swept through the township of Cobargo, impacting properties including the rural property where Ross had lived.
4. Having alerted his neighbours of the approaching fire, Ross returned to his property where he was exposed to the intensity of the firestorm causing burns to his face and ears. He was transported to the South-East Regional Hospital in Bega for treatment before being admitted to the Burns Unit of the Concord Repatriation General Hospital. Ross died 18 days after sustaining his injuries.
5. Ross Alphosus Rixon was 84 years old when he died. He was born in the town of Milton on the South Coast and spent his childhood in Parramatta along with seven other siblings. During his early working years, Ross moved to Mitchell in Queensland where he worked as a horse tailor and cattle drover.
6. While working in Mitchell, Ross met his late wife Marjorie with whom he had three children. In the 1970s, Ross moved back to the Milton area and in 1995, he and Marjorie rented a property at Lot 4 Tip Road in Cobargo on which he lived up until his death.
7. Ross was known to have worked tremendously hard throughout his life and all the way up until his death. While living on the South Coast, he took on various jobs which included working as a truck driver transporting kangaroo meat, cutting and selling timber for mine props and working as a fencing contractor on cattle stations. He taught his children to drive dozers, tractors and use chainsaws. Because of his extreme resilience and tough work ethic, Ross remained active and fit for the majority of his life.
8. Ross also had an incredible knowledge of the bush, flora and fauna and a high level of attention to detail. He is described by his daughter June, as a real 'Australian bushy'. Ross' extraordinary curiosity and thirst for knowledge drove him to read a variety of factual books about histories and biographies.
9. Ross is remembered by his friends as a tough and honest worker, who always spoke the truth and was kind to all.

Chronology of events

10. Ross had lived on the same property at Lot 4 Tip Road, Cobargo since 1995 with his late wife Marjorie. It included a single level dwelling consisting of two bedrooms, a bathroom and living rooms. Ross remained on the property after the passing of his wife and had continued to work until the day of his injuries.²²⁶
11. On 26 December 2019, Ross attended a family birthday celebration in Bermagui. Ross expressed to his daughter, June Tarlinton, that "*the fire would burn strong because the forest floor vegetation was so thick and heavy*".²²⁷

²²⁶ Exhibit 5, Brief of Evidence at p. 31.

²²⁷ Exhibit 5, Brief of Evidence at p. 31.

12. On 27 December 2019, the following day, the Badja Forest Fire ignited from a lightning strike at the intersection of Badja Forest Road and Tuross Falls Road in Countegany. Burning in dense forest with extremely high fuel loads, the Fire initially spread at a rapid speed.²²⁸
13. In the days leading up to the impact of the Fire on Cobargo, Ross had attended to preparations, including gathering his belongings in two utility vehicles. He created a fire break on a hill on his property in the hope that the Fire would not impact the vehicles and his tools.²²⁹
14. On the evening of 30 December 2019, Ross spoke with his neighbours, Stephen and Helen Stafford. In his statement to the NSWPF, Mr Stafford said:

*“When we got home, Helen went and spoke with Ross and told him we were back. She told him that we were getting ready to leave if need be. She told me that Ross had also packed his truck and trailer ready to leave.”*²³⁰
15. Between 9:43pm on 30 December 2019 and the morning of 31 December 2019, the Badja Forest Fire had spread an incredible 35 kilometres downslope in what was described as extreme and anomalous fire behaviour by the RFS.²³¹
16. In the early hours of 31 December 2019, the front of the Badja Forest Fire had approached Cobargo.
17. That spread was not predicted and did not accord with forecast weather conditions. During the Court’s General Inquiry into Fire Prediction, David Philp, FBA, gave evidence that the sheer spread of the Fire was a consequence of long-distance spotting as the Fire moved down the valley.²³² That could entail spotting 30 kilometres and beyond downwind. Dr Marsden-Smedley agreed this was a plausible explanation. Spotting at such distances was beyond the comprehension of any of the prediction models used by RFS during the 2019/2020 bushfire season.²³³
18. That night, Ross contacted Mr Stafford to check they were leaving. He then telephoned other neighbours to ensure they were all leaving their properties.²³⁴ In particular, Ross called another neighbour and long-time friend, James Neil. Mr Neil was awoken by Ross yelling to him outside his house and beeping his car horn. Mr Neil attributes the actions of Ross to saving his life.²³⁵
19. Mr Neil left his own property and saw Ross drive back towards his own property, likely in his view to try to save it. It was at this time that Ross was exposed to the ferocity of the fire front of the Badja Forest Fire. He sustained facial burns, and his property was completely destroyed by the impact of the Fire.²³⁶
20. According to Ms Tarlinton, notwithstanding the injuries sustained from the Fire, Ross then went to Norm Reid’s house to inform him that he had been burnt and that he was going to the bakery to get a coffee.²³⁷ In attempting to drive himself to the bakery, Ross was located by another neighbour, Shane Sweeny, who sitting in his car at a gate as a tree had fallen and blocked the road. Mr Sweeny cut the tree away and allowed Ross to drive into Cobargo to the bakery.²³⁸
21. The owners of the bakery called an Ambulance and Ross was transported to the South-East Regional Hospital in Bega for treatment for his facial burns.

²²⁸ Exhibit 2A, Brief of Evidence at p. 410, 416.

²²⁹ Exhibit 5, Brief of Evidence at p. 32.

²³⁰ Exhibit 5, Brief of Evidence at p. 39.

²³¹ Exhibit 2A, Brief of Evidence at p. 50.

²³² Transcript for 4 April 2023 T 1314:32-37.

²³³ Transcript for 4 April 2023 T 1314:32-37.

²³⁴ Exhibit 5, Brief of Evidence at p. 39.

²³⁵ Exhibit 5, Brief of Evidence at p. 36.

²³⁶ Exhibit 5, Brief of Evidence at p. 33, 37.

²³⁷ Exhibit 5, Brief of Evidence at p. 33.

²³⁸ Exhibit 5, Brief of Evidence at p. 33.

22. On 1 January 2019, Ross was admitted to the Burns Unit of the Concord Repatriation General Hospital where he received surgical debridement and dressings, with further ongoing dressing care and wound review.²³⁹
23. Ross remained at the Hospital until 6 January 2019, when he was discharged and transferred to accommodation at the Concord Repatriation Hospital Hostel so that he could attend outpatient appointments at that hospital. Over the following 12 days, Ross's wounds continued to heal.²⁴⁰
24. At around 2:30am on 18 January 2019, while at the Hostel, Ross awoke with chest pains and laboured breathing. He alerted his daughter, Patricia Lawson, who was with him at the Hostel. Medical staff attended and performed CPR as he had stopped breathing. He was admitted into the Emergency Department however there was no response.²⁴¹
25. At 3:24am on 18 January 2019, Ross was pronounced deceased.²⁴²
26. An autopsy was conducted by Forensic Pathologist Jennifer Pokorny on 24 January 2020 which revealed areas of severe (90%) atherosclerotic narrowing in the three main coronary arteries, with an area of pallor in the posterolateral wall of the left ventricle suggestive of an acute myocardial infarction. The examination also revealed that areas of burn injury on the nose and right ear appeared to be healing well and were otherwise unremarkable. Ross's cause of death was determined to be 'ischemic heart disease'.²⁴³

Witness evidence

27. In his oral evidence, Mr Neil, Ross's neighbour, stated that he was awoken by Ross and told to get out. Mr Neil described the conditions around Cobargo as like "hell" with large balls of fire with winds swirling around in every direction.²⁴⁴ He jumped into his car to follow Ross whose headlights were visible through the smoke. Mr Neil noticed that Ross had turned left into his property while Mr Neil had turned towards the highway where he was later approached by the NSWPF.²⁴⁵
28. Mr Neil recalled a conversation he had with Lee Sweeny in which Mr Sweeny said that he found Ross and the wind had picked him up and threw him up against the tree. He had arrived just as Ross was "coming to".²⁴⁶ He put Ross in the car and sent him downtown where Mr Neil had encountered him. Mr Neil described seeing Ross get out of the car and observed significant burns to his face and head. His hair was burnt. Mr Neil urged Sandy, the owner of the bakery, to call an Ambulance as he feared that Ross would go into shock.²⁴⁷

²³⁹ Exhibit 5, Brief of Evidence at p. 11, 24,

²⁴⁰ Exhibit 5, Brief of Evidence at p. 40.

²⁴¹ Exhibit 5, Brief of Evidence at p. 12.

²⁴² Exhibit 5, Brief of Evidence at p. 24, 49.

²⁴³ Exhibit 5, Brief of Evidence at pp. 11–12.

²⁴⁴ Transcript for 8 September 2023 T 108:22-23.

²⁴⁵ Exhibit 5, Brief of Evidence at p. 36.

²⁴⁶ Transcript for 8 September 2023 T 109:25-29.

²⁴⁷ Exhibit 5, Brief of Evidence at p. 37.

Section 81 Findings

29. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Ross Alphonsus Rixon.

Date of death

Ross died on 18 January 2020 at approximately 3:24am.

Place of death

He died at Concord Repatriation General Hospital, Hospital Road, Concord NSW.

Cause of death

The cause of his death was ischemic heart disease.

Manner of death

Ross died on 18 January 2020 at approximately 3:24am from ischemic heart disease which he suffered while being treated as an outpatient for facial burns sustained on 31 December 2019 during the 'Badja Forest Fire'.

30. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS. This is detailed in Volume 2, Part 10, Section 3.
31. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Ross's family and loved ones, friends, and community for their loss.
32. At the conclusion of the evidence in the inquest, a heartfelt family statement was read out in Court on behalf of Ross's daughter, June. It is reproduced in Part 7 – Testimonials.

7. Richard Steele

Why was an inquest held?

1. In this inquest, Richard John Steele's identity is known, as is the date and place of his death. For this reason, the inquest into Richard's death focused on the manner and cause of his death.

Introduction

2. Richard Steele, who was known to all as Rick, was 56 years old when he died on the morning of 31 December 2019 after the Badja Forest Fire impacted his rural property in Coolagolite.
3. The Badja Forest Fire, contrary to earlier predictions, swept through the township of Coolagolite during an unprecedented run on 31 December 2019, impacting properties including the property where Rick lived for two years and 9 months.
4. Rick had remained at his property at the time of the Fire. His remains were discovered on 1 January 2020 in the granny flat of the property in which he resided. The cause of his death was 'thermal injuries'.
5. Richard Steele, or Rick as he was known to all, was 56 years old when he died. He had one younger sister, Martine, with whom he shared a close relationship and maintained sporadic contact with up until his death.
6. Rick grew up in Newcastle, and later moved to Southern regional NSW and settled around the township of Wallagoot. He lived a somewhat transient life and moved around in Southern NSW over the years. He eventually found a home in a granny flat on Coolagolite Road in Coolagolite, where he grew and nurtured plants.
7. Rick was an avid grower of orchids and various ferns, including elkhorns. He also made beautiful timber arrangements and took great pride in his creations. He would sell his plants and creations at the local markets for extra money and also on his Facebook page 'The Potted Log'. Apart from his horticultural endeavours, Rick also worked also as a cleaner and carer for a number of in-home care organisations.
8. Richard is remembered for his easy-going and relaxed nature, great smile and never-ending resilience.

Chronology of events

9. Rick lived at 299 Coolagolite Road in Coolagolite on a 20-acre property owned by his friend Ernest Berger. Mr Berger lived in the main house on the property while Rick lived in a granny flat which comprised of four rooms, a living area, kitchen, bedroom, and bathroom. The granny flat was located approximately 110 metres south of the main residence. No other person resided at the property.²⁴⁸
10. The property on which they lived was triangular in shape and ran approximately 500 metres along Coolagolite Road. The property was surrounded by the Biamgara National Park and a dam was situated at the front of the property to the west, encircled by a number of trees. The west and east boundaries of the property were also lined with trees. The remaining areas of the property consisted of grass.
11. In the days leading up to the Fire, Rick and Mr Berger were at home in their respective parts of the property. Rick told Mr Berger that he was tracking the Fires on the Bureau website.
12. On 30 December 2019, the day before the Badja Forest Fire impacted the property, Rick and Mr Berger tracked the Fire to, at its nearest, Dignam's Creek – approximately 7 to 8 kilometres away in the Kooraban National Park. At that time, Mr Berger and Rick were concerned about the Fire impacting the property.²⁴⁹

²⁴⁸ Exhibit 8, Brief of Evidence at p. 71.

²⁴⁹ Exhibit 8, Brief of Evidence at p. 30.

13. About 9:30pm, Mr Berger again checked the Bureau website and noticed that the Fire which was near Dignam's Creek had not moved.²⁵⁰
14. At 4:40am on the morning of 31 December 2019, Mr Berger was woken up by his landline but could only hear interference followed by silence. The phone went dead. Mr Berger then noticed a large amount of activity across the valley with vehicles headed towards Bermagui Road and a glow on the horizon. Mr Berger again checked the Bureau's website and could see that the Fire had since travelled and appeared to be impacting a large part of Cobargo and surrounding areas. The fire looked to be travelling in a south-easterly direction.²⁵¹
15. With that information, Mr Berger walked to the back of Rick's place and yelled: "*Rick, shit's happening. Check your phone.*" Mr Steele awoke and said that he would meet Mr Berger down at his house on the property.²⁵²
16. Rick arrived at Mr Berger's house within five minutes of that conversation and informed Mr Berger that he had received alerts on his mobile phone from the \RFS. The first of the two RFS alert messages read: "*Quamma residents advised to evacuate to Bermagui.*" The second message read: "*Cobargo residents advised to evacuate to Bermagui.*"²⁵³ Quamma is approximately 10 kilometres south-west of the property and Cobargo, approximately 6 kilometres north-west.
17. Mr Berger and Rick then walked down the driveway together and observed a red glow, which they believed was fire to the north-west. They could see the Fire in the Biamgara National Park about three kilometres away and could see a grass fire to the north along the Cobargo Bermagui Road. This Fire was travelling in easterly direction and appeared to be moving fairly slowly.²⁵⁴
18. At around 5:00am on 31 December 2019, both Rick and Mr Berger discussed the Fire and agreed on their fire plan. The plan was to stay at the property and use a pump to bring water from the dam. In the event that power was lost, they agreed to leave immediately.
19. The power failed at about 5:15am, and Rick and Mr Berger went to their respective homes to pack. Each had their own car parked on the property.²⁵⁵
20. During the short period between the time the power was cut and when Rick was packing, conditions changed considerably. The wind changed from a breeze to a strong westerly gust and the temperature was very hot for the early morning.
21. As the wind changed, Mr Berger could see and hear the Fire coming from Cobargo to the north-west. He could hear cracking and within minutes, an ember storm flew towards the property. At this time, the Fire front had reached, and spot fires began igniting around the property.
22. Within a very short period of time, Mr Berger's main house caught fire and he witnessed huge branches hurtling through the air. He observed that it was dark from the smoke with visibility was at about 1 metre.²⁵⁶
23. Rick and Mr Berger decided they would leave, each in their own car. After Mr Berger got in his car and drove away, he soon realised that Rick had not following behind in his own vehicle. Concerned about Rick, Mr Berger returned to the property but was unable to reach Rick's granny flat. His own house was well alight at that stage. Mr Berger attempted to look for Rick, but he could not see anything past his house due to the flames.²⁵⁷
24. Mr Berger waited until the Fire passed before making his way to Rick's granny flat. He saw that parts of the flat were on fire and the roof had collapsed. The brick walls were still standing; however the rest of the building was destroyed. Rick's car remained parked and was also on fire. It was at that point that Mr Berger realised that Rick had not left and was most likely in the granny flat. According to Mr Berger, the devastation of the Fire "*happened within minutes*".²⁵⁸

²⁵⁰ Exhibit 8, Brief of Evidence at p. 73.

²⁵¹ Exhibit 8, Brief of Evidence at p. 73-74.

²⁵² Exhibit 8, Brief of Evidence at p. 74.

²⁵³ Exhibit 8, Brief of Evidence at p. 74.

²⁵⁴ Exhibit 8, Brief of Evidence at p. 74.

²⁵⁵ Exhibit 8, Brief of Evidence at p. 75.

²⁵⁶ Exhibit 8, Brief of Evidence at pp. 75-76.

²⁵⁷ Exhibit 8, Brief of Evidence at p. 76.

²⁵⁸ Exhibit 8, Brief of Evidence at p. 77.

25. Mobile phone records of Rick were later examined by the NSWPF, revealing that the last known contact by Rick was made with his sister, Martine Jordan.
26. According to Ms Jordan, she sent Rick a text message at 5:38am on 31 December 2019 which read:

*“Hey big brother, are you anywhere near these disgusting fires? We are still at Bawley Point. Not leaving till next week. All good here. Most of the area around us is burnt already. Can you send me your address so I know where you are.”*²⁵⁹
27. At 5:54am, Rick replied to that text message, stating:

*“My address is 299 Coolagolite Rd, Collagolite 2550. Seems the south got lit yesterday. Just received message to head to Bermagui and evacuate. Enormous amounts of activity on farms right now as they are moving their stock. Can see flames in distance. Today will be interesting! Will keep you informed.”*²⁶⁰
28. At 5:58am, Ms Jordan sent an immediate reply. That message read:

*“...I had a feeling during the night you were close. What are your plans? Please keep me updated.”*²⁶¹
29. Ms Jordan sent three further text messages to Rick’s mobile however no response was received.
30. The following day, at around 10:30am on 1 January 2020, the RFS attended the property and located Rick’s remains inside the granny flat.²⁶²
31. On 14 January 2020, Forensic Pathologist Bernard l’Ons performed an autopsy. The official cause of death on the autopsy report authored by Mr l’Ons on 13 February 2020 was ‘thermal injuries’.²⁶³
32. On 5 February 2020, a forensic comparison between the human remains located at the granny flat at 299 Coolagolite Road in Coolagolite NSW, and the personal effects of Rick, namely a toothbrush, was conducted by the New South Wales Forensic and Analytical Science Service in Lidcombe. It was determined that the human remains were Rick’s.²⁶⁴

Witness evidence

33. According to the OIC of the investigation, DSC Bradley, Rick had sent his last text message to Ms Jordan after he had separated from Mr Berger at the main house in order to go and pack his bag and evacuate. No evidence exists as to whether Rick attempted to evacuate or whether he changed his mind and decided to stay on the property to protect it.²⁶⁵
34. In oral evidence, Mr Berger recalled a conversation with Rick where they discussed their fire plan. Mr Berger said to Rick that if they have no power then they will have no water and if the wind changed, they would have to pack their bags and leave.²⁶⁶ At that stage, Rick had contemplated staying and fighting the Fire as he thought that it would only be a grass fire. Mr Berger stated that the wind was going in the right direction at that time, and they initially perceived no danger from the Fire.²⁶⁷
35. Mr Berger gave evidence that it was a little after 5:00am when the power went out and they both decided to pack their bags and leave the property. Mr Berger stated that about 30 minutes after the power went, and as he was packing his car, the wind changed from an easterly breeze to almost gale-force winds from the west – blowing straight from behind the Fire. As he closed the door of his car, the wind hit him in the face and the Fire was only 500 metres away down the gully in front of the property. By the time he turned his car around, his driveway was consumed by fire. Only 60 seconds had passed from Mr Berger feeling safe.²⁶⁸

²⁵⁹ Exhibit 8, Brief of Evidence at p. 36, 82.

²⁶⁰ Exhibit 8, Brief of Evidence at p. 36, 83.

²⁶¹ Exhibit 8, Brief of Evidence at p. 36, 83.

²⁶² Exhibit 8, Brief of Evidence at p. 32.

²⁶³ Exhibit 8, Brief of Evidence at p. 22.

²⁶⁴ Exhibit 8, Brief of Evidence at pp. 12–13.

²⁶⁵ Exhibit 8, Brief of Evidence at pp. 30–31.

²⁶⁶ Transcript for 9 September 2021 T 117:50-118:2.

²⁶⁷ Transcript for 9 September 2021 T 119:17-23.

²⁶⁸ Transcript for 9 September 2021 T 119:41-120:4.

36. Those conditions were not anticipated by the RFS. During the Court's General Inquiry into Fire Prediction, David Philp gave evidence that the sheer spread of the Fire was a consequence of long-distance spotting. That could entail spotting 30 kilometres and beyond downwind.²⁶⁹ Dr Marsden-Smedley agreed this was a plausible explanation. Spotting at such distances was beyond the comprehension of any of the prediction models used by RFS during the 2019/2020 bushfire season.²⁷⁰
37. At that time Mr Berger left his property, he assumed that Rick was packing his own belongings and was ready to leave. Mr Berger stated that he left the property and tried to get to Coolagolite Road but could not progress far due to flames and a large fallen tree blocking the road. At that point, he did not know where Rick was. Concerned for Rick's safety, Mr Berger turned his vehicle back towards his property and observed that Rick's car was still there.²⁷¹
38. Mr Berger then changed a flat tyre on his car (which had been burnt by the Fire) and made his way back to the main road where he approached the RFS, informing them that Rick was back at the property. The RFS informed Mr Berger that it was too unsafe to enter as the buildings were still smouldering.²⁷²

Section 81 Findings

39. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Richard John Steele.

Date of death

Richard died on 31 December 2019.

Place of death

He died at 299 Coolagolite Road in Coolagolite NSW.

Cause of death

The cause of his death was thermal injuries.

Manner of death

Richard died on 31 December 2019 from thermal injuries as the 'Badja Forest Fire' overwhelmed his home.

40. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS. This is detailed in Volume 2, Part 10, Section 3.
41. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Rick's family and loved ones, friends, and community for their loss.
42. At the conclusion of the evidence in the inquest, Rick's sister, Martine shared with the Court a heartfelt family statement and photographs of Rick. It is reproduced in Part 7 – Testimonials.

²⁶⁹ Transcript for 4 April 2023 T 1314:32-37.

²⁷⁰ Transcript for 4 April 2023 T 1314:32-37.

²⁷¹ Transcript for 9 September 2021 T 120:7-39.

²⁷² Transcript for 9 September 2021 T 120:35-121:17.

8. John Smith

Why was an inquest held?

1. In this inquest, John Robert Smith's identity is known, as is the date and place of his death. For this reason, the inquest into John's death focused on the manner and cause of his death.

Introduction

2. John Smith died on the morning of 31 December 2019 at his property in Nerrigundah after attempting to flee the Badja Forest Fire by car and then subsequently on foot.
3. On 31 December 2019, the Badja Forest Fire took a substantial run of unanticipated proportions, and swept through the township of Nerrigundah, impacting properties including the rural property of John.
4. John was at his property at the time of the Fire. His remains were discovered on 5 January 2020, in close proximity to his burnt-out vehicle, which was located on Murphy's Ridge Road, Nerrigundah.
5. John Smith was 71 years old when he died. He had previously worked as a civil engineer and lived overseas in the United Kingdom for a period of time before returning to Australia. Towards the end of his working life, John took up a role in the Cookery and Hospitality Department at Moruya TAFE where he worked for 16 years. He eventually retired in 2017.
6. John was a man of many creative and artistic talents. He was considered a 'jack of all trades' by his friends and those around him. He was a musician who composed his own songs and was gifted at various arts. He was an intelligent man who loved to share his abundant knowledge about various topics such as politics, religion, culture and cars. He is remembered as an insightful, generous and witty friend, and a dedicated father to his young daughter, Emerald.
7. John left behind his mother Maya, and his wife Josie, together with his four children, Emerald, Sam, David and Raphael.

Chronology of events

8. John and his wife Josie, lived in Catalina with their daughter Emerald.
9. John also owned a 200-acre bush property located at 9 Murphy's Ridge Road, Nerrigundah. There were two structures on the remote property, a house and a shed which John used as a home to live in. The property was located near the Tuross River which ran parallel and curved around the property at a distance of about 1-2 kilometres. A driveway to the house started approximately 4 kilometres from Belowra Road down a winding access route from Murphy's Ridge Road.²⁷³
10. On the afternoon of 30 December 2019, John was with Josie in Catalina. They were aware of the Badja Forest Fire and John made the decision to drive to his property alone and prepare it for the likely fire. On arrival, John cleaned the roof and removed valuable tools.²⁷⁴
11. At around 9:00pm, John called Josie on her mobile. He told her that he was on top of the roof in an attempt to get mobile reception. He asked Josie to check the 'Fires Near Me' app. Josie informed John that the Badja Forest Fire was at a W&A level and she asked him to return home due to the proximity of the Fire. In her statement she said: "*I begged him to come back down to Catalina as I was worried for him*". John promised Josie that he would be back as soon as he could.²⁷⁵

²⁷³ Exhibit 9, Brief of Evidence at p. 38, 115.

²⁷⁴ Exhibit 9, Brief of Evidence at p. 41.

²⁷⁵ Exhibit 9, Brief of Evidence at pp. 41-42.

12. During that phone conversation, John told Josie that he could see red smoke from the roof of the house, however the wind at that stage was blowing in the opposite direction. John told Josie that he would call her in the morning.²⁷⁶
13. This is the last known contact John had with any person. It is not known what John's movements were from this point onwards throughout the night and early morning of 31 December 2019.
14. At around 6:00am to 8:00am the following morning on 31 December 2019, the Badja Forest Fire impacted the Nerrigundah area, including John's property.
15. The fire destroyed John's property. It is not clear from the evidence at precisely what time the Fire impacted John's property or in what circumstances John drove away from the area.
16. Josie gave evidence in her statement about her attempts to contact John:

*"At 5 in the morning. I was shocked to see the fires near me app when the fire at Badja had already crossed the Princess Highway. I rang John but it just went to his voice mail. I panicked and rang him again and again even though I knew that the phone reception in the bush is very poor. Then my home line rang and it was an emergency service telling us to act because the fire from Mogo was heading towards Batemans Bay. I didn't know what to do, we had a fire plan at our house, prepared drums of water around the house and long hoses connected to the taps but our plan was for me to go take my daughter to the evacuation centre while John would fight the fire. But John wasn't there, and I was so scared for him at that moment while panicking about what to do for our house in town. I woke up my 10 year old daughter, put food in the car and more stuff that we might need while in the evacuation centre. It was a very hot morning."*²⁷⁷
17. Josie's shock reflected the sheer unexpected spread of the Fire on the evening of 30 January 2019 and early hours of the following morning. Ultimately, the overnight conditions were significantly different than that anticipated. During the Court's General Inquiry into Fire Prediction, David Philp gave evidence that the sheer spread of the Fire was a consequence of long-distance spotting as the Fire moved down the valley.²⁷⁸ That could entail spotting 30 kilometres and beyond downwind. Dr Marsden-Smedley agreed this was a plausible explanation. Spotting at such distances was beyond the comprehension of any of the models used by RFS during the 2019/2020 bushfire season.²⁷⁹
18. About 7:55am, Josie telephone John's best friend Murray Kerr as he had informed her that he would go to John's house in the morning on his way back home to Catalina. Mr Kerr checked in at John's property but did not find him there.²⁸⁰
19. At around 8:00am that morning, Josie left her Catalina house to evacuate to the Hanging Rock Evacuation Centre. Josie called 000 a number of times throughout that day but could not get through to emergency services.²⁸¹
20. On 1 January 2020, no word was received from John. Josie continued to contact 000 throughout the day to report that John was in the bush, and she had not heard from him. Josie had also contacted friends and asked for help to locate John.
21. On 2 January 2020, Josie spoke with John's friend Darren Nelson. He informed her that he would attempt to get to John's property the following day when he would likely be able to gain access to the area.²⁸²

²⁷⁶ Exhibit 9, Brief of Evidence at p. 42.

²⁷⁷ Exhibit 9, Brief of Evidence at p. 57-1.

²⁷⁸ Transcript for 4 April 2023 T 1314:32-37.

²⁷⁹ Transcript for 4 April 2023 T 1314:32-37.

²⁸⁰ Exhibit 9, Brief of Evidence at p. 42.

²⁸¹ Exhibit 9, Brief of Evidence at p. 43.

²⁸² Exhibit 9, Brief of Evidence at p. 43.

22. About 4 January 2020, John's two friends, Mr Nelson and Kurt Rogan, drove to John's property to look for him. They located John's car, a Subaru Forrester, burnt out on the side of Murphy's Ridge Road. However, there was no sign of John in his car.²⁸³
23. The following day, on 5 January 2020, local RFS members, the NSWPF and a number of John's friends searched for John. The Australian Defence Force had also undertaken a search by helicopter.²⁸⁴
24. The following morning on 6 January 2020, Mr Rogan continued his efforts to search for John and tragically, at approximately 7:00am, discovered remains that he believed to be of John. The remains were found approximately 50 metres from the burnt-out car and approximately 500 metres from the main house on the property.²⁸⁵
25. Investigating police attended the scene and inspected the vehicle, which was positioned against a tree with damage consistent with a heavy impact.
26. On 13 January 2020, Forensic Pathologist Bernard l'Ons performed an autopsy. The official cause of death on the autopsy report authored by Dr l'Ons on 27 February 2020 was "thermal injuries".²⁸⁶
27. A DNA forensic analysis was conducted on 20 January 2020, with the remains positively confirmed, on the balance of probabilities, to be those of John Smith.²⁸⁷
28. In her statement, Josie described the aftermath of the Fire at the property:

"I went to the property after John's funeral service on February 3, 2020 and I saw the devastation the fire had left. It was like in an apocalyptic world, the bush that was once so thick and green was so bare, brown with black trees standing. When I saw the burnt car, it was less than a year old Subaru forester but it looked like a skeleton car. When we went to the shed, which I used as my art studio before, I could only see shattered glasses and corrugated iron roof everywhere. Some of the corrugated iron was already hanging on the top of the huge tree. When I look at the house, it was crumbled and totally destroyed. But the little tool shed where the tools were kept and was one of the reasons John had to stay that night because he wanted to move some tools from the tool shed for safety, is still standing."²⁸⁸

²⁸³ Exhibit 9, Brief of Evidence at p. 88, 119.

²⁸⁴ Exhibit 9, Brief of Evidence at p. 4, 107.

²⁸⁵ Exhibit 9, Brief of Evidence at p. 122.

²⁸⁶ Exhibit 9, Brief of Evidence at p. 30.

²⁸⁷ Exhibit 9, Brief of Evidence at pp. 19–20.

²⁸⁸ Exhibit 9, Brief of Evidence at p. 57-2.

Witness evidence

29. In oral evidence, Mr Rogan, described his efforts to locate John on 4 January 2020 with Mr Nelson. They walked the 4-kilometre distance from Murphy's Ridge Road to get to John's property. They were unable to drive as the road had been covered with fallen trees. As they walked along the road, they located what Mr Rogan believed to be John's burnt-out vehicle situated off the side of the road, approximately 400 metres from his house. They did not see John in the car and so continued to conduct a search around the Tuross River, believing that John may have sought retreat there.²⁸⁹
30. Mr Rogan gave evidence about the state of the vehicle they located. He observed that it was facing in a direction towards John's property and house, rather than away from it.²⁹⁰ The vehicle was approximately 10 metres off the roadway slightly down an embankment. The car had hit a large tree. Mr Rogan indicated that he saw "*major front-end damage*"²⁹¹ to the vehicle and that it was "*a shell of a car*" with hardly anything remaining of the vehicle.²⁹² The rims had melted, and the aluminium rocker cover had liquified.
31. On that same day, Mr Rogan and Mr Nelson had also located a mobile phone and a pair of reading glasses still in their case on the road itself and in close proximity to the vehicle. Mr Rogan believed that John may have dropped them at some point.²⁹³
32. The following day, on 6 January 2020, Kurt had again attended John's property, this time with another friend of John's, Mr Kerr. On that occasion, Mr Rogan located the remains of John near a gully at about 40-50 metres from where he had earlier located the mobile phone and glasses.²⁹⁴
33. An explanation proffered by Mr Rogan as to why John's remains were on the opposite side of the road as that of the vehicle, which was on the riverside, was the John may have been completely disorientated by smoke and thought that it was the "*quickest place to get out and get some cover*".²⁹⁵ As to why the vehicle was facing John's house and not away from the house, Mr Rogan speculated that John may have attempted "*to make a run for it*" and then realising that he could not get out, turned back to get to his house and in doing so, ran off the road due to poor visibility from the smoke and/or the flames of the Fire.²⁹⁶
34. Mr Rogan stated that he returned to the scene on 6 January 2020 with the NSWPF and directed them to where he located the remains of John. NSWPF FETS Officer DI Debnam and SC Alyx McEvoy noted that a burnt-out Subaru station-wagon was positioned against a tree with apparent damage consistent with a heavy impact.²⁹⁷ Also noted were tyre marks leading from the western edge of the roadway to the resting point of the vehicle, suggesting that the vehicle was travelling in a generally south direction, lost traction and then slid laterally before colliding with the tree.²⁹⁸ In an extended search of the area, the NSWPF found three sets of keys between the vehicle and the remains of John, suggesting that they were dropped by John as he sought shelter from the Fire in the gully.²⁹⁹

²⁸⁹ Transcript for 9 September 2021 T 130:5-131:30.

²⁹⁰ Transcript for 9 September 2021 T 130:17.

²⁹¹ Transcript for 9 September 2021 T 130:27.

²⁹² Transcript for 9 September 2021 T 130:31-33.

²⁹³ Transcript for 9 September 2021 T 130:37.

²⁹⁴ Transcript for 9 September 2021 T 131:45-132:1.

²⁹⁵ Transcript for 9 September 2021 T 132:7-8.

²⁹⁶ Transcript for 9 September 2021 T 132:10-20.

²⁹⁷ Exhibit 9, Brief of Evidence at p. 65.

²⁹⁸ Exhibit 9, Brief of Evidence at p. 65-66.

²⁹⁹ Exhibit 9, Brief of Evidence at p. 70.

Section 81 Findings

35. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was John Robert Smith.

Date of death

John died on 31 December 2019.

Place of death

He died near Lot 9, Murphy's Ridge Road, Nerrigundah NSW.

Cause of death

The cause of his death was thermal injuries.

Manner of death

John died on 31 December 2019 from thermal injuries while attempting to flee the 'Badja Forest Fire'.

36. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS. This is detailed in Volume 2, Part 10, Section 3.
37. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to John's family and loved ones, friends, and community for their loss.
38. At the conclusion of the evidence in the inquest, John's wife, Josie shared a moving family statement and photographs on behalf of the Smith family. She also generously shared with the Court the lyrics of a song composed by John titled 'Debris'. It is reproduced in Part 7 – Testimonials.

9. Werri Berri Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Werri Berri Fire.

Introduction

2. The Werri Berri Fire ignited on 29 December 2019 and burned for 28 days before it merged with the Badja Forest Fire on 25 January 2020.³⁰⁰ The fire burned predominantly within the Bega Valley LGA, encompassed within the lands of the Yuin people.
3. The Werri Berri Fire burned largely in dense bushland within the Wadbilliga National Park, in an area known as Yankees Gap. The Mountain of Werri Berri is set between the townships of Bemboka and Steeple Flat. It is approximately 33 kilometres north-west of Bega, 12 kilometres north of Bemboka and 25 kilometres south-east of Cooma.³⁰¹
4. The fire ultimately burnt over 27,789 hectares of land. A total of 148 structures, including 35 residences, 112 out-buildings and one facility, were destroyed or damaged by the Fire.³⁰² Fortunately, there was no loss of life from this Fire.

Chronology of events

5. The Werri Berri Fire was first observed by the RFS from a helicopter on 29 December 2019. At 4:57pm, an RFS Aerial Patrol was flying in vicinity of Werri Berri Mountain, when the aerial crew noticed smoke coming from the thick scrub. They identified a small fire with a large tree burning within the fire.³⁰³
6. On 30 December 2019, the Fire spread significantly 14 – 18 kilometres to the south-east.³⁰⁴ Over the following week, the Fire slowed and continued to spread at a steady rate generally towards the north-east and north-west.³⁰⁵
7. On 13 January 2020, the Fire spread approximately 8 – 9 kilometres to the north-west. At this point, the Werri Berri Fire had merged in part with the Badja Forest Fire.³⁰⁶
8. The footprint of the Werri Berri Fire only marginally increased in size between 13 –25 January 2020 and continued to burn at a steady rate without escalating to any significant rate of spread.³⁰⁷
9. As of 25 January 2020, the Fire was recorded as ‘Authorised as Out – Amalgamated’ and commenced being mapped and managed as part of the Badja Forest Fire after the northern front of the Werri Berri Fire burnt onto the southern aspect of the Badja Forest Fire.³⁰⁸

³⁰⁰ Exhibit 10, Brief of Evidence at p. 56.

³⁰¹ Exhibit 10, Brief of Evidence at p. 6.

³⁰² Exhibit 10, Brief of Evidence at pp. 3–4.

³⁰³ Exhibit 10, Brief of Evidence at p. 2, 127 [17].

³⁰⁴ Exhibit 10, Brief of Evidence at p. 41.

³⁰⁵ Exhibit 10, Brief of Evidence at p. 46.

³⁰⁶ Exhibit 10, Brief of Evidence at p. 50.

³⁰⁷ Exhibit 10, Brief of Evidence at p. 52, 54.

³⁰⁸ Exhibit 10, Brief of Evidence at p. 56.

Cause and origin

10. OIC of the Werri Berri Fire investigation, DSC Bradley told the Court that the NSWPF had obtained satellite maps recording lightning strike data in the area of the plume of smoke observed by the RFS on 29 December 2019. Notably, there was significant lightning activity in the area for the 24 hour period from 4:00pm on 29 December 2019 until 30 December 2019.³⁰⁹
11. RFS member Jake Roarty gave evidence that he first spotted the original plume of smoke while conducting duties as part of a RART looking for spot fires as a result of a lightning band on 29 December 2019.³¹⁰ The team was travelling in a general southerly direction down between the Dangelong Nature Reserve and the Wadbilliga National Park when they first spotted the plume of smoke to their east.³¹¹ The team conducted an aerial reconnaissance and took photographs of the plume of smoke which was observed coming from a single tree.³¹²
12. The following image was taken by Mr Roarty of the plume of smoke sighted on 29 December 2019, which later became the Werri Berri Fire:³¹³



Close up image of first plume of smoke – Helicopter Crewman Jake ROARTY

13. John Inskip, Captain of the RFS Bemboka Brigade, gave evidence that he first became aware of the Fire on the afternoon of 29 December 2019 after seeing smoke from his residence.³¹⁴ At around 2:30pm on 30 December 2019, Captain Inskip also received a call from the property owner of a farm called 'Crystal Brook' who reported fire burning in the national park behind and towards the property.³¹⁵ That afternoon, fire crews assembled at Bemboka Fire Station and attended the 'Crystal Brook' property but were not immediately able to access the Fire due to the inaccessible terrain.³¹⁶ It became accessible later on 30 December 2019, when the Fire arrived at Yankees Gap, an area north of Bemboka.³¹⁷ Fire efforts were commenced at that time.

³⁰⁹ Transcript for 13 September 2021 T 140:39-42, 141:13:16.

³¹⁰ Exhibit 10, Brief of Evidence at p. 127.

³¹¹ Transcript for 13 September 2021 T 148:12-15.

³¹² Transcript for 13 September 2021 T 148:23-28, 150:9-11.

³¹³ Exhibit 10, Brief of Evidence at pp. 20-21.

³¹⁴ Transcript for 13 September 2021 T 152:3-12.

³¹⁵ Exhibit 10, Brief of Evidence at pp. 120-121.

³¹⁶ Transcript for 13 September 2021 T 152:27-30, 36-40.

³¹⁷ Transcript for 13 September 2021 T 152:45-153:1.

14. DSS Moon attached to the NSWPF FETS provided evidence that in his view, based on lightning strike data, the Werri Berri Fire started due to a lightning strike that was recorded in the area at 1:29pm on 29 December 2019, which was within 200 metres of the area of the plume of smoke photographed by Jake Roarty on 29 December 2019.³¹⁸ He stated that lightning strike data is normally accurate between 2 to 250 metres.³¹⁹
15. Other causes of the Fire were ruled out by the NSWPF investigation given the terrain and the lack of roads, tracks or fire trails in the area.³²⁰
16. RFS AFI Darin Howell conducted an aerial examination of the general area of origin on 4 February 2020.³²¹ Mr Howell gave evidence that because of the remote location of the Fire, he eliminated human intervention as the cause of the Fire.³²² His investigation indicated that the cause of the Fire was natural, caused by lightning strike to a tree in the vicinity of the plume of smoke observed on 29 December 2019.³²³ However, due to the number of lightning strikes in the area and the possibility that fire could be smouldering for a number of weeks, he could not identify a particular strike which ignited the Fire in the identified area.³²⁴

Section 81 Findings

17. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Werri Berri Fire commenced on 29 December 2019 in the general area of where the plume of smoke was detected by the RFS (as demonstrated in photographic image as being -36.51261 degrees South 149.53670 degrees East).

The cause of the Werri Berri Fire was lightning strike between 27 and 29 December 2019.
18. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

³¹⁸ Exhibit 10, Brief of Evidence at p. 86; Transcript for 13 September 2021 T 154:42-45; 159:10-26.

³¹⁹ Transcript for 13 September 2021 T 157:23-27.

³²⁰ Exhibit 10, Brief of Evidence at pp. 86-87.

³²¹ Exhibit 10, Brief of Evidence at p. 106, 112.

³²² Transcript for 13 September 2021 T 163:21-23.

³²³ Exhibit 10, Brief of Evidence at p. 114; Transcript for 13 September 2021 T 164:16-20.

³²⁴ Transcript for 13 September 2021 T 166:4-7.

10. Green Valley, Talmalmo Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Green Valley, Talmalmo Fire.

Introduction

2. The Green Valley, Talmalmo Fire started on 29 December 2019 and burned for approximately eight weeks until it was recorded 'Out' on 19 February 2020.³²⁵ The fire originated in an area bounded by the Woomargama National Park, a private property named 'Avoca', and a pine plantation owned by Hume Forests Limited.
3. The fire occurred within the Greater Hume LGA, encompassed within the lands of the Wiradjuri people. Overall, the Fire impacted an area of approximately 46,000 hectares of publicly and privately owned land.³²⁶ Approximately 106 structures were destroyed or damaged by this Fire, including 14 homes which were destroyed the townships of Jingellic, Ournie and Talmalmo. There was also significant destruction of the pine plantation and its associated machinery owned by Hume Forests Limited.³²⁷
4. The evidence demonstrates that the first three days of the Green Valley Fire were the most significant. The fire travelled at an astonishing pace, fed by dry fuel loads, fanned by unfavourable weather conditions, and was further worsened by its own fire-generated pyrocumulus cloud, the effects of which overturned an RFS vehicle on 30 December 2019, tragically killing volunteer RFS firefighter Samuel McPaul and injuring his colleague, Rodney O'Keeffe.³²⁸ Numerous other firefighters were also treated for injuries sustained while fighting the Fire.
5. While these findings are limited to the cause and origin of the Green Valley Fire, it should be noted that on 30 December 2019, RFS firefighter Samuel McPaul died while undertaking firefighting activities in connection with this Fire. The circumstances of Samuel's death is considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of his death are located in Section 11 following.

Chronology of events

6. On 29 December 2019, thunderstorm activity occurred over Woomargama National Park and surrounding areas.³²⁹ Local residents Kellie and Yves Scheitler, who live on River Road, Talmalmo, received notifications on a lightning strike app that indicated that there were three strikes at 4:19pm, 4:20pm and 4:28pm in the general area bordering their private property 'Avoca', the pine plantation and Woomargama National Park.³³⁰
7. As part of the investigation conducted by DSC Blanch, GPATS data was obtained in relation to lightning strikes on the afternoon of 29 December 2019. The data revealed that two lightning strikes occurred at 4:28pm within the vicinity of where the Green Valley, Talmalmo Fire is believed to have originated.³³¹
8. The Green Valley Fire was first observed by Yves Scheitler who drove out on motorbike to the locations of where the lightning strikes had hit. He witnessed a column of smoke rising to the north of his home, in general proximity to the 'Avoca' property.³³²

³²⁵ Exhibit 11A, Brief of Evidence at p. 65.

³²⁶ Exhibit 11A, Brief of Evidence at p. 748.

³²⁷ Exhibit 11A, Brief of Evidence at p. 54.

³²⁸ Exhibit 11A, Brief of Evidence at p. 352, 275.

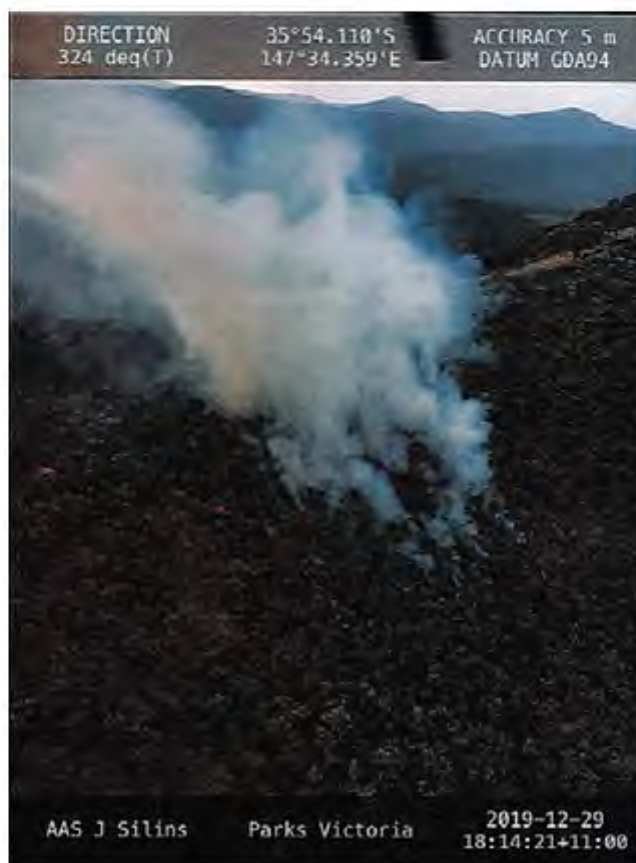
³²⁹ Exhibit 11A, Brief of Evidence at p. 128.

³³⁰ Exhibit 11A, Brief of Evidence at p. 583.

³³¹ Exhibit 11A, Brief of Evidence at p. 128.

³³² Transcript for 14 September 2021 T 181:9-11; Exhibit 11A, Brief of Evidence at p. 345.

9. At approximately 5:04pm, a 000 call was made by Kellie Scheitler. At 5:06pm, the call was logged by the RFS as a smoke sighting incident and units were deployed to the fire scene. According to the oral evidence of Detective Acting Inspector Hassan El-Khansa, the Fire had not yet taken a run at that point.³³³
10. At approximately 6:15pm, Parks Victoria captured an aerial photograph (see below image) of the Fire in its infancy.³³⁴ The latitude and longitude from the photograph would later assist Angus Bullough, RFS AFI, to narrow down the likely area of origin for the Fire's ignition.



11. Attempts were made to contain the Fire. RFS firefighter Mark Reeves gave oral evidence that he and neighbour Neil Kelly were the first to arrive at the fireground in the late afternoon of 29 December 2019, having received notification from the RFS.³³⁵ At that stage, the Fire was progressing downslope in a north-easterly direction and was approximately 10 acres in size with a two-metre flame height.³³⁶ Arriving north of the Avoca property, Mr Reeves and Mr Kelly attempted to contain the Fire using a 400 litre tank from their Ute and rake hoes. Mr Reeves described the terrain as rough, hilly, steep and inaccessible to vehicles.³³⁷
12. In the late afternoon from around 3:00pm-8:00pm when RFS attended the fireground, weather conditions were described as dry with relatively low humidity and light to moderate south-west winds of up to 15 kilometres per hour, with temperatures reaching 38.3 degrees.³³⁸ These weather conditions continued to midnight when the wind speed dropped to 'calm'. Mr Reeves indicated that the Fire was reasonably quiet, due to night damp when he left the scene at around 10:00pm or 11:00pm that evening.³³⁹

³³³ Transcript for 14 September 2021 T 181:17-18.

³³⁴ Exhibit 11A, Brief of Evidence at pp. 71-72.

³³⁵ Transcript for 15 September 2021 T 200:8-13.

³³⁶ Transcript for 15 September 2021 T 200:29-39.

³³⁷ Transcript for 15 September 2021 T 200:1-3.

³³⁸ Exhibit 11A, Brief of Evidence at p. 132.

³³⁹ Transcript for 15 September 2021 T 201:1-3.

13. Bulldozers were deployed through the night in an attempt to place a break around the Fire's edge. The evidence was that there were certain 'rocky' areas where the bulldozers could not access.³⁴⁰
14. A RFS Situation Update reported that by 11:03pm, the Fire was mapped as spreading in various directions and was at that stage, approximately 20 hectares in size.
15. On the morning of 30 December 2019, the weather conditions had dramatically deteriorated with prevailing north-northwest winds picking up.³⁴¹ Mr Reeves returned to the scene with Mr Kelly with a 1000 litre RFS tanker. He described that the Fire had grown but was confident that it would be contained. An RFS SITREP for 7:35am indicates that the Fire had grown to 45 hectares in size. Mr Reeves told the Court that it was difficult to find RFS crew because of the other fires burning across the State,³⁴² which says something about the broader context within which the response to the Green Valley, Talmalmo Fire was placed.
16. By early afternoon, the weather conditions had further deteriorated with spotting observed ahead of the fire front. Evidence from the Bureau was that weather was very hot and dry with north-westerly winds, averaging 30 to 40 kilometres per hour, gusting up to 54 kilometres per hour.³⁴³ Maximum temperatures in the area were close to 40°C and the RH dropped below 10% in the late afternoon.
17. Between 2:00pm – 3:00pm, the Green Valley Fire breached the containment line on the north-eastern front and was expected to encroach upon properties in the townships of Jingellic and Talmalmo.³⁴⁴ Accordingly, crews were tasked by RFS Fire Control to head to the River Road and prioritise the protection of property and assets.³⁴⁵ The RFS North West Culcairn 2 Alpha fire truck and its crew of three, which included firefighter Samuel McPaul, was deployed to the 'Lightwood' property in Jingellic along with a number of other RFS vehicles.
18. The Green Valley Fire had made a progression south towards the Jingellic area on the northern bank of the Murray River.³⁴⁶ Detective Acting Inspector El-Khansa told the Court that after about 3:00pm on 30 December 2019, the wind velocity had picked up, developing into a FGV, which is an upright column of rapidly rotating air which form over firegrounds due to the interactions between the Fire, topography and the ambient weather conditions.³⁴⁷ A Report produced by the Bureau for this Inquiry explained that the environment surrounding Green Valley was favourable for the development of FGVs due to an unstable atmosphere, the presence of high based pyrocumulus clouds (indicating strong updrafts above high intensity fire activity), moderate winds above the surface, and the location of the Fire in the lee side of the ridgeline.³⁴⁸
19. In the period leading up to 5:30pm, the Fire's activity escalated with the main head fire moving over the ridgeline into Green Valley.³⁴⁹
20. At around 5:45pm, the FGV descended on the 'Lightwood' property and impacted the 10-tonne Isuzu RFS North West Culcairn 2 Alpha fire truck causing it to roll over, leading to the death of Samuel McPaul.³⁵⁰ The evidence from the Bureau was that the truck was hit by winds in excess of 220 kilometres per hour, consistent with wind speeds of an Enhanced Fujita Scale Category 3 tornado.³⁵¹ The Report noted that it was possible that the winds reached up to 320 kilometres per hour. These destructive winds were short-lived, lasting a few minutes only.³⁵²

³⁴⁰ Transcript for 15 September 2021 T 201:6-21.

³⁴¹ Exhibit 11A, Brief of Evidence at p. 55.

³⁴² Transcript for 15 September 2021 T 202:8-11.

³⁴³ Exhibit 11A, Brief of Evidence at p. 712.

³⁴⁴ Transcript for 14 September 2021 T 181:45-50; Exhibit 11A, Brief of Evidence at p. 276.

³⁴⁵ Exhibit 11A, Brief of Evidence at p. 56.

³⁴⁶ Exhibit 11A, Brief of Evidence at p. 118.

³⁴⁷ Transcript for 14 September 2021 T 182:7-12.

³⁴⁸ Exhibit 11A, Brief of Evidence at p. 739.

³⁴⁹ Exhibit 11A, Brief of Evidence at p. 28.

³⁵⁰ Transcript for 14 September 2021 T 182:20-22.

³⁵¹ Transcript for 14 September 2021 T 182:45-48.

³⁵² Exhibit 11A, Brief of Evidence at p. 707, 717.

21. The fire continued to burn intensely, spotting ahead of the fire front. A RFS linescan image taken at 6:12pm shows that the Green Valley Fire then progressed south-easterly crossing the Murray River into Victoria in a separate area of fire, before merging with the main fire later that evening. By 10:17pm, the Fire was mapped as having spread 24 kilometres to the south-east over a 24-hour period.
22. On 31 December 2019, the Green Valley Fire commenced another significant run, progressing a staggering 45 kilometres south-east since 9:34pm the previous evening.³⁵³ At 3:30pm, then-Commissioner Shane Fitzsimmons AO AFSM made a section 44 declaration giving the RFS control of firefighting efforts in the Greater Hume LGA.³⁵⁴
23. Over the course of the next four days, the Green Valley Fire was mapped as spreading small distances of up to five kilometres in various directions.
24. On 4 January 2020, the Fire commenced another significant run, with an area of fire near Jingellic mapped as spreading 18 kilometres to the east-southeast. Ultimately, the Green Valley Fire coalesced with the nearby East Ournie Creek Fire and Dunns Road Fire resulting in a ‘mega-fire’³⁵⁵.
25. Over the course of the next 45 days, the Green Valley Fire was mapped as spreading relatively short distances in various directions or mapped as not spreading, both in NSW and Victoria.
26. At 10:38pm on 19 February 2020, the Green Valley, Talmalmo fire was authorised “Out”.³⁵⁶

Cause and origin

27. Having had regard to the latitude and longitude from the photograph taken by Parks Victoria and to lightning strike data, RFS AFI Mr Bullough conducted an aerial inspection on 12 January 2020 over the general area of origin. From the air, Mr Bullough observed advancing fire runs to both the east and the west and identified a particular tree that appeared to have been struck by lightning (see image below):³⁵⁷



D006
Close up of Specific Area of Origin (SAO)

³⁵³ Transcript for 14 September 2021 T 183:25-28.

³⁵⁴ Exhibit 11A, Brief of Evidence at p. 702.

³⁵⁵ Exhibit 13A, Brief of Evidence at p. 8.

³⁵⁶ Exhibit 11A, Brief of Evidence at p. 65.

³⁵⁷ Transcript for 14 September 2021 T 194:8-11.

28. Mr Bullough told the Court that he conducted a ground-based investigation on 12 January 2020, having cleared access to the site the previous day through extremely steep and rugged terrain.³⁵⁸ The investigation was scheduled to commence on 3 January 2020, however, dangers associated with reduced visibility, unpredictable fire conditions, extreme weather conditions, including agency priorities, meant that the investigation was postponed.
29. Mr Bullough outlined in oral evidence, and in his statement, that he adopted standard RFS methodology to confirm the general area of origin and to identify the SAO. That is, he conducted an examination around the burnt ground in the general area of origin in a counter-clockwise direction and then in a clockwise direction to establish fire runs. Once a fire run was established, he followed a serpentine pattern to examine macro indicators of advancing, backing or lateral fire movement. Mr Bullough informed the Court that there were conflicting macro indicators in the general area of origin which cause him to rely on micro indicators. The observed micro indicators, including angle of char on grass stems, sooting and staining, ash deposits and evidence of lightning strike, led to the identification of a SAO. Once satisfied of the SAO, Mr Bullough applied the same methodology to establish the point of origin.³⁵⁹
30. Mr Bullough informed the Court that the likely point of origin for the ignition of the Fire was a tree bearing the hallmarks of lightning strike.³⁶⁰ Mr Bullough described that a particular tree had suffered from a natural force such to have caused the bow to break near its base. Evidence of fragmented and splintered wood was also observed pointing to a natural, rather than a mechanical break.³⁶¹ Mr Bullough told that Court that a very small gouge mark was observed near the base of the tree and that the tree was observed to have been burnt externally, with no evidence of the internals affected by fire, such that could have weakened the tree causing it to fall after the fact. In his experience, such features indicate that the tree had been struck by lightning.³⁶²
31. DS Dane Kremers, attached to the FETS provided a statement and oral evidence to the Court that the most likely cause of ignition for the Fire was lightning.³⁶³ He attended the fireground on 14 January 2020 to conduct an examination of the suspected area of origin, following two earlier unsuccessful attempts to access the fireground on 6 January 2020 and 9 January 2020.
32. DS Kremers informed the Court that he sourced information from observations of first responders and lightning data from the RFS to narrow down the general area of origin. He was unable to identify a specific point of origin due to conflicting fire indicators caused by a secondary cross over of the fire front on the original fireground, in the opposite direction, which had altered existing fire indicators and patterns.³⁶⁴
33. DS Kremers also provided evidence in relation to 19 lightning strikes recorded by GPATS in the area on 29 December 2019 between 4:00pm and 6:00pm. Of those, two lightning strikes were recorded at 4:28pm within 200 metres of the initial reported fireground.³⁶⁵
34. It is his evidence that the most probable cause of the ignition was lightning. He concluded that the timing of the lightning strikes in relation to the reported observations of the Fire in its incipient stage, the report from the crew of the Lankeys Creek Brigade from their initial attendance at the scene, and the timing of the photograph provided by Parks Victoria, together with his own aerial inspection on 15 January 2020 confirmed to him that the likely area of origin was within dense native bushland on the eastern side of a steep slope in the south-western area of the Woomargama National Park.³⁶⁶
35. Finally, other causes of the Fire were excluded for want of evidence of any competent ignition source identified in the remote terrain of the general area of origin.³⁶⁷

³⁵⁸ Transcript for 14 September 2021 T 193:37-41.

³⁵⁹ Exhibit 11A, Brief of Evidence at p. 200.

³⁶⁰ Transcript for 14 September 2021 T 195:22-24.

³⁶¹ Exhibit 11A, Brief of Evidence at pp. 200-201.

³⁶² Transcript for 14 September 2021 T 195:6-15.

³⁶³ Transcript for 14 September 2021 T 190:4-16.

³⁶⁴ Transcript for 14 September 2021 T 187:29-44.

³⁶⁵ Transcript for 14 September 2021 T 180:48-181:5.

³⁶⁶ Exhibit 11A, Brief of Evidence at pp. 140-141; Transcript for 14 September 2021 T 189:41-190:2.

³⁶⁷ Exhibit 11A, Brief of Evidence at p. 201; Transcript for 14 September 2021 T 190:7-16.

Section 81 Findings

36. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Green Valley, Talmalmo Fire commenced on 29 December 2019 at 4:28pm in an area bounded by Woomargama National Park, a private property named 'Avoca', and a pine plantation owned by Humes Forest Limited.

The Green Valley, Talmalmo Fire was caused by lightning strike to a tree on 29 December 2019 at 4:28pm.

37. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearing into the design and safety of firefighting vehicles. This is detailed in Volume 2, Part 10, Section 4.

11. Samuel McPaul

Why was an inquest held?

1. In this inquest, Samuel Ian McPaul's identity is known, as is the date and place of his death. For this reason, the inquest into Samuel's death focused on the manner and cause of his death.

Introduction

2. Samuel, herein referred to by his preferred name, Sam, died sometime after 5:45pm on 30 December 2019 while fighting fires in the Jingellic area with the North-West Culcairn RFS Brigade.
3. On 30 December 2019, under extreme weather conditions, a fire known as the Green Valley, Talmalmo Fire spread to Jingellic, impacting properties including a rural property at 3852 River Road, Jingellic named 'Lightwood'.
4. On the afternoon of 30 December 2019, Sam was part of an RFS unit deployed to the Jingellic area in a North-West Culcairn truck to attend to property protection. The crew accompanying Sam in the truck included RFS Captain Andrew Godde and volunteer firefighter Rodney O'Keefe. Mr Godde drove the truck while Mr O'Keefe and Sam were in the crew area of the truck ready for firefighting.
5. The truck was an RFS Category 2 truck, a 2001 Isuzu twin cabin. It was set up for grass firefighting with a tank of 1800 litres. On 30 December 2019, the tank was between 50% to 90% full of water.
6. Following further extreme deterioration in weather conditions, including the formation of a pyro-cumulus column at the 'Lightwood' property, the RFS truck carrying Mr Godde, Mr O'Keefe and Sam rolled over. Sam was located by Mr Godde and Mr O'Keefe on the ground, having likely fallen under the middle section of the truck after it rolled over.
7. Sam Ian McPaul was 29 years old when he died. He spent his childhood in Moruya and later graduated from Charles Sturt University with a Bachelors degree in Animal Science. Sam was especially fond of all types of animals. Throughout of the course of his life, he raised over 100 chickens, ducks, geese and turkeys and was an avid poultry breeder.
8. He went on to complete a Mechanical Apprenticeship and later worked as a motor mechanic in Culcairn. He enjoyed attending to various car and home renovation projects and dreamed of one day owning a mechanic shop of his own.
9. Sam was also devoted fan of sports and was most passionate about playing and watching basketball. He was highly recognised for his sporting achievements and helped out in the community by coaching local teams and refereeing competitions.
10. In 2018, Sam married Megan McPaul. At the time of his death, they were expecting their first child.
11. Sam is remembered as a confident, energetic and boisterous person with an infectious laughter. He was known by all for his selflessness and willingness to lend a hand to anyone who needed it.

Chronology of events

12. At around 3:30pm on 30 December 2019, Mr Godde, Captain of the North West Culcairn Brigade, was notified to arrange a tanker with a crew ready for firefighting efforts that day.³⁶⁸ Due to the difficulties encountered in obtaining a crew over the Christmas and New Year period, he contacted Sam to join himself and Mr O'Keefe. Mr Godde says that Sam did not hesitate when asked if he would join the truck. Mr Godde says that this was the kind of man Sam was, he was a community-minded man and eager help.
13. Mr Godde had been directed by Peter Webb, his Group Captain, to travel to the Jingellic area and proceed up River Road to attend to property protection. Mr Godde says the RFS truck was stopped and the three men put on their PPE before proceeding down River Road. 'Lightwood' was the first farm they came to, and they could see the Fire encroaching on it.³⁶⁹

³⁶⁸ Exhibit 12, Brief of Evidence at p. 201.

³⁶⁹ Transcript for 15 September 2021 T 240:7-39.

14. The Lightwood property in Jingellic is owned by Andrew Hicks. The property was approximately 400 metres off River Road and included a residence and farm buildings.³⁷⁰
15. Mr Hicks says that by mid-afternoon on 30 December 2019, there were around three to four fire trucks in or around his property to fight the Fire.³⁷¹
16. Peter 'Jed' Taylor, a member of Lankey's Creek Brigade, provided details relating to the Lankey's Creek Brigade's attendance at Lightwood at around 3:00pm that day. He recalled the RFS communications requesting as many trucks as possible to provide support to the area.³⁷²
17. At that point in time, he says that the wind was blowing in three different directions on different sides of the mountain. In his statement, Mr Taylor describes how he "*could see and hear trucks coming and going from all directions along River Road. I could see 3 trucks at the base of Mt Jingellic on the eastern side of the property I know as Lightwood. They were parked at this location. From my observations they were waiting for the fire to arrive.*"³⁷³
18. Mr Taylor says that the Fire was heading south and the concern at that point was for the five properties at the base of the mountain.³⁷⁴
19. Mr Godde says that when the North-West Culcairn truck arrived at the Lightwood property, with Sam onboard, there were two other RFS vehicles in the immediate area. He says that they entered the paddock and were tasked with dealing with spot fires. He also says that they considered it safe to enter the paddock because the fuel load was low, and the ground was flat.³⁷⁵
20. At around 4:30pm, the Glen Mannus Brigade arrived at the front gate of the Lightwood property and attended to a spot fire in the paddock. Scott Anderson a member of the Glen Mannus Brigade, says he watched as his crew fought one of the spot fires from the front gate of the paddock and he could see the North-West Culcairn truck, fighting spot fires at the base of the hill.³⁷⁶
21. The evidence of Mr Anderson was that the North-West Culcairn truck, with Sam onboard, continued to fight spot fires in the minutes before a FGV descended on the paddock. At this point, the Glen Mannus Brigade drove back towards the gate of the main entrance to Lightwood. As Glen Mannus drove through the paddock gate, Mr Anderson says he felt, in his words, "*the tornado drop*".³⁷⁷
22. By around 4:30pm or 5:00pm, the owner of Lightwood, Mr Hicks, recalls there being around six or seven RFS vehicles at his property. At that stage, he similarly recalls the Fire heading down into the base of the Jingellic Mountain and describes the impending fire as an "*inferno*".³⁷⁸
23. At around 5:23pm, an emergency weather warning was broadcast for the Green Valley, Talmalmo Fire for 30 December 2019 indicating that there was a pyrocumulus column that had been created by the Fire.³⁷⁹ The column was described as unstable with there being a possibility that it could collapse. If this was to occur, it was predicted that the Fire would extend in all directions with erratic fire behaviour and extreme winds. Mr Matthew Hicks, the RFS Captain of Group 5 in the Albury area, Mr O'Keeffe and Mr Godde each provided oral evidence that, for one reason or another, they did not recall receiving that emergency weather warning on the ground at that time.³⁸⁰
24. Around 5:30pm, Mr Taylor saw spinning smoke on the mountain side and called Fire Comms on his radio to indicate that it was his view that a fire tornado was happening.³⁸¹
25. Evidence suggests that at around 5:45pm that day, an FGV descended on a property known as Lightwood near Jingellic.³⁸²

³⁷⁰ Exhibit 12, Brief of Evidence at p. 59.

³⁷¹ Exhibit 12, Brief of Evidence at p. 241.

³⁷² Exhibit 12, Brief of Evidence at pp. 156–157.

³⁷³ Exhibit 12, Brief of Evidence at p. 157.

³⁷⁴ Exhibit 12, Brief of Evidence at p. 157.

³⁷⁵ Transcript for 15 September 2021 T 243:8-13.

³⁷⁶ Exhibit 12, Brief of Evidence at p. 122.

³⁷⁷ Exhibit 12, Brief of Evidence at p. 124.

³⁷⁸ Exhibit 12, Brief of Evidence at p. 242.

³⁷⁹ Exhibit 12, Brief of Evidence at p. 432.

³⁸⁰ Transcript for 15 September 2021 T 221:41; T 229:35; T 245:10.

³⁸¹ Exhibit 12, Brief of Evidence at p. 159.

³⁸² Exhibit 12, Brief of Evidence at p. 476.

26. Mr O’Keeffe gave evidence detailing that while the Culcairn Brigade drove through the paddock, it was his view that the vehicle was travelling at around 10 to 15 kilometres an hour. The ground was covered in short grass, and he wasn’t feeling any bumps or jolts in the truck. Mr O’Keeffe, Mr Godde and Sam were still travelling at the same speed around the property before a decision was made to get out of the paddock following the Fire spotting at the northern end, with the wind picking up and heading into the direction of the North-West Culcairn truck. It is Mr O’Keeffe’s estimation that the truck would have been travelling at around 20 to 25 kilometres per hour, heading directly towards the property’s gate.³⁸³
27. At this point, Mr O’Keeffe details how the paddock seemed to then explode into flames. As he looked around, he recalls seeing the Fire coming from all directions. As the vehicle headed towards the gate, the winds increased in its speed and the Fire is said to have travelled from around 100 metres away to the truck in the matter of seconds.³⁸⁴
28. Sam and Mr O’Keeffe went into the crew protection area to shield themselves and moments later the truck was on its roof.³⁸⁵
29. Mr Taylor says that he recalls seeing Sam standing on the back of the North-West Culcairn truck on the personnel area moments before the wind increased and the truck flipped.³⁸⁶
30. In oral evidence, Mr Godde suggested that he, Mr O’Keefe and Sam arrived at the Lightwood paddock at around 5:50pm. As indicated above, the paddock was flat, tidy and he says he could drive in the paddock comfortably and initially there wasn’t any fire spotting. Soon after entering the paddock, the men decided to leave and head back towards the home on the property as they were likely needed more up there.³⁸⁷
31. At this point, the winds picked up and wall of flames presented itself. Mr Godde describes everything being on fire. He says the truck, which was carrying Sam directly behind him on the driver’s side, was very close to the gate of the property, around 50 to 100 metres away, and they were nearly out of the paddock.³⁸⁸
32. Mr Godde described to this Court how he thought he was driving through a wall of flames, but instead suggests that he actually drove into the middle of a fire tornado. He recalls telling Sam and Mr O’Keeffe to “*get down, take cover*” and it was obvious to him that everything was on fire, describing his surroundings as very red and hot.³⁸⁹ He says that it all happened very quick, a matter of seconds, as he was flung around the truck cabin as the truck overturned.
33. Captain Hicks provided oral evidence in relation to the deteriorating conditions, including strong winds and darkness, before he received a call from Mr Godde seeking assistance following the vehicle rollover. He was made aware that there had been some injuries to the North-West Culcairn crew. Captain Hicks then put an emergency call over the radio.³⁹⁰
34. At 5:51pm, after the FGV had swept through the property, the NSWPF were informed and immediately responded following reports of an RFS truck rollover at Lightwood. They were already in the Jingellic area assisting the community with the fire response and evacuation.
35. En route to the property, the Fire continued to burn on both sides of the highway and smoke limited visibility. Investigating Police encountered an RFS truck on the road and were informed that one of the RFS officers had been burned and one individual was trapped under the truck.³⁹¹

³⁸³ Exhibit 12, Brief of Evidence at pp. 196–197.

³⁸⁴ Exhibit 12, Brief of Evidence at p. 197.

³⁸⁵ Exhibit 12, Brief of Evidence at p. 198.

³⁸⁶ Exhibit 12, Brief of Evidence at p. 160.

³⁸⁷ Exhibit 12, Brief of Evidence at p. 204; Transcript for 15 September 2021 T 242:13; T 243:16-21.

³⁸⁸ Transcript for 15 September 2021 T 244:5-8, 30-31.

³⁸⁹ Transcript for 15 September 2021 T 245:41-246:3.

³⁹⁰ Transcript for 15 September 2021 T 223:10-18.

³⁹¹ Exhibit 12, Brief of Evidence at p. 25.

36. SC Rebecca Bavister provided a statement detailing how she saw Mr O’Keeffe attending to an individual under the RFS truck near the crew refuge area behind the cabin. Mr Godde used a hose to mist water over Mr O’Keeffe.³⁹² Mr O’Keeffe survived the incident, suffering serious injuries including cracked ribs and burns to his body.³⁹³
37. Sam was located deceased by Mr Godde and Mr O’Keeffe on the ground, under the middle section of the vehicle, after the rollover.
38. Evidence provided to the Court details that access to the crew refuge area of the truck was “*basically impossible*” at that particular point in time as the primary access doors on both sides were jammed into the ground and unable to be opened.³⁹⁴
39. On 3 January 2020, Forensic Pathologist Dr Melissa Thompson performed an autopsy. The official cause of death on the autopsy report dated 27 November 2020 was ‘Traumatic Asphyxia (Crush Asphyxia)’.

Witness evidence

40. In his written statement, SC Mark Lester from the FETS, details how he attended the scene at 9:10pm on the evening of 30 December 2019. He says that at the time of his examination, it was dark, smoky and there were active fires in the surrounding hills. The paddock area was burnt out and the ground covered in ash.³⁹⁵
41. The rolled over RFS truck was facing a north easterly direction and was approximately 80 to 100 metres from the gate to the Lightwood property.³⁹⁶
42. SC Lester examined the RFS truck, lying upside on its roof and slightly tilted to its nearside. The windows were smashed, and the damage was consistent with an offside rollover. He could not find any indicators of excessive speed or improper use of the RFS vehicle causative to the rollover. He concluded that the vehicle was suddenly pushed by force to the western side of the vehicle causing it to roll sideways.³⁹⁷
43. SC Lester told the Court that he observed Sam pinned under the RFS truck, deceased, as a result of a vehicle rollover. Following his examination, he concluded that Sam was wearing appropriate RFS protective gear at the time of the incident.³⁹⁸
44. SC Peter Kleinig, a mechanical examiner in the Engineering Investigation Unit of the NSWPF, was engaged to conduct a mechanical examination of the Isuzu (model 8FN03) medium rigid truck bearing RFS registration BF02550, the subject vehicle of the rollover. SC Kleinig was of the opinion that no mechanical defects or component failure, which could have contributed to the collision, occurred. All the damage detected on the vehicle was consistent with the incident.³⁹⁹
45. In his report, SC Kleinig provided some recommendations in respect of the vehicle rollover. It was recommended that RFS vehicles be fitted with ROPS and FOPS. These systems are currently fitted in vehicles involved in other industries such as mining, agriculture and building. It was noted that these structures would only be effective if occupants in the vehicle wore a seatbelt.⁴⁰⁰

³⁹² Exhibit 12, Brief of Evidence at p. 26.

³⁹³ Exhibit 12, Brief of Evidence at p. 198.

³⁹⁴ Transcript for 15 September 2021 T 224:8-9.

³⁹⁵ Exhibit 12, Brief of Evidence at pp. 59–60.

³⁹⁶ Exhibit 12, Brief of Evidence at p. 60.

³⁹⁷ Exhibit 12, Brief of Evidence at p. 61, 67.

³⁹⁸ Transcript for 15 September 2021 T 252:38.

³⁹⁹ Exhibit 12, Brief of Evidence at p. 264.

⁴⁰⁰ Exhibit 12, Brief of Evidence at p. 264.

46. Sergeant Derick Fenton of the FETS was also engaged to provide a vehicle collision expert certificate in respect of the incident. After reviewing images of the scene, and based on his training and expertise, he was of the view that the vehicle rolled onto its right-hand side before coming to rest on its roof. He opined that the incident was not provoked or caused by driver input, neither excessive steering or speeding. During oral evidence, Sergeant Fenton also eliminated the topography causing the vehicle to rollover.⁴⁰¹
47. Consultant motor vehicle crash reconstructionist and forensic investigator, Mark Sculthorpe, provided evidence that the roof was crushed, more so on the near side (passenger side) of the vehicle. He noted that dirt had been snared in different parts of the truck, including directly being wedged into the frame of the bull bar on the vehicle suggesting it had made contact with the ground.⁴⁰² He was of the view that the rear of the vehicle was lifted from the ground, the vehicle spun on its front and rotated, and dumped upside down on the ground by an “*incredible force*”.⁴⁰³
48. Mr Kenneth Edwards, a safety supervisor in the Safety Unit for the RFS was tasked with undertaking an investigation in relation to three incidents that occurred in the Jingellic area on 30 December 2019 and produced a Level 3 ICAM Investigation Report to the Court. In relation to another incident on the same afternoon involving a RFS vehicle rolling over, he concluded that that RFS vehicle likely rolled over as a result of severe wind caused by a FGV.⁴⁰⁴ In relation to the rollover incident involving Sam, Mr Edwards indicated that it was prudent for the RFS truck to be in that paddock with the absence of a FGV. He was of the understanding that there is no way to specifically predict whether conditions will become a FGV event or where that FGV event might be.⁴⁰⁵
49. Dr Mika Peace, a senior research scientist at the Bureau, provided oral evidence to the Court detailing how the atmosphere became more unstable. In respect of the Green Valley Fire, Dr Peace did not locate any lightning strikes over the Green Valley Fire, and no cloud reaching sufficient depth to be categorised as a pyrocumulonimbus cloud on 30 December 2019. She did note that there was a deep towering pyrocumulonimbus cloud which developed very rapidly that afternoon over the Green Valley Fire which could be seen on both the radar and satellite observations. However, as there were no lightning strikes associated with the Green Valley Fire, it cannot be categorised as a fire generated thunderstorm or pyrocumulonimbus.⁴⁰⁶
50. In respect of the winds, Dr Peace concluded in her report that the events were consistent with an EF3 tornado on the Enhanced Fujita Scale, and potentially stronger winds up to a EF4 tornado due to the size and weight of the fire truck. This includes winds of up to possibly 266 to 320 kilometres per hour.⁴⁰⁷ In oral evidence, Dr Peace opined that the destructive winds on the later afternoon of 30 December 2019 in the Green Valley area would be considered a highly rare weather event.⁴⁰⁸

⁴⁰¹ Transcript for 16 September 2021 T 256:15; 258:12-23.

⁴⁰² Transcript for 16 September 2021 T 265:31-37.

⁴⁰³ Transcript for 16 September 2021 T 269:20-23.

⁴⁰⁴ Transcript for 16 September 2021 T 274:7-10.

⁴⁰⁵ Transcript for 16 September 2021 T 276:31-34.

⁴⁰⁶ Transcript for 16 September 2021 T 280:47-281:11.

⁴⁰⁷ Transcript for 16 September 2021 T 285:15-25.

⁴⁰⁸ Transcript for 16 September 2021 T 285:47-286:3.

Section 81 Findings

51. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Samuel Ian McPaul.

Date of death

Samuel died on 30 December 2019.

Place of death

He died on the 'Lightwood' property located at 3852 River Road, Jingellic.

Cause of death

The cause of his death was traumatic asphyxia as a result of a motor vehicle accident.

Manner of death

Samuel died on 30 December 2019 while fighting the Green Valley, Talmalmo Fire. At a time approximately after 5:45pm, a fire generated vortex impacted the firetruck he was in causing it to overturn.

52. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearing into the design and safety of firefighting vehicles. This is detailed in Volume 2, Part 10, Section 4.
53. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Sam's family and loved ones, friends, and community for their loss.
54. At the conclusion of the evidence in the inquest, Sam's mother Cristine, and his wife Megan shared heartfelt family statements and photographs on behalf of the McPaul family. They are reproduced in Part 7 – Testimonials.

12. Dunns Road, Ellerslie Range Fire and East Ournie Creek, Ellerslie Range Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Dunns Road Fire and the East Ournie Creek Fire.

Introduction

2. The Dunns Road Fire burned for approximately seven weeks in the Snowy Valleys LGA, encompassed within the lands of the Ngarigo people.
3. The Court has heard that a lightning strike on the late evening of 27 December 2019 started that fire. Investigating Police identified two significant lightning strikes that night, at 11:50pm and 11:55pm.
4. The fire originated within a private pine plantation known as Takejo, near Adelong in the Snowy Valleys LGA. The property is in the Ellerslie Range, approximately 1.5 kilometres to the east of the Oberne Ellerslie Fire Trail.
5. The East Ournie Creek Fire, Ellerslie Range also burned in the Snowy Valleys LGA also encompassed within the lands of the Ngarigo people.
6. During the Inquiry, the Court heard how the Fire was also caused by a lightning strike. That strike occurred some days after the start of the Dunns Road Fire, in the afternoon of 31 December 2019 in the Bogandyera National Park.
7. While these findings are limited to the cause and origin of the Dunns Road Fire and East Ournie Creek Fire, it should be noted that on 4 January 2020, David Harrison died in connection with the Dunns Road Fire. The circumstances of David's death is considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of his death are located in Section 13 following.

Chronology of events

8. At approximately 12:28pm on 28 December 2019, a fire was reported in a private plantation known as Takajo near Adelong in the Snowy Valleys LGA.⁴⁰⁹
9. The area of origin was on a privately owned pine plantation in the Ellerslie Range, owned by Snowy Mountain Forestry and operated by Hume Forests Limited. The area of origin, not being the plantation itself, but in an area of retained native vegetation consisting of red stringybark, red box and long leaved box forest.
10. The report on 28 December 2019 was made by Bruce Angel, a RFS member and Captain of the Tarcutta Brigade. Mr Angel also recalled seeing a storm and several lightning strikes in the area the night before.⁴¹⁰
11. On the same day, another witness, Stuart Burbridge who was also a local resident and member of the RFS, was informed by his wife of smoke coming from the Ellerslie Ranges. Mr Burbridge also called 000.⁴¹¹
12. Mr Angel and Mr Burbridge independently attended the location of the Fire in their respective RFS vehicles. Mr Angel said that he saw fire burning in the area of the pine planation on the eastern side of the range with the Fire travelling in a southerly direction. Mr Burbidge drove to the Oberne Creek RFS shed, called his crew and drove to the Ellerslie Range where he estimated that the burnt area was about approximately 3 to 5 kilometres. It was estimated by Mr Burbidge that the Fire on the western side had flames reaching 50 metres high.⁴¹²

⁴⁰⁹ Exhibit 13A, Brief of Evidence at p 789.

⁴¹⁰ Exhibit 13A, Brief of Evidence at p 788–789.

⁴¹¹ Exhibit 13A, Brief of Evidence p. 794.

⁴¹² Exhibit 13A, Brief of Evidence at p. 795.

13. By 6:30pm on 28 December 2019, there were 21 RFS appliances, 6 NPWS appliances and 5 FRNSW appliances at the fire scene. There was also 2 fixed wing water bombing aircrafts allocated to the Fire that afternoon.⁴¹³
14. On 30 December 2019, the Dunns Road Fire spread over 19 kilometres in one day.⁴¹⁴
15. On 31 December 2019, a significant storm with lightning impacted the area surrounding Dunns Road.⁴¹⁵
16. On this day, a fire commenced in the Bogandyera Nature Reserve. Evidence heard during the Inquiry indicates that the Fire, known as the East Ournie Creek Fire, was first observed by Rebecca Clarke, a resident of a property at the end of East Ournie Road. She said that at about lunchtime that day, she heard a loud clap of thunder and saw two lightning strikes before smoke began to rise from those two locations.
17. The OIC of the investigation into the Dunns Road and East Ournie Creek Fires, DSC Peter Alexander, told the Court that he first attended the fire scene on 1 January 2020. He described the area of origin as very difficult to access due to the steep terrain and the large amount of fallen trees. He was tasked with investigating the Dunns Road Fire about a week after.
18. RFS fire progression mapping and oral evidence provided by the OIC suggests that the Fire made a significant run on 31 December 2019 to 1 January 2020, spreading 19 kilometres on one day and approximately 80 kilometres in a south westerly direction on the other.⁴¹⁶ The OIC identified this as extraordinarily extreme and anomalous behaviour and difficult to prepare for.⁴¹⁷ The fire continued to spread over the following days with RFS efforts remaining focussed on the Dunns Road Fire.
19. On 4 January 2020, the Dunns Road and East Ournie Creek Fires along with the Doubtful Gap Trail, Adaminaby Complex and Green Valley Fires, made significant runs in a south-east and, later, north-east direction.⁴¹⁸
20. This is the date David Harrison unfortunately lost his life in connection with the Dunns Road Fire.⁴¹⁹
21. On 5 January 2020, the East Ournie Creek Fire merged with the Green Valley, Talmalmo Fire to the west which then merged with the Dunns Road Fire on 10 January 2020.⁴²⁰
22. The Dunns Road Fire continued to burn until it was declared out on 16 February 2020.⁴²¹
23. During the Inquiry, the Court heard how that that Dunns Road Fire burnt over 332,000 hectares of land and destroyed or damaged at least 1081 structures, including the Selwyn Snow Resort and many homes in Batlow, Kunama, Tumbarumba, Wondalga and Yaven Creek.⁴²²
24. The Inquiry heard that the East Ournie Creek Fire burned for approximately 2 weeks, burnt an area of approximately 407 hectares and damaged or destroyed at least one home.⁴²³

⁴¹³ Exhibit 13A, Brief of Evidence at p. 43.

⁴¹⁴ Exhibit 13A, Brief of Evidence at p. 47.

⁴¹⁵ Exhibit 13A, Brief of Evidence at p. 48–52.

⁴¹⁶ Exhibit 13A, Brief of Evidence at p. 48–52.

⁴¹⁷ Exhibit 13A, Brief of Evidence p. 48–52.

⁴¹⁸ Exhibit 13A - Brief of Evidence at p. 54.

⁴¹⁹ Exhibit 13A, Brief of Evidence at p 116.

⁴²⁰ Exhibit 13A, Brief of Evidence at p.142.

⁴²¹ Exhibit 13A, Brief of Evidence at p. 152.

⁴²² Exhibit 13A, Brief of Evidence at p. 651, 340

⁴²³ Exhibit 13A, Brief of Evidence at p. 142.

Cause and origin

Dunns Road Fire

25. Evidence as to the cause and origin of the Dunns Road Fire was centred around the expert opinions of DS Sean Clarke, from the Crime Scene Unit of the NSWPF, and RFS AFI John Baker who attended the scene of the area of origin in the Dunns Road Fire in the Ellerslie Ranges.
26. DS Clarke gave oral evidence to the Court that the area of origin was rugged terrain with the point of origin being in rough country and was 'hazardous' to traverse.⁴²⁴ It was his conclusion that the area of origin was in the Ellerslie State Forest with part of the area being occupied by a pine plantation and privately-owned by the Hume Forests Limited.⁴²⁵
27. In addition to attending the area of origin, DSC Alexander reviewed lightning strike data and collated information from a number of witnesses. He provided evidence in relation to two lightning strikes that were recorded on 27 December 2019 at 11:50pm and 11:55pm.⁴²⁶
28. DSC Alexander in evidence stated that Mr Angel and Mr Burbidge's observations, and information received from first responders, of lightning in this area were consistent with the lightning data.⁴²⁷
29. The Court heard that DS Clarke, and RFS Investigator Scott Conlan, identified vegetation that appeared impacted by lightning strike. DS Clarke said that he found evidence of 'leaf freeze' in a west to east direction and a tree with parallel marks in the trunk and protruding sap which is consistent with sap boiling from lightning impact in relation to the Dunns Road Fire.⁴²⁸
30. DS Clarke's evidence concluded that the origin of the Dunns Road Fire was a particular tree west of Mount Pleasant Creek in Ellerslie. He opined that the GPS co-ordinates of that impacted tree was consistent with the location of the lightning strike recorded at 11:50pm.⁴²⁹
31. Mr Scott Conlan, an AFI with the RFS, provided a report and oral evidence to the Court which reached similar conclusions to DS Clarke.⁴³⁰
32. Mr Conlan attended the fire scene on or around 24 January 2020 and described the terrain as very steep and rugged with the area of origin being inaccessible by any other means other than foot. His evidence concluded that the area of origin of the Dunns Road Fire was in the Ellerslie Ranges located, east of the Oberne Ellerslie Trail.⁴³¹
33. Mr Conlan provided evidence relating to three significant lightning strikes and a particular tree impacted by lightning.⁴³² The tree had sap expelled, or pushed out from the tree, as it had been struck by lightning. He concluded that, based on the lightning strike data and his physical examination of the general area, he was able to exclude other possible causes of the Fire. He concluded that the Fire was caused by a lightning strike at about 11:50pm on 27 December 2019.⁴³³

⁴²⁴ Transcript for 20 September 2021 T: 308, 37.

⁴²⁵ Transcript of 20 September 2021T: 309, 25-36.

⁴²⁶ Transcript of 20 September 2021 T: 296, 5-15.

⁴²⁷ Transcript of 20 September 2021 T: 296, 5-15.

⁴²⁸ Transcript of 20 September 2021 T: 293, 24-46.

⁴²⁹ Transcript of 20 September 2021 T: 313, 39-43.

⁴³⁰ Transcript of 21 September 2021 T: 322, 14-31.

⁴³¹ Transcript of 21 September 2021 T: 321-322, 48; and T: 322, 5, 14-25.

⁴³² Transcript of 21 September 2021 T: 321, 21-24.

⁴³³ Transcript of 21 September 2021 T: 322, 14-20.

East Ournie Creek Fire

34. In respect of the East Ournie Creek Fire, the OIC of the investigation concluded that the East Ournie Creek Fire was caused by a lightning strike that ignited an area in the Bogandyera National Park on 31 December 2019.⁴³⁴
35. DS Clarke from the Crimes Scene Unit attended the Bogandyera National Park on 26 February 2020 with the OIC. They attended the location in close proximity to a lightning strike recorded in the area at around 3:05pm on 31 December 2019.⁴³⁵
36. Unlike his investigation into the Dunns Road Fire, DS Clarke was unable to find macro or micro fire indicators to identify a SAO.⁴³⁶ However, he was able to identify an area of origin through obtaining and reviewing information from a number of witnesses, including Craig Clothier, Rebecca Clarke and Michael Greenhalgh.⁴³⁷ Those witnesses first observed lightning strikes in the Bogandyera Nature Reserve on the afternoon of 31 December 2019 and columns of smoke in the same vicinity soon after the strikes.
37. DS Clarke was able to eliminate a number of other potential causes and provided evidence to the Court that the East Ournie Creek Fire was caused by a lightning strike. He concluded that the Fire originated within the Bogandyera Nature Reserve and within proximity to one of the three lightning strikes recorded on GPATS in the afternoon of 31 December 2019.⁴³⁸

Section 81 Findings

38. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

Dunns Road, Ellerslie Range Fire

The Dunns Road, Ellerslie Range Fire was commenced on 27 December 2019 in a privately-owned pine plantation known as 'Takejo', near Adelong, in the Ellerslie ranges, approximately 1.5 kilometres east of the Oberne Ellerslie Fire Trail.

The Dunns Road, Ellerslie Range Fire was caused by lightning strike on 27 December 2019 at approximately 11:50pm.

East Ournie Creek, Ellerslie Range Fire

The East Ournie Creek, Ellerslie Range Fire commenced in an area proximate to the Bogandyera Nature Reserve in East Ournie, approximately 18 kilometres south to southeast of the township of Tumbarumba.

The cause of the East Ournie Creek, Ellerslie Range Fire was a lightning strike on 31 December 2019 at approximately 3:05pm.

39. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

⁴³⁴ Transcript of 20 September 2021 T: 295, 42-49.

⁴³⁵ Exhibit 13A, Brief of Evidence at p. 284.

⁴³⁶ Transcript of 20 September 2021 T: 317, 36-41.

⁴³⁷ Exhibit 13A, Brief of Evidence at p. 293.

⁴³⁸ Exhibit 13A, Brief of Evidence at p. 293.

13. David Harrison

Why was an inquest held?

1. In this inquest, David Andrew Harrison's identity is known, as is the date and place of his death. For this reason, the inquest into David's death focused on the manner and cause of his death.

Introduction

2. David Harrison was 47 years old when he died at approximately 7:25pm on 4 January 2020 in vicinity of Batlow Road, Wondalga. He was located unconscious shortly after defending his friend's property from the Dunns Road Fire.
3. On 4 January 2020, under extreme weather conditions, the Dunns Road Fire made a significant progression and impacted properties in Wondalga, including the property known as 'Strathvale' owned by Geoff Purcell.
4. Evidence demonstrates that the temperature on 4 January 2020 was extremely hot, over and above 40 degree Celsius, with significant heavy smoke in the air.
5. David Harrison was born on 3 July 1972 and had three older brothers, Michael, Peter and Warren. He was raised in Goulburn by his mother. He did very well in high school and attended St Patrick's College (now Trinity College) and only narrowly missed out on being the Dux of the College.⁴³⁹
6. David never married or had children but had many close friends, some of whom date back to kindergarten, and he was very close to his brothers and his many nieces and nephews.⁴⁴⁰
7. David lived in Goulburn and worked in Canberra.⁴⁴¹
8. David went on to study engineering at UNSW but never finished the course. David was diagnosed with depression and ended up working in various jobs such as warehouse manager and in logistics.⁴⁴²
9. He was also a very talented sportsman representing his college in swimming, athletics, rugby and cricket.⁴⁴³

Chronology of events

10. The property where David died was owned by his close friend, Geoff Purcell. David attended this property often.
11. On 29 December 2021, Mr Purcell noticed embers and ashes on the ground of his property, however, assumed they had blown over from the Dunns Road Fire.⁴⁴⁴
12. David arrived at the property on 30 December 2019. Both David and Mr Purcell noticed the glow of the Dunns Road Fire which was about 20 kilometres away.
13. On 31 December 2019, Mr Purcell received a message from the RFS advising residents around Tumbarumba and surrounds to seek shelter as the Fire arrives.⁴⁴⁵ Both David and Mr Purcell made the decision to stay and protect the property.
14. On 2 January 2020, between 2:40pm to 3:00pm the RFS advised residents to leave,⁴⁴⁶ however, David and Mr Purcell drove to Tumut to get more firefighting supplies.

⁴³⁹ Exhibit 14, Brief of evidence at p.81.

⁴⁴⁰ Exhibit 14, Brief of evidence at p. 81.

⁴⁴¹ Exhibit 14, Brief of evidence at p. 81.

⁴⁴² Exhibit 14, Brief of evidence at p. 81.

⁴⁴³ Exhibit 14, Brief of evidence at p. 81.

⁴⁴⁴ Exhibit 14, Brief of evidence at p. 60.

⁴⁴⁵ Exhibit 14, Brief of evidence at p. 64.

⁴⁴⁶ Exhibit 14, Brief of evidence at p. 66.

15. On 3 January 2020, both continued to prepare to protect the property. At around 5:12pm, Mr Purcell received a message telling residents to seek shelter immediately.⁴⁴⁷
16. On 4 January 2020, power was lost to the property and the conditions were extremely hot with strong winds at this time.⁴⁴⁸ David and Mr Purcell went over their firefighting plans and around 3:15pm received a message from the RFS indicating that the Fire was approaching.⁴⁴⁹
17. Later that afternoon the Fire jumped Batlow Road and into Mr Purcell's property. Shortly following that, as the Fire approached the property, he and David decided to evacuate, got into their car and drove in a westerly direction towards the front gate of the property.⁴⁵⁰
18. However, both noticed that the cattle yards and hay sheds were on fire. Mr Purcell tried to save the shed while David was sitting on a nearby step looking visibly exhausted and drinking water.⁴⁵¹
19. Around 6:40pm, Mr Purcell realised the water tank had not been refilled and returned to the main house. Mr Purcell discovered David sitting in the front passenger seat of his Landcruiser unconscious.⁴⁵²
20. At 6:53pm, Mr Purcell called 000 after finding mobile phone reception. He flagged down two NSWPF officers. One officer commenced CPR on David while another attempted to get phone reception to call an ambulance.⁴⁵³
21. Ms Ellen Kromar, from the FCNSW, was driving towards Wondalga on Batlow Road and came across a white Landcruiser Ute parked facing downhill, a police car and FCNSW Ute with four people and a man on the ground. Her colleague, Anthony Post, exited the vehicle to render assistance with a defibrillator.⁴⁵⁴
22. At around 7:15pm, an ambulance arrived on the scene and attempts were made to resuscitate David.
23. David was transported to Tumut Hospital and pronounced deceased at 7:25pm.
24. It was identified at autopsy that David's elevated post-mortem methylamphetamine, and the significantly increased environmental temperatures present at the time of his death, likely combined to cause his death.⁴⁵⁵

Witness evidence

25. In his oral evidence, Mr Purcell stated that he had been a member of the RFS for around 20 years and had experience fighting fires in the surrounding area in the past.⁴⁵⁶ Mr Purcell described David as having a 'loving nature' and 'he'd give anything to anyone to help'.⁴⁵⁷
26. Mr Purcell recalled that on 30 December 2019 he was, along with David, monitoring the Fire and on 31 December 2019 when they become 'reasonably concerned' about the Fire but not overly concerned.⁴⁵⁸ Mr Purcell stated that they also discussed the ways in which the Fire would be coming and what angle they would leave the property from if they were to leave.
27. Mr Purcell indicated that on 1 January 2019 the smoke from the Fire was thick and that on 2 January 2020 it was still smoky, and visibility was poor. Mr Purcell recalled speaking regularly with David about their fire plan and would often say words to the effect "*we wont burn, we're in open country, we'll be safe*".⁴⁵⁹

⁴⁴⁷ Exhibit 14, Brief of evidence at p. 66.

⁴⁴⁸ Exhibit 14, Brief of evidence at p. 67.

⁴⁴⁹ Exhibit 14, Brief of evidence at p. 68.

⁴⁵⁰ Exhibit 14, Brief of evidence at pp. 69-70

⁴⁵¹ Exhibit 14, Brief of evidence at p. 71.

⁴⁵² Exhibit 14, Brief of evidence at p. 71.

⁴⁵³ Exhibit 14, Brief of evidence at p. 72.

⁴⁵⁴ Exhibit 14, Brief of evidence at p. 72.

⁴⁵⁵ Exhibit 14, Brief of evidence at p. 12.

⁴⁵⁶ Transcript for 21 September 2023 T 332: 19.

⁴⁵⁷ Transcript for 21 September 2023 T 333: 46-47.

⁴⁵⁸ Transcript for 21 September 2023 T 334: 23.

⁴⁵⁹ Transcript for 21 September 2023 T 335: 14-15.

28. On 3 January 2022 Mr Purcell and David mustered some cattle and at night went to a higher vantage point to check on the spread of the Fire.⁴⁶⁰ Mr Purcell stated that at this time they were not ‘as stressed’ but were still monitoring it and felt that there was no need to evacuate as the fire was still around 15 kilometres away.⁴⁶¹
29. Mr Purcell recalled that on 4 January 2020 it was very hot and along with David they both went over their evacuation plan and where all the firefighting equipment was.⁴⁶² Mr Purcell recalled that he had ‘*more comfort*’ about the Fire skipping his property. However, by that afternoon the Fire had become significantly closer.
30. On 4 January 2020, Mr Purcell stated that he and David went to the vantage point and observed that the Fire had jumped Batlow Road.⁴⁶³ Around 4:15pm both went back to Mr Purcell’s place and David began packing his car in case they had to leave property.
31. Mr Purcell recalled that around this time, they drove in a westerly direction and saw flames on the wool shed and cattle yards. Mr Purcell stated that he ‘*cannot leave*’ and ‘*can’t leave my stock up there to burn*’.⁴⁶⁴ Both managed to save a lot of the cattle and recalls the temperature as being “*the hottest I probably felt in... my life*”.⁴⁶⁵
32. When asked about his observations of David he stated that he “*was sitting down on my step near the water tank; he looked exhausted*” and so offered him a cup of water.⁴⁶⁶ Mr Purcell stated what he returned from the hay sheds, David was in the Landcruiser and Mr Purcell went into his house to get more water.
33. Mr Purcell, after leaving the property with David, found phone reception to call 000 and ended up flagging down a police car after travelling about 5 kilometres.⁴⁶⁷ An ambulance was subsequently called and took him to hospital.

⁴⁶⁰ Transcript for 21 September 2023 T 335: 37-38.

⁴⁶¹ Transcript for 21 September 2023 T 336: 12-13.

⁴⁶² Exhibit 14, Brief of evidence at p. 67.

⁴⁶³ Exhibit 14, Brief of evidence at p. 67.

⁴⁶⁴ Transcript for 21 September 2023 T 338: 22-26.

⁴⁶⁵ Transcript for 21 September 2023 T 339: 23.

⁴⁶⁶ Transcript for 21 September 2023 T 339: 35-43.

⁴⁶⁷ Transcript for 21 September 2023 T 340: 19-28.

Section 81 Findings

34. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was David Andrew Harrison.

Date of death

David died on 4 January 2020.

Place of death

He died at Batlow Road, Wondalga NSW.

Cause of death

The cause of his death was combined effects of methylamphetamine use and hyperthermia.

Manner of death

David died on 4 January 2020 and was pronounced life extinct at 7:25pm from the combined effects of methamphetamine and hyperthermia. David died shortly after defending his friend's property from the Dunns Road Fire.

35. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.
36. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to David's family and loved ones, friends, and community for their loss.
37. At the conclusion of the evidence in the inquest, a heartfelt family statement was read out in Court from the Harrison family which was an abbreviated version of the eulogy that Warren Harrison wrote for David's funeral. The family statement is reproduced in Part 7 – Testimonials.

14. Adaminaby Complex Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Adaminaby Complex Fire.

Introduction

2. The Adaminaby Complex Fire started on 31 December 2019 and burnt for 48 days, damaging an area of 98,484 hectares within the Snowy Monaro LGA comprising of National Park and pastoral land within the lands of the Ngarigo people. The fire impacted numerous townships including Adaminaby, Mount Morgan, Mount Selwyn, Nungar and Shannons Flat.
3. The Adaminaby township is on the eastern side of the Snowy Mountain plateau and the edge of the Kosciuszko National Park. The majority of this area is rugged bushland, with sporadic farming country and private properties on either side of the Snowy Mountains Highway.
4. The fire destroyed four structures, two of which were residences, and damaged a further 30 structures. One of the residences that was destroyed was a rural property on 2268 Yaouk Road, Adaminaby. The second property destroyed was located at 2475 Yaouk Road. Significant damage was caused to the properties on the Selwyn Ski Fields and Kiandra. Further, 390 livestock died, and 3,000 kilometres of fencing was destroyed.
5. The Adaminaby Complex Fire was a culmination of multiple ignitions, all suspected to be caused by lightning, which resulted in:
 - a. the Bugtown Fire;
 - b. the Coolamon Complex Fire; and
 - c. the Doubtful Gap Fire.
6. The Dunns Road Fire eventually overran most of these fires in early January 2020.

Chronology of events

Ignitions on 31 December 2019

Bugtown Fire

7. In the afternoon of 31 December 2019, local resident Warren Menzies observed lightning and then smoke towards Bugtown Road and Mars Hill from his property on Anglers Reach Road, Anglers Reach from which he had a substantial view to the north and on to Bugtown.⁴⁶⁸ Mr Menzies called 000 at 2:25pm and the operator notified the RFS of the smoke sighting.⁴⁶⁹ This call to 000 was the first occasion emergency services were notified of new ignitions in the area.⁴⁷⁰

Coolamon Complex Fire and Nungar Ridge Fire

8. Due to forecast deteriorating weather conditions, in the afternoon of 31 December 2019, the RFS obtained the assistance of a Firebird 100 helicopter to observe, document and map fires commenced by lightning in the area.⁴⁷¹ Firebird 100 undertook surveillance in the area north-northwest of Adaminaby, at which point a further ignition was identified. This ignition was referred to as the Coolamon Complex Fire, north of the original Bugtown Fire.⁴⁷²

⁴⁶⁸ Exhibit 15A, Brief of Evidence at pp. 40–41, 350.

⁴⁶⁹ Exhibit 15A, Brief of Evidence at p. 40, 350.

⁴⁷⁰ Transcript for 22 September 2021, T 357.

⁴⁷¹ Exhibit 15A, Brief of Evidence at p. 45.

⁴⁷² Exhibit 15A, Brief of Evidence at p. 55.

9. There was also a further ignition on 31 December 2019 to the west of this northern cluster, which in the first few days of ignition was referred to as the Nungar Ridge Fire before merging with the Coolamon Complex Fire.⁴⁷³

Doubtful Gap Fire Trail

10. On 31 December 2019, a further ignition occurred in a remote area near the Doubtful Gap Fire Trail.⁴⁷⁴ Due to its location and close proximity to the Dunns Road Fire, there was no ground or aerial reconnaissance undertaken at the Doubtful Gap ignition and this Fire was not the focus of RFS or NPWS resources for a number of days following ignition.⁴⁷⁵
11. The following image maps the lightning activity in the area on 31 December 2019, and shows the Doubtful Gap ignition (blue circle) and Bug Town/Coolamon ignitions (red circle).⁴⁷⁶



Figure 11 Fire Progression Mapping 31/12/2019 and lightning recorded in the vicinity of the Dunns Road fire on the 31/12/2019 UTC (1100, 31/12/2019 to 1100, 01/01/2020 AEDT) (1:500,000 scale)

Other ignitions

12. Due to the adverse weather and lightning conditions, a number of other suspected ignitions and fires were reported to the RFS.⁴⁷⁷ These incidents included the:
- Druitt Street Fire, reported by a resident 31 December 2019 who observed what she believed to be powerlines that had been struck by lightning;⁴⁷⁸
 - Yaouk Road Fire, reported on 4 January 2020 when the RFS received a 000 call about smoke;⁴⁷⁹
 - Illawong Road Fire, reported on 4 January 2020 by multiple 000 calls;⁴⁸⁰

⁴⁷³ Exhibit 15A, Brief of Evidence at p. 58-9.

⁴⁷⁴ Exhibit 15A, Brief of Evidence at p. 37.

⁴⁷⁵ Exhibit 15A, Brief of Evidence at p. 37, 74.

⁴⁷⁶ Exhibit 15A, Brief of Evidence at p. 34.

⁴⁷⁷ Exhibit 15A, Brief of Evidence at p. 317.

⁴⁷⁸ Exhibit 15A, Brief of Evidence at p. 347.

⁴⁷⁹ Exhibit 15A, Brief of Evidence at pp. 328-329.

⁴⁸⁰ Exhibit 15A, Brief of Evidence at p. 329.

- d. Snowy Mountains Highway Fire, reported later in the afternoon on 4 January 2020 following the Yaouk Road and Illawong Road incidents;⁴⁸¹ and
 - e. Mount Morgan Fire, reported on 6 January 2020 and suspected to have been caused by lightning.⁴⁸²
13. Each of these incidents were linked to and managed under the Adaminaby Section 44, which governed all fires within the Snowy Monaro LGA.⁴⁸³

Adaminaby Complex Fire progression

14. The RFS reported that the Fires were difficult to fight during the early periods due to the weather and rugged and remote terrain.⁴⁸⁴ On 1 January 2020, the Coolamon, Nungar Ridge and Bugtown ignitions merged and were renamed and referred to as the Adaminaby Complex Fire.⁴⁸⁵
15. The day of 4 January 2020 saw a substantial escalation of fire activity under adverse weather conditions including increased wind speed and temperature and reduced humidity.⁴⁸⁶ The fire progressed significantly and between 3:00pm to 4:00pm, the Doubtful Gap Fire merged with the Dunns Road Fire.⁴⁸⁷ The Adaminaby Complex Fire ran between 18 and 24 kilometres to the south-east, which was considered extreme fire behaviour.⁴⁸⁸
16. On 11 January 2020, the Adaminaby Complex Fires amalgamated with the Doubtful Gap Fire (which had earlier merged with the Dunns Road Fire).⁴⁸⁹ The fire continued to spread in numerous directions over the following days and the remainder of January.
17. Ultimately the Adaminaby Complex Fire was an amalgamation of a number of fires, including:⁴⁹⁰
 - a. Coolamon Complex Fire;
 - b. Nungar Ridge Fire;
 - c. Bugtown Fire;
 - d. Doubtful Gap Trail Fire;
 - e. Yaouk Road Fire;
 - f. Illawong Road Fire;
 - g. Snowy Mountains Highway Fire;
 - h. Mount Morgan Fire; and
 - i. Druitt Street Fire.
18. On 16 February 2020, the Fire was mapped as not spreading and was authorised as 'Out'.⁴⁹¹

⁴⁸¹ Exhibit 15A, Brief of Evidence at p. 329.

⁴⁸² Exhibit 15A, Brief of Evidence at p. 329.

⁴⁸³ Exhibit 15A, Brief of Evidence at p. 38.

⁴⁸⁴ Transcript for 22 September 2021, T 357.

⁴⁸⁵ Exhibit 15A, Brief of Evidence at p. 77.

⁴⁸⁶ Transcript for 22 September 2021, T 352.

⁴⁸⁷ Transcript for 22 September 2021, T 354; Exhibit 15A, Brief of Evidence at p. 31, 84.

⁴⁸⁸ Exhibit 15A, Brief of Evidence at p. 84.

⁴⁸⁹ Exhibit 15A, Brief of Evidence at p. 94; Transcript for 22 September 2021, T 362.

⁴⁹⁰ Exhibit 15A, Brief of Evidence at pp. 201–202.

⁴⁹¹ Exhibit 15A, Brief of Evidence at p. 100.

Cause and origin

19. Officers from the NSWPF and the RFS investigated the cause and origin of the Adaminaby Complex Fires. In addition to the material in the brief of evidence,⁴⁹² the Court had the benefit of receiving oral evidence from the NSWPF DSC Ben Waldron, Senior Crime Scene Officer Mark Hollands, RFS Investigator Mike Fratturo and local resident Warren Menzies.
20. The NSWPF OIC of the investigation, DSC Waldron, told the Court that there was significant lightning activity in the area across the days of 31 December 2019 and 1 January 2020.⁴⁹³ In particular, on 31 December 2020, lightning was registered at 1:58pm which DSC Waldron said resulted in the Bugtown ignition.⁴⁹⁴ DSC Waldron told the Court that the collected data showed the Coolamon and Doubtful Gap areas were affected later in the afternoon by lightning, around 5:00pm.⁴⁹⁵
21. RFS AFI Mr Fratturo examined the area of potential ignition of the Bugtown Fire on 21 January 2020, which he described occurred in an area difficult to access due to the boggy terrain.⁴⁹⁶ Mr Fratturo told the Court that he had located a particular tree about 300 metres west of Gravels Hut Trail which he described as showing classic indicators of a green tree being struck by lightning.⁴⁹⁷ Mr Fratturo confirmed that lightning strike data indicated that the closest strike to the identified tree occurred early in the morning of 29 December 2019.⁴⁹⁸ Mr Fratturo opined that this recorded lightning strike on 29 December 2019 would have been between two to 300 metres of the identified tree.⁴⁹⁹ At the time of Fratturo's investigation, only one ignition point of the Adaminaby Complex Fire was examined.
22. Mr Fratturo was also of the view that the Dunns Road Fire, which was at Tumberumba as at 31 December 2019, was too far away to have ignited this Fire.⁵⁰⁰
23. The NSWPF Crime Scene Officer Mr Hollands, from the FETS, undertook a further examination of the cause and origin of the various fires that made up the Adaminaby Complex Fire.⁵⁰¹ On 19 February 2020, the FETS team reviewed seven likely ignition points for these fires and completed aerial reconnaissance of the firegrounds. On 20 and 21 February 2020, the FETS team completed a ground examination. A number of sites, referred to as 'hotspots', were visited on the ground.⁵⁰² Mr Hollands reported that all of the hotspots that were investigated had lightning data, in combination with ground and/or aerial examination indicators, which supported lightning strikes as the cause.⁵⁰³

⁴⁹² Exhibit 15A, Brief of Evidence.

⁴⁹³ Transcript for 22 September 2021, T 354; Exhibit 15A, Brief of Evidence at p. 34.

⁴⁹⁴ Transcript for 22 September 2021, T 357; also see Exhibit 15A, Brief of Evidence at p. 213.

⁴⁹⁵ Transcript for 22 September 2021, T 357.

⁴⁹⁶ Transcript for 22 September 2021, T 374; Exhibit 15A, Brief of Evidence at p. 295.

⁴⁹⁷ Transcript for 22 September 2021, T 375.

⁴⁹⁸ Transcript for 22 September 2021, T 375.

⁴⁹⁹ Transcript for 22 September 2021, T 375. It is noted that the Court heard evidence that the location accuracy for lightning strike data is approximately 250 metres.

⁵⁰⁰ Transcript for 22 September 2021, T 375.

⁵⁰¹ Exhibit 15A, Brief of Evidence at p. 195.

⁵⁰² Exhibit 15A, Brief of Evidence at p. 207.

⁵⁰³ Exhibit 15A, Brief of Evidence at p. 207-12, Transcript for 22 September 2021, T 366-9.

24. The below table summarises the investigation and findings of Mr Hollands:⁵⁰⁴

Hot Spot Table 1

Reference	Latitude / Longitude	Viewed by Helicopter	Visited by ground	Lightning Data
Hot Spot 1	-35.82341 148.73870	Yes	No - Remote and unfeasible to walk to area	Yes within 250m
Hot Spot 2a	-35.82013 148.71978	Yes	Yes	Yes
Hot Spot 2b	-35.82066 148.72112	Yes	Yes	Yes
Hot Spot 2c	-35.82013 148.71978	Yes	Yes	Yes
Hot Spot 3	-35.80304 148.73770	Yes	No – Attempted but unable to locate on foot	Yes
Hot Spot 4	-35.80572 148.73762	Yes	No – Attempted but unable to locate on foot	Yes
Hot Spot 5	-35.80359 148.65970	Yes	Yes	Yes
Hot Spot 6	-35.83460 148.65005	No – due to weather	No - Remote and unfeasible to walk to area	Yes
Hot Spot 7	-36.06321 148.44695	No – due to weather	Yes	Yes
Gravels Hut Trail	-35.88319 148.68995	No – due to weather	Yes	Yes

25. Each investigator excluded or found unlikely the possibility that the Fire was caused by other event, such as natural, deliberate or accidental causes.⁵⁰⁵

Section 81 Findings

26. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Adaminaby Complex Fire was a culmination of multiple ignitions that originated in the general areas of:

- a. *Bugtown Road;*
- b. *the Coolamon Complex; and*
- c. *the Doubtful Gap Fire Trail.*

The multiple ignitions of the Adaminaby Complex Fire were caused by lightning strikes in late December 2019.

27. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

⁵⁰⁴ Exhibit 15A, Brief of Evidence at p. 202

⁵⁰⁵ Exhibit 15A, Brief of Evidence at p. 129, 215-7, 295-6.

15. Border (Rockton) Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Border (Rockton) Fire.

Introduction

2. The fire originated on 28 December 2019 in Victoria near the small town of Wingan River in the northeast of Victoria, between Cann River and Mallacoota, following intense thunderstorm activity. This Victorian fire was named the 'Snowy 9-Banana Track Fire'.⁵⁰⁶
3. The fire crossed over the New South Wales border and burned in the Bega Valley and Snowy Monaro LGAs, on the lands of the Yuin people, over two different dates. Those fires were initially managed separately as the Border Fire and the Rockton Fire, but they eventually merged.⁵⁰⁷
4. On 4 March 2020, the Border Fire was declared 'Out' by the RFS.⁵⁰⁸ The Border Fire burned for 67 days and damaged an area of approximately 192,500 hectares. There were 111 residences, eight facilities, and 234 outbuildings destroyed. A further 25 residences, 12 facilities, and 49 outbuildings sustained damage, totalling 439 affected properties as a result of the Border Fire.⁵⁰⁹
5. The Rockton Fire burned until 6 March 2020 for a period of 61 days.⁵¹⁰ The Rockton Fire damaged an area of approximately 26,300 hectares and destroyed four homes and 10 outbuildings. Further, it damaged one home and five outbuildings, totalling 20 affected properties as a result of the Rockton Fire.⁵¹¹
6. Remarkably, there were no fatalities or significant injuries sustained as a result of the Border or Rockton Fires.

Chronology of events

7. On 29 December 2019, a fire was detected by air by Victorian authorities near the small town of Wingan River in the north-east of Victoria, between Cann River and Mallacoota. The detection of this Fire followed some intense thunderstorm activity in the region around midday on 28 December 2019. This Victorian fire was named the 'Snowy 9-Banana Track Fire'. The ignition of this Fire occurred at a time when significant portions of east Gippsland and the northeast of Victoria were already burning as a result of existing fires.⁵¹²
8. On 30 December 2019 at about 1:50pm and on 31 December 2019 at around 3:00pm and 3:40pm the RFS were provided with updates on the Snowy 9-Banana Track Fire.⁵¹³
9. On 31 December 2019 by 3:00pm, the Snowy 9-Banana Track Fire had burnt nearly 85,000 hectares in Victoria. At that time, the RFS were advised that the Fire was 2 kilometres south of the border.⁵¹⁴ The Snowy 9-Banana Track Fire crossed over into New South Wales at two separate locations, and on two different dates.
10. On 31 December 2019 between 3:00pm and 3:30pm, the Snowy 9-Banana Track Fire crossed into the south-east region of New South Wales near Timbillica and was initially named the 'Border Fire'. This Fire burned in the Bega Valley LGA and continued to burn in a northerly direction.⁵¹⁵

⁵⁰⁶ Exhibit 16A, Brief of Evidence at p. 7.

⁵⁰⁷ Exhibit 16A, Brief of Evidence at p. 8.

⁵⁰⁸ Exhibit 16A, Brief of Evidence at p. 8.

⁵⁰⁹ Exhibit 16A, Brief of Evidence at pp. 51–52.

⁵¹⁰ Exhibit 16A, Brief of Evidence at p. 8.

⁵¹¹ Exhibit 16A, Brief of Evidence at p. 52.

⁵¹² Exhibit 16A, Brief of Evidence at p. 54, 58.

⁵¹³ Exhibit 16A, Brief of Evidence at p. 75, 77.

⁵¹⁴ Exhibit 16A, Brief of Evidence at p. 77.

⁵¹⁵ Exhibit 16A, Brief of Evidence at p. 8, 77.

11. On 5 January 2020, the Snowy 9-Banana Track Fire crossed again into New South Wales near the small township of Rockton and was initially named the 'Rockton Fire'. This Fire burned in the Snowy Monaro LGA.⁵¹⁶
12. On 5 January 2020, the Border and Rockton Fires merged.⁵¹⁷
13. When the Fires merged, the Border Fire remained under the management of the Bega Valley Incident Control under IC Angus Barnes.⁵¹⁸ The Rockton Fire continued to be managed by the Snowy Monaro Incident Control under IC Jim Darrant.⁵¹⁹
14. On 4 March 2020, the Border Fire was declared 'Out' by the RFS.⁵²⁰
15. On 6 March 2020, the Rockton Fire was declared 'Out' by the RFS.⁵²¹

Cause and origin

16. On 27 March 2020, Leslie John Vearing, Senior Investigator and State Fire Investigation Coordinator of the Victorian Department of Environment, Land, Water and Planning reviewed the area of origin of the Snowy 9-Banana Track Fire to determine cause and origin. Mr Vearing was unable to find any sign of human activity that could have caused the Fire.⁵²²
17. After attending the area of origin of the Snowy 9-Banana Track Fire, Mr Vearing reviewed records from the Weatherzone Total Lightning Detection Network lightning tracker which showed several ground strikes in the Wingan River area which were not picked up by GPATS.⁵²³
18. In particular, one lightning strike in the area of origin was recorded at 12:54pm on 28 December 2019. The location of this strike was recorded about 25 kilometres east-southeast of Cann River, East Gippsland.⁵²⁴ After studying the lightning records, and not being able to find any other cause, Mr Vearing concluded that the most likely cause of the Fire was by lightning strike on 28 December 2019. He opined that the Fire burnt for a period of approximately 26 hours before it was detected.⁵²⁵
19. Mr Vearing also gave oral evidence at the inquiry that there was very little strategy around suppression of the Fire given the enormity of the Fires that were in the landscape at the time and scarce resources. The aim was to minimise damage, ensuring the safety of people by way of evacuation.⁵²⁶
20. Mr Vearing did not identify any matter raising systemic issues which would warrant any recommendations.
21. DSC Bradley attached to the State Crime Command Fraud Unit within the NSWPF also gave oral evidence at the Inquiry. DSC Bradley was questioned in relation to conventions when it comes to the naming of bushfires or wildfires. DSC Bradley gave evidence that if a fire ignites within NSW, it is given a name with a locality around that ignition point. Should a fire cross a LGA boundary, it is given a new name and managed by a different RFS Fire Control District.⁵²⁷
22. When asked if there were any difficulties in having two different names for essentially one fire, DSC Bradley noted that it can present difficulties when totalling figures.⁵²⁸

⁵¹⁶ Exhibit 16A, Brief of Evidence at p. 8, 54.

⁵¹⁷ Transcript for 23 September 2021 T 399:11-15.

⁵¹⁸ Exhibit 16A, Brief of Evidence at p. 48.

⁵¹⁹ Exhibit 16A, Brief of Evidence at p. 48.

⁵²⁰ Exhibit 16A, Brief of Evidence at p. 8.

⁵²¹ Exhibit 16A, Brief of Evidence at p. 8.

⁵²² Exhibit 16A, Brief of Evidence at p. 59; Transcript for 23 September 2021 T 390:35-38.

⁵²³ Exhibit 16A, Brief of Evidence at p. 60.

⁵²⁴ Exhibit 16A, Brief of Evidence at p. 60.

⁵²⁵ Transcript for 23 September 2021 T 392:21-23.

⁵²⁶ Transcript for 23 September 2021 T 392:45-393:12.

⁵²⁷ Transcript for 23 September 2021 T 396:36-40.

⁵²⁸ Transcript for 23 September 2021 T 396:44-47.

23. DSC Bradley confirmed that when the Border and Rockton Fires merged, they were still managed separately by the Bega Valley Incident Control and the Snowy Monaro Incident Control. He noted that when the Fire crossed into New South Wales, the strategy was one of protection of life and property including emergency warnings and evacuation.⁵²⁹
24. DSC Bradley further confirmed that there were fortunately no fatalities or significant injuries sustained as a result of the Border Fire or Rockton Fire.⁵³⁰
25. DSC Bradley was of the opinion that no recommendations were warranted.⁵³¹

Section 81 Findings

26. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Border (Rockton) Fire commenced on 28 December 2019 at approximately 12:54pm at a location proximate to the Banana Track in Wingan River, between Cann River and Mallacoota in the north-east of Victoria.

The Border (Rockton) Fire was caused by lightning strike at approximately 12:54pm on 28 December 2019, proximate to that general area of origin.

The fire then crossed into New South Wales sometime between 3:00pm and 3:30pm on 31 December 2019 near the township of Timbillica, at which point it was named the 'Border Fire'.

On 5 January 2020, the fire crossed again into New South Wales in the Snowy Monaro LGA, where it was known as the 'Rockton Fire'.

27. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

⁵²⁹ Transcript for 23 September 2021 T 399:26-28.

⁵³⁰ Transcript for 23 September 2021 T 397:36-38.

⁵³¹ Exhibit 16A, Brief of Evidence at p. 55.

16. Currowan Cluster of Fires

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Currowan Cluster of Fires, which includes the Currowan Fire, the Charley's Forest (Monga National Park) Fire, the Clyde Mountain Fire, the Morton Fire and the Tianjara or Braidwood Road Fire.

Introduction

2. For the purpose of the inquiry, five fires starting in relative proximity to each other, and which ultimately coalesced, were grouped together and investigated as the Currowan Cluster of Fires. This is because, as the Currowan Fire spread across local government boundaries, it was renamed to distinguish between different sectors of the Fire. The five Fires are:
 - a. **Currowan Fire**, known to some as the Clyde Ridge Road Fire, commenced within the Shoalhaven LGA, encompassed within the lands of the Yuin people. It burned for approximately 11 weeks and damaged an area of approximately 315,000 hectares. Three people tragically died as a result of the Fire: Laurence Andrew, John Butler, and Michael Campbell. The manner and cause of these three deaths are addressed in separate findings.
 - b. **Charley's Forest (Monga National Park) Fire** in the Queanbeyan-Palerang LGA, encompassed within the lands of the Ngambri and Ngunnawal people. This Fire burned for approximately seven weeks and damaged an area of approximately 64,000 hectares. At least 246 structures were destroyed or damaged in connection with this Fire, including many homes in Nerriga and Wog.
 - c. **Clyde Mountain Fire** in the Eurobodalla LGA, encompassed within the lands of the Yuin people, burned for approximately seven weeks and damaged an area of approximately 100,000 hectares. Approximately 1,500 structures were destroyed or damaged in connection with this Fire. This Fire likely originated from the Currowan Fire as it crossed the Clyde River in the vicinity of East Lynne, possibly as the result of multiple spot fires emanating from ember attack.
 - d. **Morton Fire** in the Wingecarribee and Goulburn Mulwaree LGAs, encompassed within the lands of the Ngambri, Ngunnawal and Gandangara people, burned for approximately six weeks and damaged an area of approximately 23,000 hectares. At least 123 structures were destroyed or damaged in connection with this Fire, including many homes in Bundanoon, Meryla and Wingello. The Morton Fire was likely a continuation of the Currowan Fire as it burnt far to the north of the likely original area of origin.
 - e. **Tianjara Fire, Braidwood Road Fire** commenced in the Shoalhaven LGA encompassed within the lands of the Yuin people. It burned for about four days before merging with the Currowan Fire. Property loss arising from the Tianjara Fire has been included within losses relating to the Currowan Fire.
3. While these findings are limited to the cause and origin of the Currowan Cluster of Fires, it should be noted that Laurence Andrew, John Butler and Michael Campbell died in connection with the Currowan Fire. The circumstances of these men's deaths is considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of these men's deaths are located in Sections 17 – 19 following.

Chronology of events

26 November 2019 – 30 December 2019

4. According to FRNSW records, one of the first 000 calls in respect of the Currowan Fire was made at 2:58pm on 26 November 2019 by local resident Lynette Smith, who advised there was a fire burning quite strongly to the north of her property. She suggested that might be in the Currowan Creek area.⁵³² Ms Smith took photographs of the Fire at 3:03pm, including the following photograph:



5. First responding crews reported a fast-moving fire being influenced by strong westerly winds in the area of Clyde Ridge Road, west of Currowan Village.⁵³³
6. Incident mapping shows that on 26 November 2019, the Currowan Fire spread rapidly downslope, from approximately 300 metres above sea level down to about 150 metres above sea level. Between approximately 3:00pm and 11:00pm, the Fire spread approximately 8.5 kilometres and grew to 2,380 hectares in size.⁵³⁴ A linescan image taken at 12:41am on 27 November 2019 shows a number of spot fires to the east of the main fire shape and is indicative of the Fire having propagated through effective spotting on 26 November 2019.⁵³⁵
7. Between 27 and 30 November 2019, linescan and incident mapping shows that the Currowan Fire spread relatively small distances (1.5 kilometres or less) in various directions, or generally did not progress in any consistent direction (on 30 November 2019).⁵³⁶
8. 1 December 2019 was a significant fire weather day. The Currowan Fire spread approximately 11 kilometres in a predominantly southeast direction.⁵³⁷ It broke containment to East of River Road near Shepptrack Road, and ran to the Princes Highway, threatening rural properties near Higgins Creek.⁵³⁸

⁵³² Exhibit 19A, Brief of Evidence at p. 63.

⁵³³ Exhibit 19A, Brief of Evidence at p. 2567.

⁵³⁴ Exhibit 19A, Brief of Evidence at p. 2619.

⁵³⁵ Exhibit 19A, Brief of Evidence at p. 2619.

⁵³⁶ Exhibit 19A, Brief of Evidence at pp. 2624–2635.

⁵³⁷ Exhibit 19A, Brief of Evidence at p. 2637.

⁵³⁸ Exhibit 19A, Brief of Evidence at p. 738.

9. On 2 December 2019, the Fire spread approximately 6-11 kilometres in a predominantly eastern direction. It propagated rapidly by spotting and spread as multiple, separate initialised head fires.⁵³⁹ The spot fire activity was on the eastern side of the Princes Highway (managed by close containment) and to the Western Distributor (managed by direct attack/close containment).⁵⁴⁰
10. Between 3 and 5 December 2019, the Fire broke containment and impacted North Durras, Depot Beach, Kioloa, Bawley Point, Termeil and threatened Tambourie.⁵⁴¹ On 3 December 2019, the Fire spread approximately 14 kilometres in a predominantly east-southeast direction, at times propagating through spotting.⁵⁴²
11. On 6 December 2019, the Fire spread small distances (approximately less than 1 kilometre) in various directions, including continuing to spread in and around coastal towns and localities such as Bawley Point, Tabourie Lake and Durras.⁵⁴³
12. About 7:30pm on 6 December 2019, plumes of smoke were observed coming from a rural property known as 'Yadboro', set back from the Western Distributor Road. There were additional plumes of smoke observed coming from the Western Distributor Road to the west of the Yadboro property.⁵⁴⁴
13. On 7 December 2019, the extent of the Fire activity on the Yadboro property and along the Western Distributor Road was discovered when RFS and NPWS crews were deployed to the area.⁵⁴⁵ The fire generally spread small distances (approximately less than 1 kilometre) to the intersection of the Blue Gum Flat Road.⁵⁴⁶ There were also numerous ignitions north of Yadboro Road and the Western Distributor which were suspicious to the NSWPF and the RFS.⁵⁴⁷
14. On 8 December 2019, the Currowan Fire generally spread small distances (approximately less than 1 kilometre) in various directions. It was amalgamated with the Clyde Ridge Road Fire on this date.⁵⁴⁸
15. Between 9 and 15 December 2019, incident mapping again shows the Fire generally spread small distances (approximately 1 kilometre or less) in various directions. On 15 December 2019, a new separate area of fire, approximately 3 kilometres north of the main fire, was mapped.⁵⁴⁹
16. On 16 December 2019, the north-western portion of the Fire spread approximately 5 kilometres to the east. The separate area of fire that had ignited on 15 December 2019 spread approximately 1.5 kilometres to the west. Another new area of fire was also mapped.⁵⁵⁰
17. On 17 December 2019, the Fire spread approximately 1-2 kilometres north. Further, the Forest Road, Comberton fire was mapped for the first time, and spread approximately 1.5 kilometres west.⁵⁵¹
18. On 18 December 2019, the Fire generally remained relatively stationary. However, the north-western portion of the Currowan Fire and the Forest Road, Comberton Fire were mapped as spreading a small distance (less than 1 kilometre) to the west.⁵⁵²
19. On 19 December 2019, the Currowan Fire spread approximately 8 kilometres to the east before spreading distances from 5-12 kilometres to the northwest as separate initialised head fires. A linescan taken at 3:48pm shows that during its easterly run the Currowan Fire projected embers and ignited spot fires approximately 7 kilometres ahead of itself in the direction of Ulladulla.⁵⁵³

⁵³⁹ Exhibit 19A, Brief of Evidence at p. 2640.

⁵⁴⁰ Exhibit 19A, Brief of Evidence at p. 738.

⁵⁴¹ Exhibit 19A, Brief of Evidence at p. 739.

⁵⁴² Exhibit 19A, Brief of Evidence at p. 2647.

⁵⁴³ Exhibit 19A, Brief of Evidence at p. 2680.

⁵⁴⁴ Exhibit 19A, Brief of Evidence at p. 236.

⁵⁴⁵ Exhibit 19A, Brief of Evidence at p. 236.

⁵⁴⁶ Exhibit 19A, Brief of Evidence at p. 237.

⁵⁴⁷ Exhibit 19A, Brief of Evidence at p. 739.

⁵⁴⁸ Exhibit 19A, Brief of Evidence at p. 2693.

⁵⁴⁹ Exhibit 19A, Brief of Evidence at p. 2712.

⁵⁵⁰ Exhibit 19A, Brief of Evidence at p. 2714.

⁵⁵¹ Exhibit 19A, Brief of Evidence at p. 2766.

⁵⁵² Exhibit 19A, Brief of Evidence at p. 2777.

⁵⁵³ Exhibit 19A, Brief of Evidence at p. 2770.

20. On 20 December 2019, the Currowan Fire spread approximately 1.5 kilometres to the north-west, west and south-west. The Tianjara Fire was mapped for the first time, and spread approximately 3-4.5 kilometres predominantly to the south west. The Forest Road, Comberton fire spread 1-1.5 kilometres to the south-west.⁵⁵⁴
21. 21 December 2019 was an extreme fire weather day in which pyrocumulonimbus activity occurred. The Currowan Fire spread approximately 10 kilometres north-east towards Conjola. The spread was a series of spot fires rather than a single area of fire, and the spot fires occurred up to 3 – 8 kilometres ahead of the main fire front.⁵⁵⁵
22. Further, on 21 December 2019, Tianjara Fire spread approximately 4 kilometres to the east before spreading 7 kilometres to the north-east.⁵⁵⁶ The Currowan and Tianjara Fires also merged on this day, and there was a significant extension of fire north of Braidwood Road. On other fronts there was also extension of the Fires to the northeast of Martins Ridge Road, Yatte Yattah, north-west and west to Nerriga, Charley's Forest and Mongarlowe.⁵⁵⁷
23. On the morning of 22 December 2019, the Currowan and Tianjara Fire rapidly spread significant distances (5 – 15 kilometres) to the northwest. The Forest Road, Comberton Fire spread approximately 1.5 kilometres north.⁵⁵⁸
24. On 23 December 2019, approximately 32,000 hectares of the western portion of the Currowan Fire commenced being mapped and managed as the Charley's Forest Fire. Both the Currowan Fire and the Charley's Forest Fire was mapped as having spread 1.5 – 2 kilometres to the west. The Forest Road, Comberton Fire spread approximately 2 kilometres west and spotted over the Princes Highway.⁵⁵⁹
25. Between 24 December 2019 and 27 December 2019, the Currowan Fire, Charley's Forest Fire and Forest Road, Comberton Fire spread relatively short distances in various directions (no more than 3 kilometres per day).⁵⁶⁰
26. On 26 December 2019, the Deua River Valley, Eurobodalla Fire was mapped for the first time. It spread 1 kilometre to the north-west on 27 December 2019.⁵⁶¹
27. On 28 December 2019, an area in the north-west of the Currowan Fire spread 5 – 6 kilometres to the south-east. Other areas of the Currowan Forest Fire spread less than 1 kilometre in various directions. A new area of fire was also mapped as part of the Currowan Fire, to the west of Nowra. The Deua River Valley Fire spread approximately 1 – 1.5 kilometres to the north-east and east, and the Forest Road, Comberton Fire spread approximately 1 kilometres north.⁵⁶²
28. On 29 December 2019, areas of the Currowan Fire and the Deua River Valley Fire spread less than 1 kilometre in various directions. Approximately 26,000 hectares of the southern portion of the Currowan Fire commenced being mapped and managed as the Clyde Mountain Fire. On the afternoon and evening of 29 December 2019, the heat being generated by the north-western portion of the Currowan Fire initiated a fire-generated thunderstorm.⁵⁶³

⁵⁵⁴ Exhibit 19A, Brief of Evidence at p. 2770.

⁵⁵⁵ Exhibit 19A, Brief of Evidence at p. 2792.

⁵⁵⁶ Exhibit 19A, Brief of Evidence at p. 2792.

⁵⁵⁷ Exhibit 19A, Brief of Evidence at p. 741.

⁵⁵⁸ Exhibit 19A, Brief of Evidence at p. 2800.

⁵⁵⁹ Exhibit 19A, Brief of Evidence at p. 2803.

⁵⁶⁰ Exhibit 19A, Brief of Evidence at pp. 2812 – 2813, 2823 – 2827.

⁵⁶¹ Exhibit 19A, Brief of Evidence at pp. 2823 – 2827.

⁵⁶² Exhibit 19A, Brief of Evidence at p. 2832.

⁵⁶³ Exhibit 19A, Brief of Evidence at p. 2838.

29. On 30 December 2019, the northwest portion of the Currowan Fire spread up to 7 kilometres to the north-west. New areas of the Currowan Fire were also mapped in the vicinity of Conjola.
30. Further, on 30 December 2019, the Charley's Forest Fire commenced a significant downslope run; it rapidly spread to the south-east in a direction approximately parallel to the location of the Clyde Mountain Fire at the time. It spread approximately 10 kilometres before the south-east portion of this area began to be mapped as the Clyde Mountain Fire. The fire then spread approximately 16 kilometres downslope in a period of approximately six hours late into the evening.⁵⁶⁴

31 December 2019

31. On 30 December 2019, the Fire was fuelled by catastrophic weather conditions, with the temperature rising from 24 degrees at 8:30am to 38 degrees by 9:30am.⁵⁶⁵
32. Overnight on 30 December 2019 and early in the morning on 31 December 2019, the Clyde Mountain Fire spread a further 23 kilometres towards Batemans Bay and surrounding localities. The run started at an altitude of 700 to 800 metres Above Sea Level and ran downslope to an altitude of approximately 30 to 50 metres Above Sea Level.⁵⁶⁶
33. Further, very early on the 31 December 2019, the Deua River Valley Fire rapidly spread to the south-east. It continued towards Broulee before merging with the Clyde Mountain Fire.⁵⁶⁷ Areas of the Charley's Forest Fire spread 3 kilometres to the west.⁵⁶⁸
34. Additionally, in the afternoon of 31 December, a convergence occurred, whereby hot westerly winds from the inland converged or met with cooler easterly winds from the ocean, which led to unpredictable fire behaviour. A severe weather event also occurred around 2:30pm, when a pyrocumulus cloud formed and then collapsed over the Currowan fireground.⁵⁶⁹ The collapse of the cloud resulted in a fire-generated dry storm leading to extremely erratic wildfire conditions, with sudden downward bursts of hot air and dry lightning strikes, which themselves introduce more fire.⁵⁷⁰
35. Three men lost their lives in the Currowan Fire on 31 December 2019. Separate findings will be published addressing the manner and cause of the deaths of Laurence Andrew, John Butler and Michael Campbell.

⁵⁶⁴ Exhibit 19A, Brief of Evidence at p. 2842.

⁵⁶⁵ Exhibit 19A, Brief of Evidence at p. 742.

⁵⁶⁶ Exhibit 19A, Brief of Evidence at p. 2848.

⁵⁶⁷ Exhibit 19A, Brief of Evidence at p. 2848.

⁵⁶⁸ Exhibit 19A, Brief of Evidence at p. 2848.

⁵⁶⁹ Exhibit 19A, Brief of Evidence at p. 2848.

⁵⁷⁰ Transcript for 22 May 2023 T 1745.

1 January 2020 – 8 February 2020

36. On 1 January 2020, the northern portion of the Currowan Fire spread approximately 3 kilometres further to the north-west. The Clyde Mountain Fire and Charley's Forest Fire spread 2 – 6 kilometres to the south-west (as indicated in the diagram below):⁵⁷¹

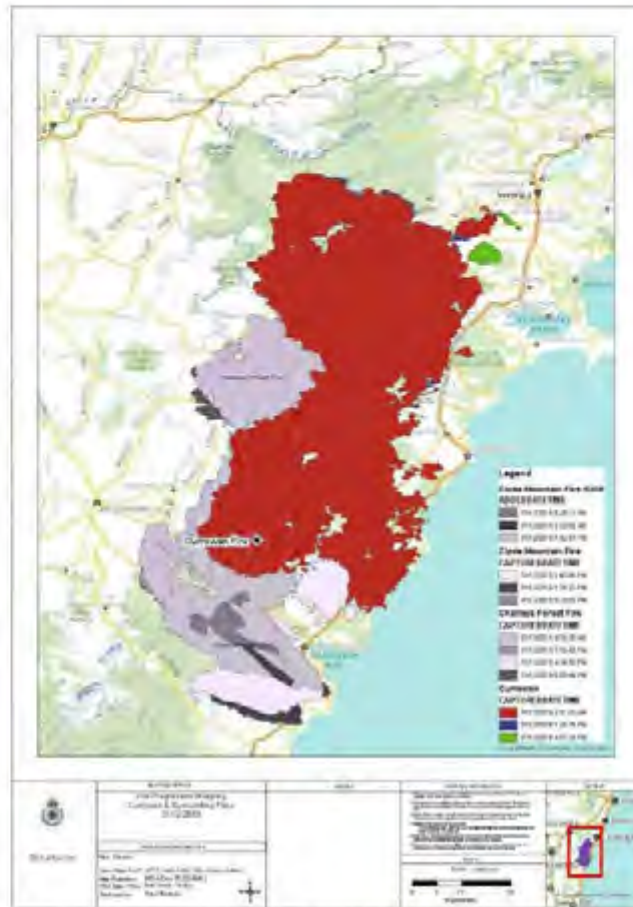


Figure 19 Fire Progression Mapping 0000, 31/12/2019 to 0000, 01/01/2020 (1:450,000 scale)

37. On 2 January 2020, areas of the Currowan Fire spread approximately 1.5 kilometres to 2 kilometres in and around Nowra, Sussex Inlet and Conjola.⁵⁷²
38. On 3 January 2020, the north-west part of the Currowan Fire spread up to 4 kilometres to the north-west towards the Shoalhaven River.⁵⁷³
39. On 4 January 2020, the Currowan Fire continued to spread around Ulladulla and Nowra, as well as around the communities and towns between those localities such as Conjola and Bandalong. The northern portion of the Fire spread 14 – 16 kilometres. At 10:24pm, the area of the Currowan Fire which crossed the Shoalhaven River commenced being mapped and managed as the Morton fire. The Morton Fire impacted the communities in the Southern Highlands such as Bundanoon late on 4 January 2020, and spread approximately 35 kilometres in total that afternoon and evening.
40. Further, in the evening of 4 January 2020, the heat being generated by the northern portion of the Currowan Fire initiated a fire-generated thunderstorm.⁵⁷⁴
41. On 5 January 2020, the Currowan Fire and Morton Fire spread 4 kilometres and 19 kilometres respectively to the north-west. The Charley's Forest Fire spread 12 kilometres to the north-west.⁵⁷⁵

⁵⁷¹ Exhibit 19A, Brief of Evidence at p. 2901.

⁵⁷² Exhibit 19A, Brief of Evidence at p. 2907.

⁵⁷³ Exhibit 19A, Brief of Evidence at p. 2912.

⁵⁷⁴ Exhibit 19A, Brief of Evidence at p. 2916.

⁵⁷⁵ Exhibit 19A, Brief of Evidence at p. 2924.

42. Between 6 and 15 January 2020, the Currowan Fire, Charley's Forest Fire, Clyde Mountain Fire and Morton Fire generally spread distances less than 1-2 kilometres in various directions or were relatively stationary.⁵⁷⁶
43. Between 16 January and 22 January 2020, the Currowan Fire, Clyde Mountain Fire, Morton Fire and Charley's Forest Fires did not spread significantly in any consistent direction.⁵⁷⁷
44. Between 23 January and 8 February 2020, most portions of the Currowan Fire, Clyde Mountain Fire, Morton Fire and Charley's Forest Fire did not spread significantly. The north-west portion of the Currowan Fire and the Morton Fire (and the Clyde Mountain Fire after 30 January 2020) continued to spread slowly during this period.⁵⁷⁸ The Charley's Forest Fire, Morton Fire and Clyde Mountain Fire continued to be managed after 9 February 2020, but no further fire progression was mapped.⁵⁷⁹

Cause and origin

Currowan Fire

45. Evidence as to the cause and origin of the Currowan Fire was centred around the expert opinions of DSC Natalie Burston, SC Rani Hulme and Steven May, RFS Wildfire Investigator.
46. In his Fire Investigation Report, Mr May said that prior to conducting a site inspection, he examined the SITREPs, Incident Logs, Map list, first responder and weather data, lightning data archives and Sentinel Hotspots archives to direct him to the general area of the Fire location.⁵⁸⁰
47. Mr May then conducted a ground-based inspection of the site on 12 December 2019. After entering Lyons Road within the Currowan State Forest, he drove north for approximately 10 kilometres until he reached the intersection of Mines Road. He was then required to continue on-foot due to the amount of fallen timber which blocked vehicle access.⁵⁸¹ He told the Court that he took a zigzagging route from about 300 metres into Mines Road, headed down a gully, and tracked directional vector indicators to the east using a serpentine pattern to guide him to the SAO.⁵⁸²
48. Mr May stated in his Fire Investigation Report that macro-scale indicators led him to a large dirt mound, whereby the mound's natural earth and rocks appeared to have been displaced in an upward and outward direction.⁵⁸³
49. He further told the Court that the mound had a distinct blowhole through electrical resistance that was approximately a metre wide and 500 millimetres deep. He said the mound itself had suffered a disruptive shockwave from a lightning strike and had a number of cracks through it where he could see the fibrous roots had broken apart and the natural fall could be seen through those cracks.⁵⁸⁴ Mr May confirmed that his hypothesis was that the Currowan Fire was caused by a lightning strike which ultimately discharged into the ground, throwing up soil and rocks and causing the mound.⁵⁸⁵

⁵⁷⁶ Exhibit 19A, Brief of Evidence at pp. 2934–2959.

⁵⁷⁷ Exhibit 19A, Brief of Evidence at p. 2964.

⁵⁷⁸ Exhibit 19A, Brief of Evidence at pp. 2967–2980.

⁵⁷⁹ Exhibit 19A, Brief of Evidence at p. 2980.

⁵⁸⁰ Exhibit 19A, Brief of Evidence at p. 635

⁵⁸¹ Exhibit 19A, Brief of Evidence at p. 636.

⁵⁸² Transcript for 28 September 2021 T 468: 26-28.

⁵⁸³ Exhibit 19A, Brief of Evidence at p. 636.

⁵⁸⁴ Transcript for 28 September 2021 T 477: 8-15.

⁵⁸⁵ Transcript for 28 September 2021 T 478: 11-14.

50. SC Hulme first observed the site via an aerial examination with Mr May on 7 January 2020. She then conducted a ground-based inspection on 14 January 2020. In her statement, SC Hulme stated that the Currowan Fire originated in a heavily forested area of the Currowan State Forest, in a gully in between Mines Road, Cpt487/1 Road and Cpt487/2 Road. Her opinion that this was the area of origin was based on the following factors:
- a. macro scale fire indicators of advancing fire, including angle of char on large trees can be tracked back to this area from several hundred metres away.
 - b. burn patterns and fire indicators in the area are consistent with slow burning fire and low flame height which can be indicative of early fire development.
 - c. two potential areas of lightning strike were observed within the area, being:
 - i. A large eucalypt tree that had fractured limbs with charring at the top and fallen limbs with charring on the fractured ends.
 - ii. Mound of disturbed soil.⁵⁸⁶
51. Mr May and SC Hulme both confirmed in Court that, although there was evidence of a lightning strike to a eucalyptus tree close to mound, there were no signs of lightning grounding itself through the tree.⁵⁸⁷ Physical evidence at the scene pointed to the mound of disturbed soil, rather than the lightning struck tree, as being the point of origin.
52. Mr May and SC Hulme were also referred to GPATS lightning strike data in Court. In particular, Mr May confirmed that there was lightning in the area across the evening of the 25 November 2019. Further, there was a lightning strike at 10:47pm that evening close to the mound of disturbed soil.⁵⁸⁸
53. In summary, Mr May and SC Hulme confirmed in oral evidence their hypothesis that the Currowan Fire was caused by a lightning strike which discharged into the ground and threw up a mound of disturbed soil (soil and rocks).⁵⁸⁹ They separately confirmed that this was based on several factors:
- a. the fire indicators advancing from the point of origin;
 - b. the presence of lightning in the vicinity according to the lightning strike data;
 - c. observations of the disturbed soil mound itself; and
 - d. observations of the nearby charred limb, charred tree branches and fallen limbs.
54. SC Hulme added that another relevant factor that influenced her determination was the absence of any other causes of the Fire in the area.⁵⁹⁰
55. DSC Burston confirmed in Court that she had not obtained any evidence pointing to any other likely cause of the Fire other than lightning strike.⁵⁹¹
56. DSC Burston also stated in Court that the delay in receipt of the first 000 call regarding the Fire at 2:22pm on 26 November 2019 and the likely time of ignition (believed to be 10:47pm on 25 November 2019) did not surprise her. She said that the Fire being ignited in a gully, with night-time temperatures and higher humidity and the unpopulated nature of the area would have impacted upon the time it took people to notice the Fire.⁵⁹²

Clyde Mountain Fire

57. DSC Horn, DS Gibb and Mr Howell also conducted a cause and origin investigation into the Clyde Mountain Fire and provided oral evidence.

⁵⁸⁶ Exhibit 19A, Brief of Evidence at p. 494–495.

⁵⁸⁷ Transcript for 28 September 2021 T 476: 8-33.

⁵⁸⁸ Transcript for 28 September 2021 T 482:46-50; 483:1-3.

⁵⁸⁹ Transcript for 28 September 2021 T 472:24-32.

⁵⁹⁰ Transcript for 28 September 2021 T 483:37-49; 484:1-16.

⁵⁹¹ Transcript for 27 September 2021 T 424:41-43.

⁵⁹² Transcript for 27 September 2021 T 425:13-28.

58. For the purpose of the investigation into the Clyde Mountain Fire, they treated the Clyde Mountain Fire as any damage caused by the Currowan Fire within the Eurobodalla LGA.⁵⁹³
59. The Currowan Fire is believed to have first entered the Eurobodalla LGA on or about 1 December 2019.⁵⁹⁴ Sheridan Batistic was one of the first witnesses to observe the Fire entering the Eurobodalla LGA. Ms Batistic resides at 431 Garden Seat Road, East Lynne, which is a 211-acre rural allotment running adjacent to the east side of the Clyde River. Around 2:00pm -3:00pm on 1 December 2019, Ms Batistic observed helicopters that appeared to be involved in fire bucketing from the Clyde River on the western side of Clyde River. Throughout the afternoon, the Fire moved in a southerly direction following the curve of the river and some spot overs crossed the river from west to east onto her property. Ms Batistic fought the Fire with other adults on her property for some time. A friend of hers who was also on the property called 000 at 5:07pm.⁵⁹⁵
60. An RFS crew was subsequently deployed to the property, including Deputy Captain of Tomerong Brigade Matthew Askew. Mr Askew observed that the Fire had burnt to the waterline on the western side of the Clyde River, and there was active fire to the south-west and north-west, on the western side of river. Mr Askew also observed the Fire spotting from the western side of the Clyde River and into 431 Garden Seat Road, East Lynne.⁵⁹⁶
61. The Currowan Fire is reported by the RFS to have entered the Eurobodalla LGA on a number of other occasions between 3 December and 28 December 2019, before being renamed the Clyde Mountain Fire on 28 December 2019.⁵⁹⁷
62. On 9 January 2020, DS Gibb and Mr Howell attended the property at 431 Garden Seat Road, East Lynne to conduct a cause and origin investigation.⁵⁹⁸ They first commenced an examination of the western side of Portegan Road (Spotover 1), whereby DS Gibb reported having observed smooth barked eucalyptus trees on both sides of the sparsely vegetated area presenting fire indicators. He says this suggested a very low intensity fire. He observed that the Fire increased in intensity as it progressed south uphill, although the intensity of the Fire remained low. DS Gibb further stated that he then tracked the run of the Fire using fire burn indicators and fire patterns and determined that the direction of the Fire in that area to be moving in a mainly southern direction.⁵⁹⁹
63. DS Gibb and Mr Howell then conducted an examination of the eastern side of Portegan Road (Spotover 2). DS Gibb noted in his statement that in the grazed grass there were a number of small independent areas of burning, which he determined to be spot over from ember attack. He commenced the examination of the northern area of the creek as this was the area with the least fire damage with indicators suggesting a low intensity fire progressing in a southerly direction along the creek bed, before gaining intensity as it progressed into bushland on a southerly incline at the southern end of the creek. By tracking and interpreting the fire burn indicators and fire patterns, he determined that the direction of the Fire in that area was moving in a south to south easterly direction.⁶⁰⁰
64. DS Gibb and Mr Howell eliminated other causes of the ignition, such as hazard reduction and debris burning. They formed the opinion that the area of origin of the Clyde Mountain Fire was in the vicinity of Portegan Road, East Lynne, and the Currowan Fire started in the Shoalhaven LGA and crossed into the Eurobodalla LGA in the area examined by them.
65. Mr Howell confirmed in his Fire Investigation Report that there were three possible spot overs, however the spot over near the residential house was eliminated as a point of origin because the burnt area was a solid wood fire. In the other two spot over locations there was an indication of a small advancing fire.⁶⁰¹

⁵⁹³ Exhibit 19A, Brief of Evidence at p. 1472.

⁵⁹⁴ Exhibit 19A, Brief of Evidence at p. 1488.

⁵⁹⁵ Exhibit 19A, Brief of Evidence at p. 1402, 1501.

⁵⁹⁶ Exhibit 19A, Brief of Evidence at p. 1517.

⁵⁹⁷ Exhibit 19A, Brief of Evidence at p. 1513.

⁵⁹⁸ Exhibit 19A, Brief of Evidence at p. 1517.

⁵⁹⁹ Exhibit 19A, Brief of Evidence at p. 1528.

⁶⁰⁰ Exhibit 19A, Brief of Evidence at p. 1528–1529.

⁶⁰¹ Exhibit 19A, Brief of Evidence at p. 1599.

Morton Fire

66. At 6:34am on 1 January 2020, David Hart, property owner of at 1450 Caoura Road, Tallong in the Goulburn Mulwaree LGA discovered the Currowan Fire had crossed the Shoalhaven River and was burning on his property. The fire was burning very slowly and low. At 7:08am, Mr Hart reported it to 000 and the RFS responded.⁶⁰²
67. In the days following ignition Mr Hart, his friends and the RFS worked to put out smaller fires and tried to contain the spread.⁶⁰³ On 4 January 2020, the weather deteriorated, and the Currowan Fire spotted over the Shoalhaven River in numerous locations.⁶⁰⁴
68. At about 10:19pm on 4 January 2020, Charles Campbell made the first 000 call from the Wingecarribee LGA. Mr Campbell resides at 207 Spring Hills Road, Meryla, which borders the Meryla State Forest to the north. He advised during the call that there was a bushfire at the end of Spring Road, Meryla, about 50 metres from his house.⁶⁰⁵
69. Gaylene and Robert Parker reside at Treetops, 281 Forest Road, Wingello. Mrs Parker called 000 at 11:33pm on 4 January 2020 and advised that an ember had started a fire on her property.⁶⁰⁶ Mark Wilson, Captain of the Wingello RFS Brigade and others were deployed to Forest Road at about 11:38pm. Mr Wilson and his crew arrived at Forest Road and observed the Fire circling around to the east quickly, and realised the Fire was going to impact Wingello.⁶⁰⁷
70. On 7 January 2020, SC Hulme and Mr May conducted an aerial examination of the general area of origin of the Morton Fire. On 14 February 2020, a ground-based investigation was due to take place, however a risk assessment deemed the area of origin too dangerous to attend, due to the recent rain and resulting floods.⁶⁰⁸
71. On 27 February 2020, Mark Fullagar, AFI at the RFS, Mr May, DS Gibb and DSC Burston travelled to Tallowa Dam to undertake a ground-based inspection. Mr Fullagar stated in his Fire Investigation Report that due to the area around the dam being steep and rocky country with sheer cliff walls, they were not able to see where the Currowan Fire first crossed into the Goulburn-Mulwaree LGA to the west, but they were able to identify that the Fire had crossed/jumped the Shoalhaven River into Goulburn-Mulwaree LGA near the dam. The indicators he observed were angle of char and foliage freeze. He stated that this portion of the Morton Fire was to make a run during the late afternoon and evening of 4 January 2020 that eventually threatened the township of Wingello.⁶⁰⁹
72. At Tallowa Road on their way into and out of the dam, Mr Fullagar observed numerous runs of fire on the southern side of the road heading in an easterly direction parallel to the road, towards the township of Kangaroo Valley. There were also runs of fire across the road heading in a northerly direction towards the Kangaroo River and the LGA boundary between the Kangaroo River Fire Trail and Kangaroo Valley.⁶¹⁰
73. They entered the Kangaroo River Fire Trail and proceeded in a northerly direction. On the east side, they observed what would have been a very hot and intense fire travelling in a northerly direction towards the Kangaroo River. Mr Fullagar stated that initial indicators were angle of char, foliage freeze, protection and sooting and staining on rocks. He could then see fire travel continuing over the Kangaroo River and into the Wingecarribee LGA.⁶¹¹

⁶⁰² Exhibit 19A, Brief of Evidence at p. 1651.

⁶⁰³ Exhibit 19A, Brief of Evidence at p. 1682.

⁶⁰⁴ Exhibit 19A, Brief of Evidence at p. 1652.

⁶⁰⁵ Exhibit 19A, Brief of Evidence at p. 1684.

⁶⁰⁶ Exhibit 19A, Brief of Evidence at p. 1685.

⁶⁰⁷ Exhibit 19A, Brief of Evidence at p. 1687.

⁶⁰⁸ Exhibit 19A, Brief of Evidence at p. 1690.

⁶⁰⁹ Exhibit 19A, Brief of Evidence at p. 1779–1780.

⁶¹⁰ Exhibit 19A, Brief of Evidence at p. 1779–1780.

⁶¹¹ Exhibit 19A, Brief of Evidence at p. 1779–1780.

74. On exiting the Fire trail, the cause and origin investigators reached the intersection of Jacks Creek Road and Beehive Point Road, and viewed the Fire run from the south over the Kangaroo River and a continuation in a northerly direction. This Fire activity occurred in the late afternoon/evening of 4 January 2020, and is the portion of the Morton Fire that eventually threatened the township of Bundanoon.⁶¹²

Tianjara Fire

75. Mr May, SC Hulme and DSC Burston also gave evidence in relation to the cause and origin of the Tianjara Fire.
76. DSC Burston confirmed in Court that the Tianjara Fire was a distinct fire in its infancy, in that it was not caused by the Currowan Fire. It did however later merge with the Currowan Fire.⁶¹³
77. DSC Burston told the Court that based on eyewitness evidence as to the first sighting of the Fire, the likely time of ignition for the Tianjara Fire was sometime prior to 5:13am on 19 December 2019.⁶¹⁴ The first 000 call was made by John Croker, who reported seeing two small spot fires on the left side of the road approximately 13-14 kilometres along Braidwood Road, and a “nice sized fire” about 15-17 kilometres past the Turpentine Road turnoff on Braidwood Road. The small fires were each the size of a dinner plate and were about three feet apart and in tufts of grass. Mr Croker used his feed to stamp them out, before getting back in his car.⁶¹⁵ He continued travelling around the corner from those extinguished spot fires and as he travelled around the left turn, he saw another fire on the side of the road. This Fire was about 20 feet wide and 10 feet high and was burning in roadside shrubbery, at the edge of the bitumen.⁶¹⁶ Nine 000 calls were received from motorists overall reporting fires on the side of Braidwood Road, with a number of the callers reporting that the Fire might be suspicious due to the multiple ignition sites and lack of lightning in the area.⁶¹⁷
78. Mr May confirmed in Court that he conducted a preliminary ground-based investigation of the scene on 5 January 2020. On 6 January 2020 he went back to the scene and conducted a more detailed investigation with SC Hulme.⁶¹⁸
79. In his Fire Investigation Report, Mr May stated that based on the analysis of information provided (such as SITREPs, Incident Logs, Map lists, first responder, weather data, lightning data archives and Sentinel Hotspots archives) as to the general fire location, he decided to start his investigation at the intersection of Braidwood Road and Twelve Mile Road. Mr May first drove the exterior perimeter by heading along Braidwood Road until reaching Tianjara Falls Lookout Road. He then returned to Twelve Mile Road and drove south along the road for approximately one kilometre. During the drive, he observed directional macro-scale indicators. He then returned to within 100 metres of Braidwood Road and walked in a serpentine fashion to the north-west until reaching a transition zone of the Fire. He determined the Tianjara Fire’s General Area of Origin to be the southern side of Braidwood Road.⁶¹⁹
80. Mr May used fire indicators to track back to a gum tree as a point of interest for fire ignition. SC Hulme agreed with the gum tree being a point of interest.⁶²⁰
81. Although the scene had been contaminated by firefighting efforts, Mr May was still able to rely on the Fire indicators that remained in order to determine a rough area of ignition.⁶²¹

⁶¹² Exhibit 19A, Brief of Evidence at p. 1779.

⁶¹³ Transcript for 27 September 2021 T 419: 45-50.

⁶¹⁴ Transcript for 27 September 2021 T 446: 25-34.

⁶¹⁵ Exhibit 19A, Brief of Evidence at p. 993.

⁶¹⁶ Exhibit 19A, Brief of Evidence at p. 994.

⁶¹⁷ Transcript for 27 September 2021 T 448: 1-20.

⁶¹⁸ Transcript for 28 September 2021 T 484: 43-50.

⁶¹⁹ Exhibit 19A, Brief of Evidence at p. 1190 –1191.

⁶²⁰ Transcript for 28 September 2021 T 485: 21-24.

⁶²¹ Transcript for 28 September 2021 T 485: 45-50; 486:1-4.

82. Mr May confirmed in Court that when looking in the SAO, he found “*three pieces of shrapnel fragments believed to be from an aluminium wheel rim located in close proximity to the SAO*”.⁶²² He could not eliminate the possibility that a blown wheel or tyre might have ignited the Fire and he found no other evidence of possible ignition sources.⁶²³ However, both Mr May and SC Hulme said that because the scene had been contaminated, it is not possible to determine what might have been present at the time of the ignition.⁶²⁴
83. Mr May and SC Hulme were referred to the evidence of Mr Croker, who reported seeing two small spot fires by the side of the road on the morning the Fire commenced. Both Mr May and SC Hulme provided a view that if the Fires were deliberately lit, due to their small size when Mr Croker found them, it is likely that he would have seen signs of other people at the scene when he came across the Fires.⁶²⁵
84. Ultimately, Mr May and SC Hulme confirmed their views that the cause of the Tianjara Fire is best recorded as undetermined. DSC Burston agreed.⁶²⁶ She said that although she considered arson as a possible cause of ignition, if an individual wanted to commit an arson offence, there were a lot of trails that go off Braidwood Road and afford greater cover. An arsonist might not have chosen such a public location on the side of the road.⁶²⁷ There is an element of obvious speculation in this and neither DSC Burston nor the Counsel Assisting team suggest that much weight can be placed upon it. DSC Burston also confirmed it is possible that a stray cigarette butt could have caused the Fire. Again though, this would not explain the number of small ignitions observed by witnesses at the scene. The Court would accept the evidence of DSC Burston that no conclusion can be drawn to this effect because the fire scene was contaminated.⁶²⁸

⁶²² Transcript for 28 September 2021 T 487: 34-49.

⁶²³ Transcript for 28 September 2021 T 487: 49-50; 488: 1.

⁶²⁴ Transcript for 28 September 2021 T 488: 3-11.

⁶²⁵ Transcript for 28 September 2021 T 488: 13-48.

⁶²⁶ Transcript for 27 September 2021 T 454: 10-13.

⁶²⁷ Transcript for 27 September 2021 T 454: 15-27.

⁶²⁸ Transcript for 27 September 2021 T 454: 29-32.

Section 81 Findings

85. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

Currowan, Clyde Ridge Road Fire

The Currowan, Clyde Ridge Road Fire commenced in the evening of 25 November 2019 in the Currowan State Forest in a gully bordered by Mines Road, Compartment 487/1 Road and Compartment 487/2.

The Currowan, Clyde Ridge Road Fire was caused by lightning strike at approximately 10:47pm on 25 November 2019.

Charley's Forest (Monga National Park) Fire

The Charley's Forest (Monga National Park) Fire (so named on 23 December 2019) crossed from the Shoalhaven LGA into the Queanbeyan-Palerang LGA on 6 December 2019 and from the Eurobodalla LGA into the Queanbeyan-Palerang LGA on 14 December 2019, 20 December 2019 and 21 December 2019.

The Charley's Forest (Monga National Park) Fire was a continuation of the Currowan, Clyde Ridge Road Fire.

Clyde Mountain Fire

The Clyde Mountain Fire (so named on 29 December 2019) crossed from the Shoalhaven LGA into the Eurobodalla LGA at an area proximate to 431 Garden Seat Road, East Lynne, on or about 1 December 2019.

The Clyde Mountain Fire was a continuation of the Currowan Fire.

Morton Fire

The Morton Fire (so named on 4 January 2020) crossed from the Shoalhaven LGA into the Goulburn-Mulwaree LGA at an area west of the Tallowa Dam on or about 1 January 2020, and into the Wingecarribee LGA at an area north of the Kangaroo River on or about 4 January 2020.

The Morton Fire was a continuation of the Currowan Fire.

Tianjara, Braidwood Road Fire

The Tianjara, Braidwood Road Fire commenced on 19 December 2019 prior to 5:15am in an area proximate to the roadside of Braidwood Road in the vicinity of the intersection with Twelve Mile Road, Tianjara.

The cause of the Tianjara, Braidwood Road Fire is undetermined due to insufficient evidence.

86. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearings into the fire prediction modelling methods of the RFS and backburning operations. These are detailed in Volume 2, Part 10, Sections 3 and 5.

17. Laurence Andrew

Why was an inquest held?

1. In this inquest, Laurence Alan Andrew's identity is known, as is the date and place of his death. For this reason, the inquest into Laurence's death focused on the manner and cause of his death.

Introduction

2. Laurence Andrew was 70 years old when he died on the afternoon of 31 December 2019 on at 16 Myrtle Gully Road, Yatte Yattah from chronic coronary artery atherosclerosis in the context of firefighting while attempting to protect his property during the Currowan fire.⁶²⁹
3. Laurence and his wife at the time Lesley purchased the land at Yatte Yattah in 1982.⁶³⁰ The land is approximately 70 acres, and in 1985 the house and sheds were built.⁶³¹ Laurence and Lesley had two children, David and Lyndsay. In 1997, Laurence and Lesley separated but were never legally divorced and remained good friends.⁶³² Laurence loved his family above all else.
4. For the 14 years prior to his death, Laurence was in a relationship with Michelle Morales. Laurence and Michelle did not live together but would stay between each other's properties.⁶³³
5. Anthony (Tony) Reiman, Laurence's friend, lived on Laurence's property in his car or caravan on-and-off for 20 years. Laurence was regarded as a father figure to Mr Reiman.⁶³⁴ Another friend, Lekshe Losal also lived on Laurence's property in a caravan, however she was not at the property when he died.⁶³⁵
6. Laurence was retired however he was a surveyor by profession. He had previously worked for local surveying companies, Shoalhaven City Council and at Shoalhaven Water as a General Supervisor.⁶³⁶
7. Laurence loved his property and spent most of his time there on his own – it was his sanctuary. He milled timber and was always working on projects. He also had an orchid farm which he regularly maintained, and two pet dogs and a couple of chickens. Laurence also collected Toyota LandCruisers.⁶³⁷ He was a good friend to many and had a love for the surf, football, and music.
8. Laurence was described by those who knew him as generally healthy and active. He did suffer from arthritis, a bad hip and acid reflux.⁶³⁸

Chronology of events

9. The cause and origin inquiry into the five Fires comprising the Currowan Cluster of Fires has been dealt with by way of separate findings detailed earlier.
10. The Currowan Fire commenced in the evening of 25 November 2019 in the Currowan State Forest in a gully bordered by Mines Road, Compartment 487/1 Road and Compartment 487/2.
11. Between 25 November 2019 to 30 December 2019 the Currowan Fire made significant runs and was being closely monitored by the RFS (see Findings relating to the cause and origin of the Currowan Cluster of Fires for a detailed chronology of the Fire's progression).

⁶²⁹ Exhibit 20, Brief of Evidence at p. 14.

⁶³⁰ Exhibit 20, Brief of Evidence at p. 21.

⁶³¹ Exhibit 20, Brief of Evidence at p. 24.

⁶³² Exhibit 20, Brief of Evidence at p. 31.

⁶³³ Exhibit 20, Brief of Evidence at p. 27.

⁶³⁴ Exhibit 20, Brief of Evidence at p. 27.

⁶³⁵ Exhibit 20, Brief of Evidence at p. 100.

⁶³⁶ Exhibit 20, Brief of Evidence at p. 21.

⁶³⁷ Exhibit 20, Brief of Evidence at p. 27–28.

⁶³⁸ Exhibit 20, Brief of Evidence at p. 28.

12. As part of its strategy in fighting the Currowan Fire, the RFS' IMT implemented an 'Eastern Containment Strategy'. The strategy came to involve constructing and/or maintaining 108 kilometres of containment lines along the Princes Highway from Nowra Hill in the north, to Milton in the south.⁶³⁹
13. On 29 December 2019, Laurence's former wife, Lesley, attended 16 Myrtle Gully Road, Yatte Yattah to collect some tools from one of the sheds which she was using for storage. While at the property Laurence showed Lesley what he done on the property to prepare for the Fire, which included installing sprinklers and installing a water cube and pump in his new LandCruiser 4WD. Lesley recalled that while appearing exhausted, Laurence was in good spirits. Laurence told Lesley that he had intentions of remaining on the property to protect it in the event of a fire.⁶⁴⁰ Laurence's partner, Michelle, confirmed in her statement that Laurence had his property set up for fire protection. She said he had sprinklers on his house, orchards and sheds. He had water barrels placed around the property, and generators and pumps he used to pump water from the dams. The sheds and property were cleared around the house. Michelle also said that Laurence told her that he always intended to stay and protect his property.⁶⁴¹
14. On the morning of 31 December 2019, Laurence drove into nearby Milton to collect additional sprinkler fittings.⁶⁴²
15. At 10:30am Laurence's mobile received an RFS SMS notification of emergency alerts/warnings for the bushfire.⁶⁴³
16. At about 10:31am on 31 December 2019, Laurence spoke to his son on his mobile. They discussed the catastrophic fire and weather conditions, and the fire front that was within 1 kilometre of the property. David tried to convince his father to leave but Laurence was adamant he would stay and defend the property.⁶⁴⁴
17. At about 10:34am Laurence spoke to Michelle. Laurence said to Michelle "*The fire is coming from Golden Flats. I've turned the sprinklers on.*" Michelle asked him not to take unnecessary risks. He said he wouldn't.⁶⁴⁵
18. At about 10:48am, Laurence sent a video message to his friend Gary Clarke. The video showed sprinklers on his shed and smoke in the area.⁶⁴⁶
19. At about 10:50am Laurence spoke to his brother Brian who was also a local and had seen smoke near Laurence's property. Laurence said that he was "*damping everything down*" and that Mr Reiman was helping him. Brian told Laurence to get out of there if the flames get to him, but Laurence implied that he was going to stay and wasn't leaving.⁶⁴⁷
20. At about 10:57am Laurence had a conversation with a friend Jesse Chinnock. Laurence told Jesse that he was on his roof setting up sprinklers. Mr Chinnock said Laurence was in good spirits but was busy preparing his house.⁶⁴⁸
21. At about 11:00am Laurence spoke to one of his neighbours, Wallace Burns. He told his neighbour that he was being hit by a westerly wind whereas Mr Burns, whose property was only about 400 metres away was experiencing a northerly wind. Mr Burns assumed the Fire was creating its own winds. He said to Laurence "*this is going to hit us Laurie.*" About 25 to 30 minutes later the Fire hit the property of Mr Burns. He described fire moving along Myrtle Gully Road double the height of the trees.⁶⁴⁹

⁶³⁹ Exhibit 20, Brief of Evidence at p. 253.

⁶⁴⁰ Exhibit 20, Brief of Evidence at p. 32.

⁶⁴¹ Exhibit 20, Brief of Evidence at p. 28–29.

⁶⁴² Exhibit 20, Brief of Evidence at p. 29.

⁶⁴³ Exhibit 20, Brief of Evidence at p. 123.

⁶⁴⁴ Exhibit 20, Brief of Evidence at p. 22.

⁶⁴⁵ Exhibit 20, Brief of Evidence at p. 29.

⁶⁴⁶ Exhibit 20, Brief of Evidence at p. 99.

⁶⁴⁷ Exhibit 20, Brief of Evidence at p. 25.

⁶⁴⁸ Exhibit 20, Brief of Evidence at p. 102–103.

⁶⁴⁹ Exhibit 20, Brief of Evidence at p. 106–107.

22. Laurence's son David and daughter Lyndsay each tried to ring their dad numerous times that afternoon, but the phone went straight to voicemail.⁶⁵⁰ Records confirm that Laurence received a further RFS SMS notification of emergency alerts/warnings for the bushfire at 1:59pm.⁶⁵¹
23. Mr Reiman said in his statement that at some stage during the morning, Laurence told him to get up as the Fire was coming. A short time later a transformer across the road exploded causing Mr Reiman to quickly get out of his car and start putting his belongings in a storage container. The fire quickly approached the property at which time Laurence went to the dam to start the pump. Laurence returned to his house and sheds as the sheds started to burn. Laurence and Mr Reiman then spent the next few hours trying to protect the property, but the pumps stopped working.⁶⁵²
24. Mr Reiman further stated that he went into the house to get water to throw on the fire and on his third trip to the house, he found Laurence lying on the floor in the laundry. Mr Reiman poured water on Laurence at which time he sat up and started yelling. Mr Reiman then dragged Laurence into the lounge room and sat him up in a chair. He tried talking to Laurence but noticed that he could not breathe.⁶⁵³
25. He then stated that a gas bottle outside the house fired up and started to release gas. Mr Reiman went outside to look for the best way to move Laurence outside, but the fire was at the side of the house. Mr Reiman was able to put that fire out but when he went back inside, the house was filled with smoke.⁶⁵⁴
26. Mr Reiman went to see if Ms Losal was around to help but he could not find her. When Mr Reiman got back to Laurence he was not breathing. Mr Reiman commenced CPR and tried to call 000 but could not get through. He then put Laurence in the recovery position and went to get help.⁶⁵⁵ It was around 4:00pm by this time.⁶⁵⁶
27. Mr Reiman went down to the Princes Highway where he was able to attract the attention of a FRNSW Strike Force and the RFS Lake Tabourie Brigade. FRNSW Team Leader, John Moore, attended the property with the assistance of Lake Tabourie RFS, including Deputy Captain Gary Day and his team.⁶⁵⁷ They had to use a chainsaw to get back onto the property because in the meantime trees had fallen, blocking access.⁶⁵⁸
28. Once they reached Laurence, they started CPR. A defibrillation machine was also used without success.⁶⁵⁹ A short time later, Mr Chinnock arrived at the property. He saw Mr Reiman lying on the ground outside the house and was struggling to breathe. He then went inside and saw Laurence receiving CPR.⁶⁶⁰ Ambulance officers arrived on the scene at about 7:30pm, however Laurence was already deceased.⁶⁶¹
29. It was not until about 8:15pm that the NSWPF were able to access the house. By this time, sheds and vehicles on the property had been destroyed by the Fire. There was no power to the home, and it remained full of smoke. Fire damaged trees were falling, and the situation was precarious for all who attended.⁶⁶² Laurence's body was removed.
30. On 8 and 9 January 2020, Dr Bernard l'Ons, pathologist conducted a post-mortem examination of Laurence. The autopsy report stated that in the context of the stress of firefighting, Laurence appeared to have suffered a fatal cardiac event as a result of underlying chronic coronary artery atherosclerosis. Accordingly, the direct cause of Laurence's death is listed as "*chronic coronary artery atherosclerosis in the context of firefighting*".⁶⁶³

⁶⁵⁰ Exhibit 20, Brief of Evidence at p. 22.

⁶⁵¹ Exhibit 20, Brief of Evidence at p. 123.

⁶⁵² Exhibit 20, Brief of Evidence at p. 90–91.

⁶⁵³ Exhibit 20, Brief of Evidence at p. 91.

⁶⁵⁴ Exhibit 20, Brief of Evidence at p. 91–92.

⁶⁵⁵ Exhibit 20, Brief of Evidence at p. 92.

⁶⁵⁶ Exhibit 20, Brief of Evidence at p. 47.

⁶⁵⁷ Exhibit 20, Brief of Evidence at p. 47.

⁶⁵⁸ Exhibit 20, Brief of Evidence at p. 50.

⁶⁵⁹ Exhibit 20, Brief of Evidence at p. 50.

⁶⁶⁰ Exhibit 20, Brief of Evidence at p. 47.

⁶⁶¹ Exhibit 20, Brief of Evidence at p. 86.

⁶⁶² Exhibit 20, Brief of Evidence at p. 67.

⁶⁶³ Exhibit 20, Brief of Evidence at p. 15.

Section 81 Findings

31. As a result of considering all of the documentary evidence and the oral evidence at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Laurence Alan Andrew.

Date of death

Laurence died on the afternoon of 31 December 2019.

Place of death

He died on his property at 16 Myrtle Gully Road, Yatte Yattah.

Cause of death

The cause of his death was chronic coronary artery atherosclerosis in the context of firefighting.

Manner of death

Laurence died in the context of strenuous physical activity and high stress from firefighting while attempting to protect his property during the Currowan Fire.

32. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearings into the fire prediction modelling methods of the RFS and backburning operations. These are detailed in Volume 2, Part 10, Sections 3 and 5.
33. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Laurence's family and loved ones, friends, and community for their loss.
34. At the conclusion of the evidence in the inquest, Laurence's family shared a heartfelt and incredibly moving statement and photographs. It is reproduced in Part 7 – Testimonials.

18. John Butler

Why was an inquest held?

1. In this inquest, John Ronald Butler's identity is known, as is the date and place of his death. For this reason, the inquest into John's death focused on the manner and cause of his death.

Introduction

2. John Butler was 75 years old when he died on the afternoon of 31 December 2019 at 8A Tierney Road, Yatte Yattah from thermal injuries sustained during the Currowan Fire.
3. The property where John lived was owned by the Wheatley family and was approximately 10-15 acres in size. There was an old school building and an old cottage on the property. The Wheatley family used the property to store machinery and earth products such as gravel. John was a friend to the Wheatley family and lived in the cottage on the property where he acted in a role similar to a caretaker. He had lived in the cottage for the 6 years prior to his death.⁶⁶⁴
4. John, known as "Butt", was the third child of three siblings. He grew up in Conjola on the Martin's Ridge Road Farm and attended Milton Public School. After school he worked in a dairy, was a log cutter, owned his own log truck business, ran cattle in the bush, worked in an orchard as feral animal control, owned a farm at Braidwood and worked on a couple of farms in the Milton district. He was described as an accomplished horseman and 'crack shot'.
5. John had one son, Johnny Butler Junior, who was born in 1985.⁶⁶⁵ At the time of his death, he lived alone on the Wheatley family's property. He spent most of his days working on the property. Almost every morning John would drive into Milton to buy himself a coffee and a custard tart. It was known by locals that if you did not see John's car in Milton on a morning there was something wrong.⁶⁶⁶ John was described by family as jovial, with a friendly disposition and a cheeky sense of humour. He was easily recognised by his black Akubra.
6. John was born with leg length discrepancy, in which one of his legs was shorter than the other. Otherwise, he was described as generally healthy, although he may have had some issues with his blood pressure.⁶⁶⁷ He did not have a mobile phone and relied on his landline. He did not have any computers or electrical devices.⁶⁶⁸

Chronology of events

7. The cause and origin inquiry into the five Fires comprising the Currowan Cluster of Fires has been dealt with by way of separate findings detailed earlier.
8. The Currowan Fire commenced in the evening of 25 November 2019 in the Currowan State Forest in a gully bordered by Mines Road, Compartment 487/1 Road and Compartment 487/2.
9. Between 25 November 2019 to 30 December 2019 the Currowan Fire made significant runs and was being closely monitored by the RFS (see Findings relating to the cause and origin of the Currowan Cluster of Fires for a detailed chronology of the Fire's progression).
10. As part of its strategy in fighting the Currowan Fire, the RFS' IMT implemented an 'Eastern Containment Strategy'. The strategy came to involve constructing and/or maintaining 108 kilometres of containment lines along the Princes Highway from Nowra Hill in the north, to Milton in the south.⁶⁶⁹

⁶⁶⁴ Exhibit 21, Brief of Evidence at p. 71.

⁶⁶⁵ Exhibit 21, Brief of Evidence at p. 30.

⁶⁶⁶ Exhibit 21, Brief of Evidence at p. 32.

⁶⁶⁷ Exhibit 21, Brief of Evidence at p. 31.

⁶⁶⁸ Exhibit 21, Brief of Evidence at p. 82.

⁶⁶⁹ Exhibit 20, Brief of Evidence at p. 253.

11. On the evening of 30 December 2019, the day before the Fire reached Yatte Yattah, John spoke on the phone with his former partner Myrlene, who told him to get out of the area if the Fire was getting close and offered to have him come and stay with her in Braidwood. However, by this time, the roads to Braidwood were already closed as a result of the Fire.⁶⁷⁰
12. At around 8:30am on 31 December 2019, Andrew Wheatley attended the property to help clean it in preparation for the possible bushfire impact. Mr Wheatley flooded around the house with a water truck. He went home at about 10:00am.⁶⁷¹
13. At about 10:28am, Margaret Bellamy was on her way to her father's nearby property when she saw John sitting on a tractor parked on Tierney Road. Ms Bellamy wondered if he was sitting there because it gave him a vantage point of the Fires to the north and south-west.⁶⁷²
14. Kenneth Ingold, John's nephew, called John at 11:19am to check on him. John did not discuss his plan if the Fire were to hit. Mr Ingold stated that John did not have a bushfire plan generally or any firefighting equipment. He said that John would only have had a house hose.⁶⁷³
15. At about 12:34pm, John called Andrew Wheatley. Mr Wheatley told John that the Fire had already spotted onto Mr Wheatley's property at Conjola (only a short distance away), and that John should turn the water on, open the ball valves of the tanks and then get out. John said, "*There's no fire at the house. I'm right.*"⁶⁷⁴ This was the last known contact with John.
16. It is not known when the Fire impacted upon the property on 8A Tierney Road. However, the Fire impacted the property at 14A Tierney Road at about 1:55pm, coming from the southwest.⁶⁷⁵
17. Sometime between 9:00pm or 10:00pm on 31 December 2019, Mr Wheatley and his wife, Sue, having battled the Fire all day at their Conjola property, went up to 8A Tierney Road to check on John. The two buildings on the property and all the machinery were badly burnt but they could not find John or his car. They assumed he had managed to leave before the Fire impacted the property.⁶⁷⁶ At about 10:30pm, John's nephew attended the property to check on John. He also could not locate him and also states that the buildings on the property were burnt.⁶⁷⁷
18. At about 7:15am on 1 January 2020, Mr Wheatley went back to the property with his friend, Richard Walker. They found John's vehicle next to a soil stockpile on the highway side of the property, about 100 metres from the house. The vehicle was completely burnt out and had collided with a tree. The bonnet had crumpled leaving the bulbar pushed up against the bonnet. They walked up to the vehicle and saw what they believed to be a body inside. Mr Walker contacted 000 at 7:30am.⁶⁷⁸
19. At about 10:00am on 1 January 2020, DI Debnam attended the property to conduct a forensic examination of the scene. She noted a burnt-out dual cab utility in the dirt roadway. She observed that the front bumper bar of the utility was in contact with burnt metal sheeting which appeared to be a shelving unit or similar, the metal being wedged between the front of the vehicle and a tree.⁶⁷⁹
20. The metal tubular bumper on the front of the utility was pushed back and almost in contact with the bonnet edge, which DI Debnam said was indicative of a collision. The inside and outside of the vehicle had been heavily impacted by fire.⁶⁸⁰
21. DI Debnam noted the existence of human remains positioned within the cabin of the vehicle.⁶⁸¹ The remains were removed from the scene.⁶⁸²

⁶⁷⁰ Exhibit 21, Brief of Evidence at p. 33, 86.

⁶⁷¹ Exhibit 21, Brief of Evidence at p. 86.

⁶⁷² Exhibit 21, Brief of Evidence at p. 75.

⁶⁷³ Exhibit 21, Brief of Evidence at p. 82, 83.

⁶⁷⁴ Exhibit 21, Brief of Evidence at p. 72.

⁶⁷⁵ Exhibit 21, Brief of Evidence at p. 75.

⁶⁷⁶ Exhibit 21, Brief of Evidence at p. 72.

⁶⁷⁷ Exhibit 21, Brief of Evidence at p. 84.

⁶⁷⁸ Exhibit 21, Brief of Evidence at p. 72, 73, 79–80.

⁶⁷⁹ Exhibit 21, Brief of Evidence at p. 47.

⁶⁸⁰ Exhibit 21, Brief of Evidence at p. 47.

⁶⁸¹ Exhibit 21, Brief of Evidence at p. 51.

⁶⁸² Exhibit 21, Brief of Evidence at p. 53.

22. On 6 January 2020, Dr Bernard l’Oons, pathologist conducted a post-mortem examination of the remains. Dr l’Oons listed the cause of death as ‘*thermal injury (incineration)*’.
23. On 15 January 2020, Ivana Yvonne Sesardic of the Forensic Biology/DNA Laboratory of the NSW Health Pathology Forensic and Analytical Science Service provided an expert certificate identifying the deceased as John Butler.⁶⁸³

Section 81 Findings

24. As a result of considering all of the documentary evidence and the oral evidence at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was John Ronald Butler.

Date of death

John died on the afternoon of 31 December 2019.

Place of death

He died on the property where he lived at 8A Tierney Road, Yatte Yattah.

Cause of death

He died from ‘thermal injury (incineration)’ as a result of the Currowan Fire.

Manner of death

John died when the Currowan Fire engulfed the property at 8A Tierney Road, Yatte Yattah, including the vehicle he was in, sometime on the afternoon of 31 December 2019. It is possible that Mr Butler belatedly decided to leave the property, however, in the smoke and confusion, ran into a tree and was overtaken by fire.

25. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearings into the fire prediction modelling methods of the RFS and backburning operations. These are detailed in Volume 2, Part 10, Sections 3 and 5.
26. On behalf of the Coroner’s Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to John’s family and loved ones, friends, and community for their loss.
27. At the conclusion of the evidence in the inquest, John’s nephew, Ken Ingold and his wife Trish, shared with the Court a heartfelt family statement. It is reproduced in Part 7 – Testimonials.

⁶⁸³ Exhibit 21, Brief of Evidence at p. 13.

19. Michael Campbell

Why was an inquest held?

1. In this inquest, Michael Campbell's identity is known, as is the date and place of his death. For this reason, the inquest into Michael's death focused on the manner and cause of his death.

Introduction

2. Michael Campbell was 62 years old when he died on 31 December 2019 or 1 January 2020 at 26 Wandra Road, Sussex Inlet from 'effects of fire' during the Currowan Fire.
3. The property at Wandra Road is a bush block with a short dirt driveway to Michael's residence. This consisted of a caravan, a lean-to shelter which appeared to have had generators to supply electricity, a couple of water tanks and a couple of vehicles.⁶⁸⁴
4. Michael grew up in Wollongong. He had four children: Riannon, Laura, Michael and Ryan.⁶⁸⁵ Prior to retiring, Michael worked at the Steelworks.⁶⁸⁶
5. Michael owned the property at 26 Wandra Road, Sussex Inlet, and had lived there since about 2008. The property consisted of bushland and had no buildings on it. Michael lived alone in a caravan with limited resources – electricity was generated from a generator and water from tanks.⁶⁸⁷ Michael was known to live a very simple lifestyle, and not much is known about his daily routine. He walked to the local swimming pool every day and swam laps⁶⁸⁸, and he would sometimes take the bus into Nowra to do his shopping.⁶⁸⁹
6. Michael was reportedly almost fully blind. He attended appointments at the Sydney Eye Hospital. However, even though he had lost most of his sight he was still able to walk around unassisted.⁶⁹⁰

Chronology of events

7. The Currowan Fire commenced in the evening of 25 November 2019 in the Currowan State Forest in a gully bordered by Mines Road, Compartment 487/1 Road and Compartment 487/2.
8. Between 25 November 2019 to 30 December 2019 the Currowan Fire made significant runs and was being closely monitored by the RFS (see Findings relating to the cause and origin of the Currowan Cluster of Fires for a detailed chronology of the Fire's progression).
9. As part of its strategy in fighting the Currowan Fire, the RFS' IMT implemented an 'Eastern Containment Strategy'. The strategy came to involve constructing and/or maintaining 108 kilometres of containment lines along the Princes Highway from Nowra Hill in the north, to Milton in the south.
10. During the course of 31 December 2019, the Currowan Fire spread approximately 6km to the east-southeast before spreading 20 kilometres to the north. It was during this northern spread that the Fire impacted Sussex Inlet, where Mr Campbell was living.⁶⁹¹
11. Sadly, little is known about what if any precautions Michael might have taken in the lead up to the Fire. The structures on his property were unlikely to afford any real protection from fire, particularly given the surrounding fuel load on the bush block.⁶⁹²

⁶⁸⁴ Exhibit 22, Brief of Evidence at p. 22.

⁶⁸⁵ Exhibit 22, Brief of Evidence at p. 21.

⁶⁸⁶ Exhibit 22, Brief of Evidence at p. 22.

⁶⁸⁷ Exhibit 22, Brief of Evidence at p. 22.

⁶⁸⁸ Exhibit 22, Brief of Evidence at p. 23.

⁶⁸⁹ Exhibit 22, Brief of Evidence at p. 25.

⁶⁹⁰ Exhibit 22, Brief of Evidence at p. 31.

⁶⁹¹ Exhibit 22, Brief of Evidence at p. 36.

⁶⁹² Exhibit 22, Brief of Evidence at p. 32.

12. Similarly, little is known about Michael's movements on the day he died. He had a mobile phone and RFS records indicate that he received two warning messages at 1:54pm and 1:56pm. At 1:55pm, Michael sent a text message to an Emergency Location-Based Service phone number. However, the content of this message is unknown, as is whether the text message was a manual or automatic reply. At 6:01pm, a Facebook message was sent to Michael's mobile number, but this message was not delivered. The message therefore expired on non-delivery and the content of the message is unknown.⁶⁹³
13. Michael did not make or receive any calls that would help establish a timeline for his movements prior to the Currowan Fire reaching his home. Furthermore, Michael had poor vision and it is therefore not known if he could read the SMS alerts to his phone.
14. At about 11:15am on 1 January 2020, Michael's friend, Steven Daley, left his property to check on friends in the Sussex Inlet area. Mr Daley spoke to Robert Kemp who lived directly opposite Michael, and there was a suggestion Michael might have gone to the evacuation centre at the Sussex Inlet Bowling Club to escape possible fire impact.⁶⁹⁴
15. Mr Daley arrived at Michael's property and found Michael deceased in his car slumped over the steering wheel. He observed that Michael's caravan had been destroyed by the Fire and there was fire damage to the front bumper of his vehicle.⁶⁹⁵
16. Mr Daley unsuccessfully attempted to call 000, and then drove off the property and travelled to the intersection of Springs and Sussex Inlet Road where the NSWPF were set up with a roadblock. Mr Daley informed SC Brendan Keenan of Michael death, and the NSWPF attended the property a short time later.⁶⁹⁶
17. At about 12:00pm on 1 January 2020, DI Debnam, DS Ryan Sheaf and DSC Jason Klein attended the property to conduct a forensic examination of the scene. They noted that the residence had been destroyed by fire, leaving the remains of a caravan chassis, tin sheeting and a box training. There were also gas cylinders and a column heater, but no other identifiable belongings. There was a largely intact blue Toyota Corolla Sedan parked in front of the caravan, facing south. The front of the vehicle, which was positioned about 3 metres from the burnt-out residence, had suffered radiant heat damage, namely, the front bumper bar and other plastic elements had melted. The headlight glass had also suffered thermal cracking. There were no keys in the ignition.⁶⁹⁷
18. The officers identified a Michael, deceased, in the drivers' seat of the vehicle. There was no evidence of direct contact with fire, however Michel had been subjected to its radiant heat.⁶⁹⁸
19. On 6 January 2020, Dr Bernard l'Ons, pathologist conducted a post-mortem examination of Michael. Dr l'Ons listed the cause of death as '*effects of fire*'.⁶⁹⁹ This incorporates both the possibility of exposure to considerable heat even inside the car and exposure to the products of combustion (including carbon monoxide and other toxic gases).⁷⁰⁰

⁶⁹³ Exhibit 22, Brief of Evidence at p. 33.

⁶⁹⁴ Exhibit 22, Brief of Evidence at p. 73.

⁶⁹⁵ Exhibit 22, Brief of Evidence at p. 73.

⁶⁹⁶ Exhibit 22, Brief of Evidence at p. 37.

⁶⁹⁷ Exhibit 22, Brief of Evidence at p. 42, 45.

⁶⁹⁸ Exhibit 22, Brief of Evidence at p. 47.

⁶⁹⁹ Exhibit 22, Brief of Evidence at p. 13.

⁷⁰⁰ Exhibit 22, Brief of Evidence at p. 14.

Section 81 Findings

20. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Michael Campbell.

Date of death

Michael died on 31 December 2019 or 1 January 2020.

Place of death

He died on his property at 26 Wandra Road, Sussex Inlet.

Cause of death

The cause of his death was 'effects of fire' as a result of the Currowan Fire.

Manner of death

Michael died when the Currowan Fire engulfed his property, including his car, on 31 December 2019 or 1 January 2019. It appears he may have taken shelter from the Fire in his car but did not attempt to drive it as there were no keys in the ignition.

21. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearings into the fire prediction modelling methods of the RFS and backburning operations. These are detailed in Volume 2, Part 10, Sections 3 and 5.
22. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Michael's family and loved ones, friends, and community for their loss. I also thank Michael's daughter Riannon for her assistance and contribution throughout this inquest.

20. North Black Range, Palerang Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the North Black Range, Palerang Fire.

Introduction

2. The North Black Range Fire is believed to have started on 25 November 2019 and burned for approximately two months until it was recorded as 'Out' on 28 January 2020.⁷⁰¹ The fire burned predominantly within the Queanbeyan-Palerang LGA, encompassed within the lands of the Ngarigo, Ngambri and Ngunnawal people.
3. The fire damaged an area of over 40,000 hectares within the Tallaganda National Park and beyond, including in the neighbouring townships of Bombay, Warri and Mulloon. At least 30 structures, including four homes, were destroyed or damaged in connection with the Fire.⁷⁰² The fire also had a significant impact on pasture, fencing, flora and fauna in the area. Fortunately, no loss of human life ensued.

Chronology of events

4. The first person to report a fire to 000 in the region of Palerang was from Melbourne Air Traffic Control. That person was, in turn, passing along information from a pilot on a commercial aircraft who reported seeing a smoke column in the vicinity of Mount Palerang.⁷⁰³ This call from Melbourne Air Traffic Control was made at 10:52am on 26 November 2019.⁷⁰⁴
5. Calls from local residents followed some hours later, with first reports from people in the area of Bombay coming in at around 3:40pm and 3:59pm in the afternoon of 26 November 2019.⁷⁰⁵
6. Prior to the first 000 call at 10:52am, the NPWS had deployed one of their field officers to go and look for signs of fire due to a lightning storm which had passed through the area the previous night. Mr Louis Turner travelled to the Tallaganda National Park and upon arrival, met some trail bike riders who confirmed they had seen smoke in the vicinity. This prompted Mr Turner to continue along the North Black Range Trail within the Park until he came across the southern boundary of the Fire.⁷⁰⁶
7. A RFS crew from Braidwood met up with Mr Turner within the Park. The RFS crew had been dispatched to investigate after the first 000 call from Melbourne Air Traffic Control was received.⁷⁰⁷
8. According to Mr Turner, when he arrived at the scene of the Fire the flame height was already established at around 3-4 metres.⁷⁰⁸
9. According to Scott Hart, Captain of the Braidwood RFS brigade, the:⁷⁰⁹

Fire behaviour was extremely erratic from the get-go. Up to 4 metre flame height, spreading in all directions under variable winds. We attempted to get hose lines around the fire, but it was too dangerous as the bush [was] too thick and the fire too deep into the scrub to achieve much.

⁷⁰¹ Transcript for 30 September 2021 T 534:16.

⁷⁰² Exhibit 23A, Brief of Evidence at p. 52.

⁷⁰³ Exhibit 23A, Brief of Evidence at p. 26.

⁷⁰⁴ Exhibit 23A, Brief of Evidence at p. 386.

⁷⁰⁵ Exhibit 23A, Brief of Evidence at p. 396, 398.

⁷⁰⁶ Exhibit 23A, Brief of Evidence, Tab 16; Transcript for 30 September 2021 T 529:41-44.

⁷⁰⁷ Exhibit 23A, Brief of Evidence at p. 26.

⁷⁰⁸ Exhibit 23A, Brief of Evidence at p. 88.

⁷⁰⁹ Exhibit 23A, Brief of Evidence at p. 254.

10. Captain Hart requested air support and heavy plant as the Fire was too large to fight with only ground crews. He was told there was no air support available and that heavy plant would arrive later.⁷¹⁰
11. Direct attack was attempted by a mix of RFS and NPWS crews but given the terrain and fuel load, this was not successful and put crews at some risk.
12. Edward Smigielski, Senior Deputy Captain of the Hoskingtown-Rossi RFS Brigade within the Lake George District, stated that the type, amount and structure of the very dry fuel caused it to “*re-ignite behind us in less than a minute*” as he and his crew attempted direct attack to reach the head of the Fire.⁷¹¹
13. The conditions meant that Mr Smigielski had crew members behind him to control reignition and secure an escape route while he continued along the southern flank of the Fire. This was undertaken as he decided it was not safe to escape by going “*into the black*”, as burnt and burning trees were falling within this area due to the strong winds.⁷¹²
14. In the evening of 26 November 2019 and the following day, dozers were used to attempt to establish containment lines.⁷¹³
15. Lightning activity returned on 28 November 2019 and a second ignition within the Tallaganda National Park was recorded about 5 kilometres south-east from the first fire.⁷¹⁴ This ignition was reported by Air Operations reporting back to the Lake George FCC with a grid location for the approximate area of origin.
16. The fire arising from the second ignition point later merged with the pre-existing fire already burning with the National Park.⁷¹⁵
17. On 29 November 2019, the North Black Range Fire took a significant run in an easterly direction.⁷¹⁶
18. Residential properties were ultimately lost in Bombay to the east and in Mulloon and Warri to the north and north-east.⁷¹⁷ Numerous other outbuildings were also destroyed.
19. Material within the brief of evidence provides conflicting dates as to when the Fire was listed as ‘Out’. The OIC of the investigation, DSC Waldron of the Arson Unit of the State Crime Command gave evidence confirming that the Fire was listed as ‘Out’ on 28 January 2020.⁷¹⁸

Cause and origin

20. The North Black Range Fire is believed to have commenced on 25 November 2019 as a result of a lightning strike in the Tallaganda National Park, west of the township of Braidwood.
21. A range of investigatory techniques including but not limited to: analysis of lightning strike data, eyewitness reports of a dry thunderstorm in the area on the evening of 25 November 2019, and later site inspections conducted by the RFS and FETS of the NSWPF, point to the Fire commencing along the North Black Range Fire Trail close to the Mulloon Fire Trail.

⁷¹⁰ Exhibit 23A, Brief of Evidence at pp. 253–254.

⁷¹¹ Exhibit 23A, Brief of Evidence at p. 243.

⁷¹² Exhibit 23A, Brief of Evidence at p. 243.

⁷¹³ Exhibit 23A, Brief of Evidence at p. 254.

⁷¹⁴ Exhibit 23A, Brief of Evidence at p. 126.

⁷¹⁵ Transcript for 30 September 2021 T 539:35-42.

⁷¹⁶ Exhibit 23A, Brief of Evidence at p. 45.

⁷¹⁷ Exhibit 23A, Brief of Evidence at p. 1.

⁷¹⁸ Transcript for 30 September 2021 T 534:16.

22. RFS AFI Steven May observed the scene of the North Black Range Fire from the air as part of his cause and origin investigation on 5 December 2019. A SAO for the initial fire could not be determined from the air because the canopy was too dense.⁷¹⁹ Nevertheless, Mr May observed:⁷²⁰
- ... a V pattern heading in a south-easterly direction from the eastern side of the fire trail, and at the apex of the V pattern where one would normally be able to locate an origin, there was also a fire from the fire trail heading in an easterly direction that met up with that V pattern and the V pattern headed southeast.*
23. This gave Mr May an approximate starting point for the ground level investigation that he would later undertake.⁷²¹
24. The image below was provided by Mr May from his investigation:⁷²²



D056

Establishment photo one, of the second fire on North Black Range located on 28/11/19 by Air OBS. V shape pattern as in an advancing fire heading east (towards bottom left of the photo). The lateral transition zone from the exterior of V shape is visible right and left of the V pattern.

25. The scene of the second ignition within the National Park, 5 kilometres to the south-east, was also first examined from the air. Mr May was able to confirm a tree lightning strike as the cause of that ignition. Despite viewing from the air, he said the indicators that the second ignition was caused by lightning strike were “*compelling*”.⁷²³ This included a lightning-truck tree with deep blood red tracking down the trunk, described as lightning trail or scarring.⁷²⁴
26. Mr May then conducted a ground level investigation on 16 and 19 December 2019 to determine the cause and origin of the Fire.

⁷¹⁹ Exhibit 23A, Brief of Evidence at p. 126, 128; Transcript for 30 September 2021 T 539:1-2.

⁷²⁰ Transcript for 30 September 2021 T 538:38-43.

⁷²¹ Transcript for 30 September 2021 T 539:16-19.

⁷²² Exhibit 23A, Brief of Evidence at p. 191 (D056) and 188 (D053).

⁷²³ Transcript for 30 September 2021 T 539:28-29.

⁷²⁴ Transcript for 30 September 2021 T 540:18-29.

27. Mr May told the Court:⁷²⁵

We have ... indicators we look for. So we look for protection, angle of char on trees, sooting, staining, curling, leaf freeze. Most of those indicators were there. But since this fire had actually run over the top of itself, I was mainly relying on surface indicators of char and protection, sooting, staining and white ash, to follow those indicators back to a specific area of origin.

28. When Mr May tracked the directional indicators back to a SAO, he found:⁷²⁶

... a large disturbance to the soil, with large clods that had been propelled out from a lightning strike ... That is disturbed soil through disruptive shockwave that was caused by lightning. The surface around that disturbance, the ground is weathered. However, the soil that was propelled out of that mound is more of a natural earth-looking colour, which indicates it was a recent occurrence.

29. The Court had the benefit of photographs taken by Mr May at the scene (see image below) which, although obviously not as clear as what Mr May saw at the time, allow me to follow the conclusions he expressed about this large disturbance to the soil.



D053

POQ indicator three showing a disturbance to the natural earth and raising of the earth's surface. There were signs of a root system within the hole; however, no indication of a tree had fallen from this location.

30. Mr May observed a reasonably large blowhole caused by electrical resistance and a fire radiating out in all directions from this ignition area.⁷²⁷ This point of ignition was approximately eight metres east of the North Black Range Fire Trail.⁷²⁸

⁷²⁵ Transcript for 30 September 2021 T 541:18-23.

⁷²⁶ Transcript for 30 September 2021 T 541:28-29; 542:1-4.

⁷²⁷ Transcript for 30 September 2021 T 543:50-544:2.

⁷²⁸ Transcript for 30 September 2021 T 544:50; Exhibit 23A – Brief of Evidence at p. 128.

31. This SAO was some 1.2 kilometres away from the nearest lightning strike recorded on lightning strike data that Mr May reviewed.⁷²⁹ However, this does not mean that the scene Mr May observed could not have been affected by lightning as not every lightning strike is recorded within the data. In addition, Mr May told the Court the steep terrain can impact upon the accuracy of the data.⁷³⁰
32. During his investigation, Mr May was able to eliminate other potential causes of the Fire. He found that there was no evidence of campfire, smoking, debris burning, equipment use, suspicious fire activity, juvenile fire play, rail, powerlines or any other miscellaneous causes in the vicinity of the area of origin.⁷³¹
33. Further, the suspect lightning strike was plotted as occurring at 8:46pm on the evening of 25 November 2019. Given the remote location within the National Park, DSC Waldron suggested it was feasible that the Fire could have burnt unobserved until the smoke column was sighted the next day.⁷³²
34. The NSWPF Senior Crime Scene Investigator Mark Hollands also examined the scene on 25 February 2020. Due to degradation with the passage of time, when Mr Hollands first attended, he was unable to rely upon potential micro-indicators to settle upon a SAO of the ignition.⁷³³ Mr Hollands told the Court that larger scale indicators were still present and as a result, he was able to come to the conclusion that the area of origin was within the area described by Mr Turner.⁷³⁴

Section 81 Findings

35. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The North Black Range, Palerang Fire commenced on 25 November 2019 at approximately 8:46pm within the Tallaganda National Park in an area roughly eight metres east of the North Black Range Fire Trail.

The cause of the North Black Range, Palerang Fire was lightning strike on 25 November 2019 at approximately 8:46pm.

36. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

⁷²⁹ Transcript for 30 September 2021 T 541:38-40.

⁷³⁰ Transcript for 30 September 2021 T 541:1-9.

⁷³¹ Exhibit 23A, Brief of Evidence at p. 127-128.

⁷³² Exhibit 23A, Brief of Evidence at p. 72.

⁷³³ Transcript for 30 September 2021 T 544:20-26.

⁷³⁴ Transcript for 30 September 2021 T 544:20-26; 545:33-35.

21. Good Good, Peak View Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Good Good, Peak View Fire.

Introduction

2. The Good Good Fire takes its name from a fire trail known as ‘Good Good’ located within the rugged bushland of Jerangle, in close proximity to the Fire’s suspected area of origin.
3. The Good Good Fire burnt predominately in the Snowy Monaro LGA, within the lands of the Ngarigo people. The fire burnt for approximately two months between late December 2019 and early March 2020, and during this time it merged with a number of other fires burning including the Badja, Hell Hole, Jinden, Inaloy Trail, Peak View Road and Darmody Fires.
4. The Good Good fire impacted 42,000 hectares of public and privately owned land and approximately 50 structures were damaged or destroyed, including eight residences. The Good Good Fire also had an enormous impact upon native wildlife and flora, including destroying an important koala habitat and wildlife sanctuaries.
5. While these findings are limited to the cause and origin of the Good Good Fire, it should be noted that on 23 January 2020, three American aerial firefighters, Ian McBeth, Paul Hudson, and Rick DeMorgan Jr, died when their Lockheed C-130 crashed while dropping fire retardant over the fireground. The circumstances of their deaths are considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of these men’s deaths are located at Section 22 following.

Chronology of events

6. Between 27 and 29 December 2019, numerous lightning strikes were recorded in the Jerangle area in the vicinity of the Good Good Fire Trail.⁷³⁵ Local resident Jane Fergusson, who lived at Rose Retreat, was monitoring lightning strikes.⁷³⁶ On 28 December 2019, between 5:30pm and 6:00pm, Ms Fergusson witnessed a ‘deafening’ lightning strike one kilometre south of her chicken yard.
7. On 29 December 2019 at around 1:17pm, Ms Fergusson saw a large plume of smoke near her neighbour’s property. Ms Fergusson contacted her neighbour and then her husband Angus Fergusson, Deputy Captain of the Jerangle RFS Brigade, who relayed the information regarding the lightning and smoke to the Cooma FCC.⁷³⁷
8. After observing large plumes of smoke rising to the south of their house, Deputy Captain Fergusson, accompanied by fire brigade member Mark Saunders, drove around along an internal fire trail on the Fergusson’s property.⁷³⁸ Deputy Captain Fergusson reported observing active fire burning on both the eastern and western side of a ridgeline, with more area burnt on the eastern side. He saw fire burning to the east near the neighbouring Limekiln Cottage.⁷³⁹
9. Just after 2:00pm on 29 December 2019, RFS RART Officer Thomas Phillips conducted aerial observations of the fireground and observed a fire at least 60 hectares in size and spreading.⁷⁴⁰ Mr Phillips described that the Fire was “*tucked away*” in agricultural land and he estimated that the Fire had been burning for some time, from at least from the night before.

⁷³⁵ Exhibit 59A, Brief of Evidence at p. 28.

⁷³⁶ Exhibit 59A, Brief of Evidence at p. 358.

⁷³⁷ Exhibit 59A, Brief of Evidence at p. 328.

⁷³⁸ Exhibit 59A, Brief of Evidence at p. 328.

⁷³⁹ Exhibit 59A, Brief of Evidence at p. 328.

⁷⁴⁰ Exhibit 59A, Brief of Evidence at p. 287.

13. In the first few days of the Fire, RFS efforts concentrated on creating containment lines (marked on the above maps by black crosses).⁷⁴⁸ It was reported that the Fire continued to burn within these containment lines for several weeks after ignition.⁷⁴⁹
14. Weather conditions deteriorated significantly on 31 December 2019. Between 31 December 2019 and 1 January 2020, the Fire spread approximately 7.5 kilometres south-east.⁷⁵⁰ During this period the Badja Forest Road Fire also made significant progression, spreading 35 kilometres downslope in a period of less than 12 hours, described to be “*extraordinarily extreme and anomalous*”.⁷⁵¹
15. By 5 January 2020, the Good Good Fire had absorbed the Badja, Hell Hole, Jinden, Inaloy Trail and Darmody Fires over 26,000 hectares and three distinct areas, which can be observed in the below fire progression map:⁷⁵²

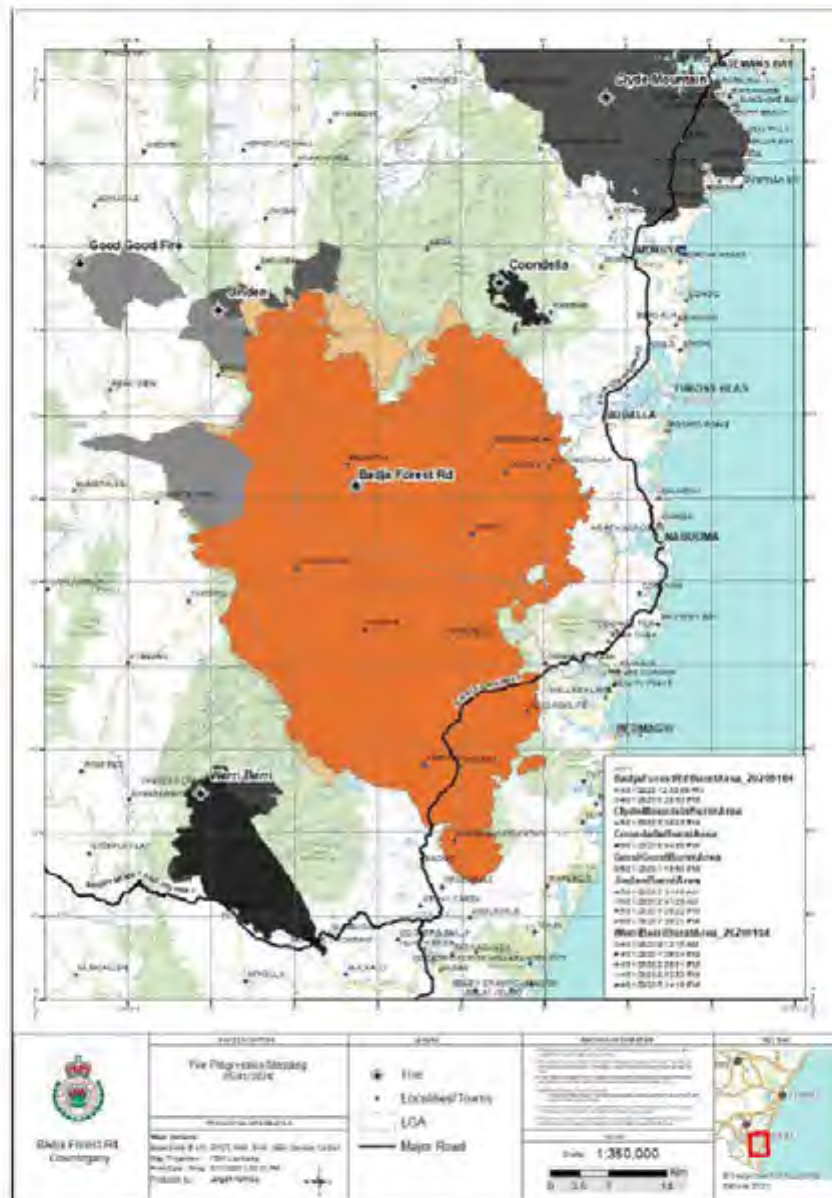


Figure 1 Fire Progression Mapping 0000, 05/01/2020 to 0000, 06/01/2020 (1:350,000 scale)

16. By 8 January 2020, the above three areas of fire activity had merged into a single area.⁷⁵³

⁷⁴⁸ Exhibit 59A, Brief of Evidence at p. 291 and 292.

⁷⁴⁹ Exhibit 59A, Brief of Evidence at p. 156–7; Transcript of 27 June 2022, T 437.

⁷⁵⁰ Exhibit 59A, Brief of Evidence at p. 48.

⁷⁵¹ Exhibit 59A, Brief of Evidence at p. 47.

⁷⁵² Exhibit 59A, Brief of Evidence at p. 59 (reproduced without annotation).

⁷⁵³ Exhibit 59A, Brief of Evidence at p. 60.

17. On 23 January 2020, an increase in fire behaviour and corresponding firefighting efforts over the Good Good Fire tragically led to the deaths of Ian McBeth, Paul Hudson, and Rick DeMorgan Jr.
18. Over the course of the following weeks, the Good Good Fire continued to spread slowly at small distances. The southern portion of the Fire was re-allocated to the Kydra Complex fire.⁷⁵⁴
19. From 31 January 2020, the Fire continued to spread at small distances of up to 2.5 kilometres per day. At 4:55pm on 2 March 2020, the Fire was authorised as 'Out'.⁷⁵⁵

Cause and origin

20. On 18 February 2020, DSC Waldron and DI Debnam from the NSWPF State Crime Command Arson Unit performed a scene examination of the area of origin of the Good Good Fire, along with DSC Robert Bruce.⁷⁵⁶ The Court had the benefit of the statements and oral evidence from DSC Waldron and DI Debnam.
21. RFS AFIs John Smith and Mike Fratturo also attended the general area of origin and provided the Court with information from their investigations.⁷⁵⁷ Mr Smith gave oral evidence at the inquiry.
22. All investigators described the terrain surrounding the suspected point of origin as remote and unforgiving.⁷⁵⁸
23. Assisted by coordinates provided by the RFS, DSC Waldron identified a tree which he considered to show signs of having been struck by lightning due to its 'cracking' or vertical fractures, limited burning of the tree, timber which had been blown out, and surrounding unburnt rocks and other debris at the base of the tree.⁷⁵⁹ DSC Waldron did not come across other trees which he considered showed signs of having been struck by lightning in the surrounding area suspected to be the area of origin.⁷⁶⁰
24. RFS Investigator Smith's attention was also drawn to a particular tree in the area which he described as having a severely charred stump, vertical ruptures, an exploded trench at the root of the tree and current marks.⁷⁶¹ These features indicated to Mr Smith that the tree had been struck by lightning.
25. DI Debnam accompanied DSC Waldron on the inspection on 18 February 2020 and also conducted an aerial investigation on 19 February 2020.⁷⁶² DI Debnam observed a number of trees in the general area of origin that were snapped just below the crown or fallen. This indicated to DI Debnam that the trees could have been struck by lightning, affected by wind or weakened by existing fire.⁷⁶³ DI Debnam concluded that the Fire could have started due to any one of a number of lightning strikes recorded in the 48 hours prior to the Fire.⁷⁶⁴
26. DI Debnam concluded that the area of origin was generally south of 2116 Jerangle Road, Jerangle (Rose Retreat) and generally west of 2118 Jerangle Road, Jerangle (Limekiln Cottage).⁷⁶⁵ DI Debnam considered that definitive point of origin was unable to be determined due to the passage of time and associated potential degradation of fire indicators, as well as the observations of firefighters who reported that the Good Good Fire did not behave in the typical manner.
27. Each investigator agreed that there was no evidence that human or other factors were a potential cause of the Good Good Fire.⁷⁶⁶

⁷⁵⁴ Exhibit 59A, Brief of Evidence at p. 72.

⁷⁵⁵ Exhibit 59A, Brief of Evidence at p. 74.

⁷⁵⁶ Exhibit 59A, Brief of Evidence at p. 86.

⁷⁵⁷ Exhibit 59A, Brief of Evidence at p. 86.

⁷⁵⁸ Transcript for 27 June 2022 T 428, 435, 439, 448.

⁷⁵⁹ Transcript for 27 June 2022 T 430.

⁷⁶⁰ Transcript for 27 June 2022 T 431.

⁷⁶¹ Transcript for 27 June 2022 T 445-6; Exhibit 59A, Brief of Evidence, at p. 269-3, 269-4.

⁷⁶² Exhibit 59A, Brief of Evidence at p. 164.

⁷⁶³ Exhibit 59A, Brief of Evidence at p. 165-166.

⁷⁶⁴ Exhibit 59A, Brief of Evidence at p. 171.

⁷⁶⁵ Exhibit 59A, Brief of Evidence at p. 171.

⁷⁶⁶ Exhibit 59A, Brief of Evidence at p. 172; Transcript of 27 June 2022 T 433, 439, 448.

Section 81 Findings

28. I acknowledge that there are some immaterial discrepancies in the expert opinions provided to the Court as to the precise point of origin of the Good Good Fire. As a result of considering all of the documentary evidence and oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Good Good, Peak View Fire commenced in a remote area approximately 800 metres south of a property known as 'Rose Retreat' at 2116 Jerangle Rd, Jerangle near the Good Good trail at the location of one tree, or multiple trees, in the vicinity of GPS coordinates Latitude S 35°56'14 Longitude E 149°20'18.⁷⁶⁷

The cause was one or more lightning strikes within a 48-hour period between 27 and 29 December 2019.

29. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

⁷⁶⁷ Exhibit 59A, Brief of Evidence at p. 164.

22. Rick DeMorgan Jr, Paul Hudson and Ian McBeth

Why were the inquests held?

1. In this inquest, the identities of the deceased are known, as are the date and place of their deaths. The manner of their deaths is readily apparent. The medical causes of Rick Allen DeMorgan Jr, Paul Hudson, and Ian McBeth's deaths were unable to be determined by autopsy.
2. For this reason, the inquests focused on recommendations that could arise from the circumstances of Rick, Paul and Ian's deaths which have the capacity to improve public health and safety in the future.

Introduction

3. As at 23 January 2020, the Good Good Fire had been burning for over three weeks.
4. Rick DeMorgan Jr, Paul Hudson and Ian McBeth were each American citizens who worked for Canadian company Coulson Aviation (**Coulson**). Coulson is a private operator contracted by the NAFC to provide aerial firefighting services in certain states and territories in Australia, including NSW. During the 2019/2020 bushfire season, the RFS engaged 38 privately-owned and operated aircraft through the NAFC.
5. Rick, Paul and Ian had travelled to Australia in late 2019 and early 2020 to assist with the Australian bushfire season. They crewed a Lockheed Martin EC-130 (Hercules C-130) LAT with call sign Bomber 134 (**B134**). This LAT and Rick, Paul and Ian were based at Richmond Airbase, however they were able to respond to fire incidents across NSW in this aircraft. Ian was the pilot-in-command of B134, Paul was the co-pilot and Rick was the flight engineer.
6. During the 2019/2020 bushfire season, Ian and Paul also assisted flying another aircraft (Bomber 390) in Victoria.⁷⁶⁸
7. On 23 January 2020, B134 was tasked to respond to the Adaminaby and then Good Good firegrounds. After completing a partial fire-retardant drop over the Good Good Fire, the aircraft encountered issues climbing out of the drop run and crashed into the ground, fatally injuring Rick, Paul and Ian.
8. The impact of the deaths of Rick, Paul and Ian has been felt by their families, friends, colleagues, and the Australian community that they were working to protect.

Rick DeMorgan Jr

9. Rick DeMorgan Jr was 43 years old. Rick came from a tight-knit family, and had a close relationship with his sister, Virginia. He lived in Florida and had two children.
10. At the time of his death, Rick was a member of the United States Air Force. He had served for 24 years, primarily as a flight engineer. He served multiple deployments in Afghanistan and Iraq, and had amassed over 4,000 flight hours. Many of those were in combat. Rick joined Coulson Aviation in late 2019 while on leave from the military. This was his first fire season.
11. I take this opportunity to acknowledge the tremendous loss to Rick's family, friends, and community. I acknowledge Virginia, sister of Rick, who was in regular contact with the team assisting throughout the inquest.

⁷⁶⁸ Exhibit 66, Brief of Evidence at p. 1245.

Paul Hudson

12. Paul Hudson was 42 years old. Paul lived in Arizona with his wife, Noreen. Noreen describes Paul as always optimistic, positive, and smiling.
13. Paul was a career marine. He went straight from high school into the US Naval Academy before joining the US Marines where he spent the next 20 years. Paul retired in August 2019 as a Lieutenant Colonel. He had amassed almost 1,744 hours of flying time.
14. Paul started work in Australia with Coulson Aviation in December 2019. It was his first fire season, and he was described as an eager learner, with good early performance for someone with the level of half a season of aerial firefighting behind them.
15. I take this opportunity to acknowledge the immense loss to Paul's family, friends, and community. I was thankful for the presence of Paul's wife Noreen, who made the long journey from America to attend the inquest.

Ian McBeth

16. Ian McBeth was the pilot in charge on 23 January 2020. He was 45 years old and had just handed in his resignation from Coulson.
17. Ian lived in Great Falls, Montana, with his wife, Bowdie, and their three children. He loved to ski, kayak, and backpack. The foundation established in Ian's name describes him as an individual who loved adventure, appreciated hard work, and respected the importance of duty.
18. Ian was a pilot in the Wyoming and then Montana Air Guard. He was deployed to Afghanistan and Iraq and rose to the rank of Lieutenant Colonel. Over his time in the military and after joining Coulson Aviation in 2014, Ian amassed 4,010 hours of flight time and a further 1,617 flight hours as a navigator.
19. I take this opportunity to acknowledge the immense loss to Ian's wife, three children, friends, and community. I was thankful for the presence of Ian's wife Bowdie, who made the long journey from America to attend the inquest.

Chronology of events

20. The day of 23 January 2020 was forecast to be a day of extreme fire danger. Multiple fires were burning throughout the State, including in the southern region where north-westerly winds of up to 90 kilometres per hour were predicted. Under these conditions, the Adaminaby Complex Fire was predicted to pose a threat to lives and property in that area.
21. At around 8:30am, one aircraft reported to the Cooma FCC that there were "swirly" 30 to 40 knot winds.⁷⁶⁹ The IMT attached to Cooma FCC made the decision to ground all aircraft due to wind and poor visibility.⁷⁷⁰ By 10:30am, all aircraft assigned to the IMT were grounded.⁷⁷¹
22. At around 11:00am, RFS Deputy Commissioner Peter McKechnie made the decision to task the LATs to the Adaminaby Fire.⁷⁷² This was communicated on a 'Red Phone' call to State Area Command at about 11:03am.⁷⁷³ On the same call, IC for the Snowy Monaro Region, Jim Darrant, requested that the alert level for the Adaminaby Complex be raised to EW 5. It was discussed that aircraft were unable to fly due to wind and visibility.
23. The State Duty Aviation Officer on the SAD, Sam Crothers, communicated the tasking of the LATs to the Richmond ABMs.⁷⁷⁴ In turn, the Richmond ABMs advised the two LATs, B134 and a Boeing 737 with call sign 'Bomber 137' (**B137**), of the tasking to Adaminaby.⁷⁷⁵

⁷⁶⁹ Exhibit 66, Brief of Evidence at p. 773.

⁷⁷⁰ Exhibit 66, Brief of Evidence at p. 682-18; Transcript for 22 March 2023 T 1153:23-36; Transcript for 27 March 2023 T 1211.

⁷⁷¹ Exhibit 66, Brief of Evidence at p. 776.

⁷⁷² Transcript for 27 March 2023 T 1210:11; Exhibit 66, Brief of Evidence, Tab 64D (audio).

⁷⁷³ Exhibit 66, Brief of Evidence at p. 682-18, 611, 682-18 – 682-19; Tab 64D (audio).

⁷⁷⁴ Transcript for 20 March 2023 T 988.

⁷⁷⁵ Exhibit 66, Brief of Evidence at p. 2195-6.

24. A Birddog (light aircraft) was also tasked to respond to the Adaminaby Fire. Pilot-in-Command of the Birddog, Justo Coward, elected not to travel to Adaminaby until he had received further information as to the weather conditions from the LATs, who Mr Coward knew would arrive at the scene ahead of his aircraft.⁷⁷⁶ The SAD was informed of the Birddog's decision to wait for further information at 12:04pm.⁷⁷⁷
25. At 11:27am, B137 departed Richmond Airbase for the Adaminaby fireground.⁷⁷⁸
26. At 12:05pm, Rick, Paul and Ian took off from Richmond Airbase in B134 for the Adaminaby fireground.⁷⁷⁹
27. At 12:17pm, B137 received a text message from the pilot of a Birddog seeking a wind check.⁷⁸⁰ At this time, B137 was flying in 37 knot winds during low reconnaissance passes at 300 feet AGL, and 50 knots at 1000 feet AGL. While orbiting the fireground on the leeward side of hills near Adaminaby, B137 received windshear warning from their onboard systems.⁷⁸¹
28. At 12:20pm, B137 completed a drop of fire retardant over the Adaminaby fireground.⁷⁸²
29. At 12:26pm, the pilot of B137, Mr Dugan radioed the Cooma FCC and then the Richmond ABMs to notify them that B137 was traveling to Richmond and would not be returning to Adaminaby, saying that the wind was getting *"a little bit too strong and visibility is down"*.⁷⁸³ That decision and the fact that B137 had reported that the weather was *"fairly dicey"* was relayed to the SAD.⁷⁸⁴
30. At 12:35pm, just outside Canberra, B134 crossed paths with B137.⁷⁸⁵ Mr Dugan and Ian McBeth discussed the tasking to Adaminaby over the radio. Ian told Mr Dugan that the only information he had been provided with the tasking was the common traffic advisory frequency for the Fire, radio channel TG45, and coordinates of the Adaminaby Complex Fire.⁷⁸⁶ Mr Dugan told Ian that he needed to call Cooma Air Operations on the radio for his contact person and that there were many firefighters on the ground without ground contact to clear them out of the way. Mr Dugan also told Ian that there were no other aircraft flying in the area and that the conditions at Adaminaby were deteriorating, and he had decided not to return to the Fire.⁷⁸⁷
31. The last thing that Ian said to Mr Dugan was: *"I'll go take a look"*.⁷⁸⁸
32. At 12:55pm, B134 arrived in the Snowy Monaro Region. At this time, the log for the ARO within the Cooma FCC recorded a radio call with B134.⁷⁸⁹ It starts: *"Drops at adamin[aby] if looks good, if not proceed to Good Good"*.⁷⁹⁰ This was the first time the Good Good Fire was mentioned in relation to Ian, Rick, and Paul's aircraft.
33. After completing a number of circuits over the Adaminaby region, B134 elected not to drop fire retardant over the Adaminaby complex fires.⁷⁹¹
34. At 12:58pm, B134 radioed the Cooma FCC. The radio operator's log records that they were: *"Going to Good Good [visibility] at Adamin[aby] not good"*.⁷⁹²

⁷⁷⁶ Transcript for 22 March 2023 T 1087.

⁷⁷⁷ Exhibit 66, Brief of Evidence at p. 682-27, p. 682-34.

⁷⁷⁸ Exhibit 66, Brief of Evidence at p. 1248.

⁷⁷⁹ Exhibit 66, Brief of Evidence at p. 823, 2195.

⁷⁸⁰ Exhibit 66, Brief of Evidence at p. 1251.

⁷⁸¹ Exhibit 66, Brief of Evidence at p. 1252.

⁷⁸² Exhibit 66, Brief of Evidence at p. 230, 1252.

⁷⁸³ Exhibit 66, Brief of Evidence at p. 1252; Tab 64G (audio).

⁷⁸⁴ Exhibit 66, Brief of Evidence at p. 682-27 – 682-28, 682-41; Tab 64H (audio).

⁷⁸⁵ Exhibit 66, Brief of Evidence at p. 1253.

⁷⁸⁶ Exhibit 66, Brief of Evidence at p. 1253.

⁷⁸⁷ Exhibit 66, Brief of Evidence at p. 1253.

⁷⁸⁸ Exhibit 66, Brief of Evidence at p. 1253.

⁷⁸⁹ Exhibit 66, Brief of Evidence at 774.

⁷⁹⁰ Exhibit 66, Brief of Evidence at p. 774.

⁷⁹¹ Exhibit 66, Brief of Evidence at p. 231.

⁷⁹² Exhibit 66, Brief of Evidence at p. 774.

35. At around 1:07pm, B134 arrived at the Good Good fireground.⁷⁹³ The fireground was in mountains lying to the west of flatter farmland.⁷⁹⁴ B134 radioed the Cooma FCC and indicated that they would carry out multiple runs on the east side of the Fire for asset protection over a residence.⁷⁹⁵ The area identified for the drop was located to the east of a ridgeline, towards the farmland.
36. As can be seen in the image below, B134 completed three circuits of the target area at about 1,500, 500 and 1000 feet AGL before completing the retardant jettison run.⁷⁹⁶ B134 carried out a partial retardant drop at 190 feet AGL and commenced a climb-out procedure.⁷⁹⁷ At that point, B134 was likely subject to a significant wind event and change of wind velocity, which caused the aircraft to lose power and most likely stall.⁷⁹⁸

Figure 3: B134's approach and circuits overhead the drop location; the inset shows the track from the Adaminaby to the Good Good fire-ground



Source: Google earth and SkyTrax data, annotated by the ATSB

37. The stall resulted in B134 crashing into the ground, and tragically, the loss of Rick, Paul, and Ian.
38. Two volunteers with the RFS, Steven Boate and James Baron, witnessed the crash.⁷⁹⁹ Mr Boate, Mr Baron, and another member of their crew, Brett Constance, rushed to the site of the crash to provide help.

Manner and cause of death

39. The ATSB undertook a detailed investigation into the cause of the accident. The ATSB Report on the accident was before the Court and ATSB Senior Investigator, Laura Henwood, gave evidence in the inquests.
40. The ATSB found that after B134 completed a partial retardant drop and left turn, the aircraft was very likely subjected to *“hazardous environmental conditions including low-level windshear and an increased tailwind component, which degraded the aircraft’s climb performance”*.⁸⁰⁰ Subsequently, while at a low height and airspeed, it was likely the aircraft aerodynamically stalled, resulting in a collision with terrain.⁸⁰¹

⁷⁹³ Exhibit 66, Brief of Evidence at p. 231.

⁷⁹⁴ Exhibit 66, Brief of Evidence at p. 232.

⁷⁹⁵ Exhibit 66, Brief of Evidence at p. 242.

⁷⁹⁶ Exhibit 66, Brief of Evidence at p. 232.

⁷⁹⁷ Exhibit 66, Brief of Evidence at p. 232.

⁷⁹⁸ Transcript for 27 March 2023 T 1201.

⁷⁹⁹ Exhibit 66, Brief of Evidence at p. 2222, 2226.

⁸⁰⁰ Exhibit 66, Brief of Evidence at p. 295.

⁸⁰¹ Exhibit 66, Brief of Evidence at p. 295.

41. The ATSB investigation found that B134 did not jettison the whole load of retardant available on the aircraft when completing the retardant drop. While jettisoning the retardant would have increased the aircraft's performance and decreased the stall speed, the ATSB was unable to determine whether a full jettison of the load would have been sufficient to recover the aircraft prior to the collision.⁸⁰²
42. The ATSB did not find any evidence of structural or mechanical failures that would have contributed to the accident sequence.⁸⁰³
43. Rick, Paul and Ian were all experienced pilots and appropriately qualified to be operating B134.⁸⁰⁴ No medical issues or fatigue were found to have contributed to the accident.⁸⁰⁵
44. The families of Rick, Paul and Ian, and the RFS did not dispute the findings of the ATSB as to the cause of the accident. Coulson raised some concerns about the likelihood of a windshear event appropriately capturing the circumstances faced by B134.
45. During the course of the inquests, it was proposed that a more accurate description of the weather event that affected the performance of B134 would be a 'sudden and significant wind event'. It could be said that the varying phrases provide limited distinction. While the ATSB used the terminology 'windshear', Ms Henwood described that this term encompasses a sudden change in wind velocity or direction.⁸⁰⁶ In addition, the Bureau define windshear as a "*wind direction and/or speed change over a vertical or horizontal distance*".⁸⁰⁷
46. Coulson identified that studies of the impacts of windshear on aircraft performance were confined to windshear events during thunderstorm activity.⁸⁰⁸ Coulson challenged the usefulness of defining the circumstances which impacted B134 as a 'windshear event', and it was questioned whether studies of windshear during thunderstorms had applicability to the context of aerial firefighting.
47. Coulson Aviation Director of Flight Operations, Fixed Wing, Mr John Gallaher gave evidence that B134 had completed most of the applicable windshear recovery procedures before turning into its exit run (the main components of these procedures being the same as the procedures for exiting a fire retardant drop).⁸⁰⁹ It was his view that some environmental factor (other than windshear) which caused the air speed to degrade the aircraft's performance to a stall.⁸¹⁰
48. Mr Gallaher told the Court that although there were a number of environmental factors that could not be precisely determined, the most likely cause of the accident was a very significant and abnormal change in wind; being that B134 turned into a tailwind, there was a significant increase in that tailwind, and that the magnitude of that increase would have had to have approached 60 to 70 knots so as to completely denude the aircraft of power and cause it to stall.⁸¹¹
49. While the Court had the benefit of the helpful evidence from Ms Henwood and Mr Gallaher and the thorough investigation of the ATSB, I do not consider that I am able to determine with any greater specificity the precise environmental conditions that B134 encountered when turning to complete its exit run after partially jettisoning fire retardant over the Good Good Fire. I accept the parties' submission that a sudden and significant wind event affected the performance of B134, and I do not consider it necessary to define this wind event as windshear or some other change in windspeed.

⁸⁰² Transcript for 20 March 2023 T 950; Exhibit 66, Brief of Evidence at p. 291.

⁸⁰³ Exhibit 66, Brief of Evidence at p. 281.

⁸⁰⁴ Exhibit 66, Brief of Evidence at p. 281.

⁸⁰⁵ Exhibit 66, Brief of Evidence at p. 234-6, 259-260.

⁸⁰⁶ Transcript for 20 March 2023 T 974.

⁸⁰⁷ Exhibit 66, Brief of Evidence at p. 245.

⁸⁰⁸ Submissions of behalf of Coulson Aviation at [12]-[15], citing Exhibit 66, Brief of Evidence at pp. 246-247, 285.

⁸⁰⁹ Transcript for 27 March 2023 T 1202.

⁸¹⁰ Transcript for 27 March 2023 T 1201.

⁸¹¹ Transcript for 27 March 2023 T 1201-2.

Issues examined during these inquests

50. Ahead of the commencement of the inquests, a proposed List of Issues to be examined was circulated to the interested parties. The issues for consideration fell within the following categories:
- 1) *Whether the tasking of firefighting aircraft to the Adaminaby and then Good Good firegrounds on 23 January 2020 was appropriate in light of the forecasted and known weather conditions.*
 - 2) *Whether aircraft B134 was provided with sufficient and timely information on 23 January 2020 to enable the crew to make an informed decision as to whether it should accept the tasking to the Adaminaby and Good Good firegrounds.*
 - 3) *Whether tasking agencies or private contractors should take a more active role in providing weather data and other relevant flight information to pilots ahead of and during taskings.*
 - 4) *Whether systems for communication between aircrafts and fire agencies are fit for purpose and used efficiently.*
 - 5) *Whether the organisational culture and relationship between fire agencies and contracted aviation services unduly influences service demands.*

Tasking of firefighting aircraft

ISSUE 1

Whether the tasking of firefighting aircraft to the Adaminaby and then Good Good firegrounds on 23 January 2020 was appropriate in light of the forecasted and known weather conditions.

Tasking of aircrafts generally

51. The Court heard substantial evidence in relation to the tasking and later re-tasking of B134. It is useful to provide some context in relation to how LATs are utilised and tasked by the RFS compared to their use of smaller aircrafts.
52. In the 2019/2020 bushfire season and today, the RFS coordinate the use of LATs through its SAD, who sit within the State Operations Centre.⁸¹² Unlike other aircraft, LATs and VLAT are not assigned to a particular incident. The SAD has ongoing involvement in allocating and reviewing taskings of LATs and may offer recommendations as to aircraft suitability for taskings.⁸¹³
53. A request for a LAT or VLAT can be made by an IMT using a request form. Where situations are urgent or dynamic, an IC may verbally request, or a SOC may directly task, a LAT/VLAT in conjunction with the SAD without using the request form.⁸¹⁴
54. Some RFS procedures provide that the tasking of a LAT/VLAT may be approved by the SOC⁸¹⁵ whereas other documents provide that LAT/VLAT taskings may also be approved by State Duty Operations Officer.⁸¹⁶ It was explained in submissions from the RFS that the State Duty Operations Officer only has responsibility for LAT/VLAT taskings on days where there is no appointed SOC.⁸¹⁷
55. In contrast, smaller aircraft are approved for use by an IMT⁸¹⁸ who is then able to determine the taskings for those aircrafts within their local area without the SAD providing these taskings or approving the taskings.

⁸¹² Exhibit 66, Brief of Evidence at p. 1049.

⁸¹³ Exhibit 66, Brief of Evidence at p. 1049; Transcript for 27 March 2023, T 1207.

⁸¹⁴ Exhibit 66, Brief of Evidence at p. 682-6.

⁸¹⁵ Exhibit 66, Brief of Evidence at p. 618, p. 1049.

⁸¹⁶ Exhibit 66, Brief of Evidence at p. 682-5, 1002, 1131-14, 1115.

⁸¹⁷ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [30].

⁸¹⁸ Exhibit 66, Brief of Evidence at p. 682-5; Transcript for 27 March 202, T 1207.

56. Since 2020, the RFS have created a LAT/VLAT coordinator role who sits on the SAD specifically to direct those aircraft on days of heightened fire danger.⁸¹⁹
57. The reason for the centralisation of taskings for LATs/VLATs to the SAD was explained to be based on the ability of these aircraft to travel longer distances and respond to incidents across the state, and also because they are a more limited resource.

Tasking of B134 on 23 January 2023

58. The circumstances of the tasking of B134 on 23 January 2020 require close examination, not only because of the tragic outcome for the crew on that day, but also because these inquests revealed a number of areas where there can be improvement in the use of firefighting aircraft.
59. On 23 January 2020, Deputy Commissioner McKechnie made the decision to task B134 to Adaminaby.⁸²⁰ This decision was relayed on the 11:00am Red Phone call and there was no formal aircraft request issued.⁸²¹
60. At the time Deputy Commissioner McKechnie tasked B134, he was aware that aircraft in the local area where grounded due to adverse weather conditions. Deputy Commissioner McKechnie told the Court that although he held concerns about the flying conditions, he was confident in being able to task the LATs given his experience that they had better operating parameters in adverse flying conditions.⁸²² Mr McKechnie said he had confidence in the LAT pilots to be able to make the decision as to whether it was safe to fly in the area.⁸²³
61. The initial tasking of B134 to Adaminaby was consistent with RFS procedures and appropriate in the circumstances at the time. Given the impending threat to life and property in the Adaminaby area under the forecast weather conditions, it was seen as appropriate to task the LATs without formal documentary request, which was a situation contemplated and provided for in RFS operating manuals.
62. There is limited contemporaneous material before the Court going to the re-tasking of B134 to the Good Good fireground. The Good Good Fire was not discussed in the 11:00am Red Phone call, nor was it referred to in SAD communications with the Richmond ABMs.
63. There is a record of B134 in relation to the Good Good Fire in the logbook of the Cooma AOM, Petter Finstad, at 12:26pm as follows:⁸²⁴

BD 275 inbound with B134

New issue Good

[latitude] 149 [degrees] 21 [minutes] .23 [seconds]

[longitude] 35 [degrees] 59 [minutes] .65 [seconds]
64. The ATSB investigation revealed that B134 arrived at the Adaminaby Fire at 12:55pm.⁸²⁵ At this time, the Air Operations Log for the ARO within the Cooma FCC recorded a radio call with B134: “Drops at adamin if looks good, if not proceed to Good Good”.⁸²⁶

⁸¹⁹ Exhibit 66, Brief of Evidence at p. 682-4; Transcript for 27 March 2023 T 1213.

⁸²⁰ Exhibit 66, Brief of Evidence at p. 682-7, 781; Transcript for 27 March 2023, T 1208.

⁸²¹ Transcript for 20 March 2023, T 987; Transcript for 27 March 2023, T 1213.

⁸²² Transcript for 27 March 2023 T 1211.

⁸²³ Transcript for 27 March 2023 T 1211.

⁸²⁴ Exhibit 66, Brief of Evidence at p. 708.

⁸²⁵ Exhibit 66, Brief of Evidence at p. 231.

⁸²⁶ Exhibit 66, Brief of Evidence p. 774.

65. The Cooma AOM (Mr Finstad) and ARO (Mr Kevan Harder), while both part of the Cooma FCC, were based in a separate location to the main Control Centre.⁸²⁷ Mr Harder and Mr Finstad were the only RFS officers in that location who held aviation roles.⁸²⁸ Mr Harder described his interactions within the FCC were primarily with Mr Finstad and that Mr Finstad sat directly behind him.⁸²⁹
66. Mr Harder described the main function of his role as ARO to transmit ground-to-aircraft radio communications, and tracking where aircraft are located.⁸³⁰
67. Mr Harder stated that Mr Finstad did not communicate with aircraft via radio (as this would have had to occur via Mr Harder), however that Mr Finstad may have had contact with B134 by phone.⁸³¹
68. The RFS advised the Court that the location of the ARO being in a premises separate to the main FCC meant that the RFS could not, both during the 2019/2020 season and now, record radio communications from that location.
69. The absence of any recording of the Cooma ARO's communications with B134, and the otherwise lack of evidence in relation to the Good Good Fire (in respect of there being no formal requests for aircrafts from the IMT nor SAD communications which refer to Good Good), mean that it is difficult to understand how the re-tasking of B134 to the Good Good fireground came to pass.
70. Mr Harder initially told the Court that B134 made the decision to proceed to the Good Good Fire and they advised him of this tasking as they were en route.⁸³² Mr Harder presumed that B134 had a secondary tasking to respond to the Good Good fire if not able to complete a drop at Adaminaby.⁸³³
71. Mr Harder denied that Mr Finstad directed him to inform B134 to proceed to the Good Good fire if they were unable to complete a drop at Adaminaby.⁸³⁴ However, Mr Harder later said that he could "*only assume*" that it was Mr Finstad who re-tasked B134 to Good Good.⁸³⁵ Mr Harder said that once B134 advised him that they were proceeding to Good Good, Mr Finstad provided Mr Harder with the coordinates for Good Good to convey to B134.⁸³⁶
72. In his statement, Mr Darrant said that he discussed the re-tasking of B134 to the Good Good fire with Petter Finstad after the accident, and Mr Finstad confirmed that he had tasked B134 to go to the Good Good fire.⁸³⁷
73. I am aware that numerous attempts were made to contact Mr Finstad leading up to, and during the inquest. This included, amongst other steps taken by the NSWPF, contact using last known details and enquires with his current employer. However, all attempts proved unsuccessful and Mr Finstad was unable to provide further evidence for this inquest. Unfortunately, the Court therefore does not have the benefit of what would have likely been critical evidence from Mr Finstad going to his communications with B134 and its re-tasking to the Good Good Fire.
74. However, the evidence available provides reasonable basis to conclude that Mr Finstad made the decision to task B134 to the Good Good fireground. In coming to this finding, I rely on the record in Mr Finstad's logbook from 23 January 2020 and Mr Darrant's statement telling of his conversation with Mr Finstad after the accident.

⁸²⁷ Transcript for 22 March 2023 T 1116-7.

⁸²⁸ Transcript for 22 March 2023 T 1116-7.

⁸²⁹ Transcript for 22 March 2023 T 1116-7.

⁸³⁰ Transcript for 22 March 2023 T 1117.

⁸³¹ Transcript for 22 March 2023 T 1118.

⁸³² Transcript for 22 March 2023 T 1120, 1136.

⁸³³ Transcript for 22 March 2023 T 1120, 1136.

⁸³⁴ Transcript for 22 March 2023 T 1136, 1138, 1146.

⁸³⁵ Transcript for 22 March 2023 T 1136, 1138, 1146.

⁸³⁶ Transcript for 22 March 2023 T 1120.

⁸³⁷ Exhibit 66, Brief of Evidence at p. 501.

75. Given the evidence of Mr Harder that he did not relay the decision to re-task B134 from Mr Finstad to the crew via radio, it is not able to be precisely concluded how the re-tasking was communicated to B134. While there was suggestion that B134 had the direct contact number of Mr Finstad given that his number was provided in the ARENA dispatch notification for their earlier tasking to Adaminaby,⁸³⁸ I accept the submission of Counsel Assisting that this suggestion is not convincing in light of the ARENA dispatch timestamp being 1:13pm, mere minutes before the accident.⁸³⁹ There is sufficient evidence to find that Mr Finstad was in communication with B134, either directly or via the Radio Operator, and that in his role as AOM he provided the tasking and coordinates for the Good Good Fire to B134.
76. It is uncontroversial that the decision to re-task B134 to Good Good was made without the involvement of the SOC or State Duty Operations Officer.⁸⁴⁰
77. In his role as AOM, Mr Finstad did not have authority to re-task B134 without approval from the SOC or State Duty Operations Officer. Further, the decision to re-task B134 was not communicated to SOC, Major Incident Controller, IC, DIC or SAD.⁸⁴¹ The re-tasking of B134 to the Good Good Fire therefore did not follow the RFS SOP.
78. It is unclear what considerations Mr Finstad took into account when re-tasking B134, nor is it known why Mr Finstad elected to re-task the aircraft without following correct procedures. It is not able to be concluded whether the failure to follow procedure was inadvertent, due to a misunderstanding of RFS policies, or for some other reason.

CONCLUSION

The failure to follow procedures in the re-tasking of B134 highlights a potential need for further training so that RFS officers understand that the tasking of LAT/VLATs is not to be made at a local IMT level but at the level of State Operations. I consider that it is desirable to make the following Recommendation:

To the Commissioner of the NSW Rural Fire Service

Recommendation 1:

The NSW Rural Fire Service review its training for Aviation and Incident Management Roles and ensure (if it does not already) that the training emphasises that tasking decisions for Very Large Air Tankers and Large Air Tankers are not to be made at a local Incident Management Team level, but at the level of State Operations.

79. Despite the failure to follow protocol in the re-tasking of B134, it should not be inferred that these failures contributed to the accident that occurred at the fireground.

The Pilot's role

80. The Court heard from both pilots and the organisations that support them about the importance of pilots in command having ultimate discretion as to whether to accept or continue with taskings.⁸⁴² As the person responsible for the safety of the flight and the crew, the pilot-in-command makes the final decision as to whether, and how, aircraft taskings are carried out.
81. The decisions of Ian, as pilot-in-command of B134, are evident from the records of B134's movements on 23 January 2020. Ian exercised his authority as pilot-in-command when electing not to proceed with dropping retardant over the Adaminaby fireground due to visibility issues.⁸⁴³

⁸³⁸ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [13].

⁸³⁹ Exhibit 66, Brief of Evidence at p. 793.

⁸⁴⁰ Transcript for 20 March 2023, T 986; Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [14].

⁸⁴¹ Exhibit 66, Brief of Evidence at p. 501; Transcript for 20 March 2023 T 986; Transcript for 21 March 2023 T 1044-6; Transcript for 22 March 2023 T 1153; Transcript for 27 March 2023 T 1214.

⁸⁴² Transcript for 21 March 2023 T 1003; Transcript for 22 March 2023, T 1097; Transcript for 27 March 2023 T 1219.

⁸⁴³ Exhibit 66, Brief of Evidence at p. 231, p. 774.

82. After arriving at the Good Good fireground, consistent with Coulson procedure, B134 completed three circuits of the target area at about 1,500, 500 and 1000 feet AGL, before completing the jettison run.⁸⁴⁴ The third and final circuit ahead of the jettison run, referred to as a 'dry pass', is targeted to be completed at 300 to 500 feet AGL, some 100 to 300 feet AGL above the jettison run, and at a faster air speed than the jettison run.⁸⁴⁵
83. There was some suggestion that three circuits of the target area may not have been low enough for B134 to have accurately assessed conditions at the drop height and any localised terrain or fire effects, particularly given that these circuits were above the height of the ridgeline parallel to the retardant drop line.⁸⁴⁶ I accept the evidence that the circuits are completed at this height in order to provide a safety margin for pilots when flying.
84. Ian was an experienced and qualified pilot, having completed 994 air tanker drops and training where he completed drops at around 200 feet AGL.⁸⁴⁷ I agree with Counsel Assisting's submission that it is fair to draw the inference that having elected to undertake the jettison drop after completing the three circuits of the target area at the Good Good fireground, the crew of B134 reached the conclusion that it was safe to proceed with the tasking.

Improvements to aircraft taskings systems

85. While the pilot-in-command holds responsibility for determining whether to proceed with taskings, the RFS plays an important role in ensuring safe and appropriate taskings are provided to aircrafts. The RFS State Command is in a unique position to receive and convey information from firegrounds to aircrafts, including information regarding local conditions and other aircrafts.
86. In addition to the issues regarding persons with authority to task LATs, these inquests heard evidence in relation to:
 - a. the adequacy of pre-flight risk assessments for taskings; and
 - b. the use of LATs/VLATs as initial attack.

Pre-Flight Risk Assessments

87. A FRAT is a tool that may be used to assist operators and pilots to assess and mitigate risks that arise from operations. A FRAT provides a 'score' for identified hazards in flight plans and places the flight as low, medium or high risk. Awareness that a planned flight has a high risk score may assist pilots to mitigate risks or respond effectively to hazards during a flight.⁸⁴⁸
88. ATSB investigator Ms Henwood told the Court that if a FRAT had been implemented to assess the tasking of B134 to Adaminaby on 23 January 2020, it would have placed the flight in the medium risk category.⁸⁴⁹
89. It is accepted by the parties that pre-flight risk assessments are limited to the information available to be input at the time they are created and that they can become outdated with unexpected changes in conditions, however the parties also accept their utility.
90. Coulson did not utilise a formal pre-flight risk assessment document in January 2020, but have now implemented this procedure.⁸⁵⁰ Mr Gallaher told the Court that the risk assessment is a formal document to record the assessment pilots have always undertaken ahead of flying.⁸⁵¹
91. The RFS have commenced developing an electronic flight risk assessment to assist in identifying where air operations may be at high risk based on a range of factors.⁸⁵²

⁸⁴⁴ Transcript for 27 March 2023 T 1186.

⁸⁴⁵ Transcript for 27 March 2023 T 1187.

⁸⁴⁶ Exhibit 66, Brief of Evidence, p. 282; Transcript for 20 March 2023 T 949.

⁸⁴⁷ Transcript for 27 March 2023 T 1189; Exhibit 66, Brief of Evidence at p. 234.

⁸⁴⁸ Transcript for 20 March 2023 T 983.

⁸⁴⁹ Transcript for 27 March 2023 T 1220.

⁸⁵⁰ Transcript for 27 March 2023 T 1204.

⁸⁵¹ Exhibit 66, Brief of Evidence at p. 1289-f.

⁸⁵² Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [25]; Transcript for 27 March 2023 T 1220:16-32.

92. The Court heard that there is a need to be mindful of the normalisation of high-risk and adverse conditions for pilots and other aviation officers when operating in prolonged, hazardous bushfire seasons.⁸⁵³ Officers could become normalised to frequent and repetitive warnings of high winds and extreme fire danger, found commonly on days throughout the 2019/2020 season.⁸⁵⁴
93. In addition to the developments introduced by the RFS and Coulson, it was proposed that the RFS SAD could have a role in developing and utilising a FRAT to be used in determining when to task LATs/VLATs.⁸⁵⁵ It was also proposed that the SAD could provide a score generated from the risk assessment to aircrafts for relevant taskings.⁸⁵⁶
94. It was submitted in response by the RFS that the SAD is not best placed to undertake this type of risk assessment, as evidence shows that the responsibility for determining the appropriateness and safety of any flight lies with the crew and pilot-in-command.⁸⁵⁷ The RFS otherwise agreed in principle with the proposed recommendation that they utilise a flight risk assessment in the tasking of aircrafts, a tool for which is under development.

CONCLUSION

I accept that the use of any flight risk assessments by the RFS should be confined to risk assessments in respect of taskings generally, and that this assessment must not (and could not) replace the risk assessment required to be undertaken by pilots.

While I note there have been steps taken by both the RFS and Coulson to introduce formalised risk assessment processes, I consider it desirable to make the following Recommendation:

To the Commissioner of the NSW Rural Fire Service

Recommendation 2:

The NSW Rural Fire Service develop a Flight Risk Assessment Tool for decisions about the tasking of Large Air Tankers/Very Large Air Tankers.

The use of LATs/VLATs as initial attack

95. A Birddog is a light, dual engine aircraft that is designed to gather intelligence and lead LATs across firegrounds to their target. Birddogs are used by the RFS as a risk mitigation strategy as they are able to assess conditions at firegrounds ahead of LATs/VLATs arriving on scene.⁸⁵⁸ Birddog crews have some awareness and knowledge of the performance capabilities of LATs.⁸⁵⁹
96. AASs are also utilised by the RFS to develop aviation strategies and tactics for effective fire management.⁸⁶⁰ AASs are typically passengers on Birddogs.
97. LATs and VLATS can operate without the assistance of Birddogs or AASs in NSW if the crew are initial attack qualified.⁸⁶¹ The RFS accepts initial attack certifications which are issued by the United States Forestry Service.⁸⁶² The crews of B134 and B137 were initial attack certified.⁸⁶³
98. Neither an AAS or a Birddog were operational over the Adaminaby or Good Good firegrounds on 23 January 2020. Although a Birddog was tasked to the Adaminaby Fire, the RFS were aware that the LATs would be faster to arrive and therefore they were tasked as initial attack.⁸⁶⁴

⁸⁵³ Transcript for 21 March 2023 T 1003, 1006.

⁸⁵⁴ Transcript for 21 March 2023 T 1003, 1006.

⁸⁵⁵ Submissions on behalf of Counsel Assisting (2 May 2023) at [89]-[90].

⁸⁵⁶ Submissions on behalf of Counsel Assisting (2 May 2023) proposed Recommendation 5(a) and [152].

⁸⁵⁷ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [12].

⁸⁵⁸ Transcript for 21 March 2023 T 1003, 1006.

⁸⁵⁹ Exhibit 66, Brief of Evidence at p. 1289-3.

⁸⁶⁰ Transcript for 27 March 2023 T 1211, 1212.

⁸⁶¹ Exhibit 66, Brief of Evidence at p. 274, 610.

⁸⁶² Transcript for 27 March 2023 T 1221.

⁸⁶³ Exhibit 66, Brief of Evidence at p. 294.

⁸⁶⁴ Exhibit 66, Brief of Evidence at p. 682-8.

99. As of January 2020, the RFS had limited policies for aerial supervision requirements and no procedures for the deployment of LATs without aerial supervision.
100. Since 2022, the RFS Operating Guidelines for Air Tankers Operations has provided aerial supervision requirements for LATs.⁸⁶⁵ It specifies that in conditions of “*forecast adverse weather, poor visibility or turbulence*”, a Birddog and AAS are required to supervise LAT operations.⁸⁶⁶ RFS Deputy Commissioner McKechnie advised that an assessment of what constituted “*adverse weather, poor visibility or turbulence*” would require feedback from a number of sources, including the Bureau and pilots.⁸⁶⁷

CONCLUSION

I accept the submission of Counsel Assisting that the terms “*forecast adverse weather, poor visibility or turbulence*” would benefit from further prescription. It is desirable that the critical assessment of weather conditions is guided by clear procedures and definitions.

I note that the RFS agreed that further guidance could be provided within its policies in respect of the thresholds for forecasted adverse weather, poor visibility and turbulence.⁸⁶⁸

I also note the concern from the RFS regarding policy becoming overly prescriptive in this circumstance, where there is clear evidence that the risks and impacts of adverse weather, poor visibility or turbulence will depend on aircraft parameters and capabilities. I consider it necessary and desirable to make the following Recommendation:

To the Commissioner of the NSW Rural Fire Service

Recommendation 3:

The NSW Rural Fire Service identify further guidance in its Operating Guidelines for Air Tanker Operations thresholds or assessment considerations for what constitutes ‘forecast adverse weather, poor visibility, turbulence’ such that an Initial Attack certified pilot requires a Birddog and/or Air Attack Supervisor.

Communications with aircrafts

ISSUE 2

Whether aircraft B134 was provided with sufficient and timely information on 23 January 2020 to enable the crew to make an informed decision as to whether it should accept the tasking to the Adaminaby and Good Good firegrounds.

ISSUE 3

Whether tasking agencies or private contractors should take a more active role in providing weather data and other relevant flight information to pilots ahead of and during taskings.

ISSUE 4

Whether systems for communication between aircrafts and fire agencies are fit for purpose and used efficiently.

101. These inquests highlighted a number of issues in the communication channels and delivery of information from tasking agencies to aircraft. On 23 January 2023, there were a number of instances where information did not flow effectively between the RFS and the aircraft tasked for aerial firefighting.

⁸⁶⁵ Exhibit 66, Brief of Evidence at p. 1117, 1131-16.

⁸⁶⁶ Exhibit 66, Brief of Evidence at p. 1117, 1131-16.

⁸⁶⁷ Transcript for 27 March 2023 T 1222.

⁸⁶⁸ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [27].

102. It is apparent that at least on 23 January 2020, scant information was provided to aircrafts with taskings. The process for pilots obtaining information from the RFS was described to be (on that day and others) difficult and “a struggle”.⁸⁶⁹ The timeliness of when information was provided to aircrafts was also a clear issue.⁸⁷⁰
103. Despite the scope of these issues, it is important to note that there is no suggestion that the deficiencies in communication and information provided to aircrafts was a causal factor to the crash of B134.

Briefings and communication of taskings generally

104. At the commencement of daily shifts, crews would participate in a briefing conducted by the ABMs. These briefings were intended to be guided by an RFS template ‘briefing checklist’ which listed items including incident details, aircraft enroute, fire weather forecast, strategic objectives and flight restrictions.⁸⁷¹
105. At the time of the morning briefings, taskings for aircraft have not typically been received. More detailed information relevant to taskings would be provided at the time that those taskings are received.⁸⁷²
106. After a decision is made to task LATs/VLATs, the SAD communicates this tasking by phone to ABMs. This phone call would then be followed up by dispatch orders sent via email to the ABMs and generated using ARENA.
107. The ABMs are then responsible for providing the details of the taskings to aircraft crew. The inquests heard that ABMs are typically volunteers of the RFS or other emergency services organisations (such as the NSW SES), and the aviation skills and knowledge of these volunteers varies.⁸⁷³
108. The RFS Operating Guidelines for Air Tanker Operations in 2020 provided that an ‘Air Tanker dispatch notification’ which is sent to the ABM (and AAS, if in use) should include all incident information known, including no less than: latitude and longitude, geographic location, incident AAS contact details, Communications Plan, Aircraft currently working on the incident, and load product.⁸⁷⁴ The 2023 version of these guidelines includes the same information is to be provided, with the addition of: actual and forecast weather conditions, and fire activity and threats.⁸⁷⁵
109. Due to its phrasing, it appears that the RFS Operating Guidelines for Air Tanker Operations contemplate that the specified information would be provided in the ARENA dispatch notification.
110. The ARENA system used by the RFS to generate email taskings for LATs during the 2019/2020 system required input of limited information, being: the incident locality coordinates, contact name and phone number, radio operating frequency and fuel location.⁸⁷⁶ These prompts were therefore inconsistent with the information contemplated to be provided by the RFS Operating Guidelines.
111. The evidence before the Court demonstrates that the information specified in the RFS Operating Guidelines was not routinely or effectively conveyed to pilots in the 2019/2020 bushfire season, either via ARENA dispatch notifications or through briefings delivered to pilots.⁸⁷⁷

Information provided to B134 on 23 January 2020

Airbase morning briefing

112. There are no contemporaneous records of what information was provided in the morning briefing delivered by Richmond ABMs to aircraft crews on 23 January 2020. Records are not typically taken of these briefings.

⁸⁶⁹ Transcript for 22 March 2023 T 1089.

⁸⁷⁰ Transcript for 22 March 2023 T 1098; Exhibit 66, Brief of Evidence, Tab 93 [54] at p. 1254.

⁸⁷¹ Exhibit 66, Brief of Evidence at p. 2197.

⁸⁷² Transcript for 21 March 2023 T 1057.

⁸⁷³ See, for example, Exhibit 66, Brief of Evidence at p. 2192, 2200.

⁸⁷⁴ Exhibit 66, Brief of Evidence at p. 1003.

⁸⁷⁵ Exhibit 66, Brief of Evidence at p. 1131-15.

⁸⁷⁶ See Exhibit 66, Brief of Evidence at p. 793.

⁸⁷⁷ Transcript for 22 March 2023 T 1093; Transcript for 27 March 2023 T 1198; Exhibit 66, Brief of Evidence at p. 1244.

113. Richmond ABM, Michael Davison, told the Court that on 23 January 2020, he advised crews that there were very windy conditions and a high fire danger in the southern area of the state.⁸⁷⁸ Mr Dugan did not recall what information was specifically provided in that morning briefing, but said briefings would usually refer to the 'Windy App', (which looked at different winds around NSW), the predicted weather across the State, and the local weather forecasts for the Richmond area.⁸⁷⁹

Briefing with taskings

114. Once the decision was made to task the LATs to Adaminaby, the SAD contacted the Richmond ABMs by phone to advise of the tasking. Mr Davison told the Court that he could not recall what information he provided to the crew of B134, but that the briefing would have included the coordinates of the Fire, the relevant contact's number and details, and the radio channel.⁸⁸⁰
115. While travelling to the Adaminaby tasking, in the radio communication between pilots, B134 told B137 that they had only been provided with the coordinates of the Fire, the common traffic advisory frequency and the radio channel.⁸⁸¹
116. The ARENA dispatch notification for the tasking of B134 to Adaminaby was received by the Richmond Airbase at 1:13pm, only minutes before B134 crashed at the Good Good fireground.⁸⁸²

Deficiencies in the information provided to aircrafts

117. Mr Dugan and Mr Coward summarised that some of the critical information that was not provided to aircrafts on 23 January 2020 included:
- that aircraft in the local area were grounded due to concerns about the hazardous weather;
 - details of relevant contacts for firegrounds;
 - information about targets for protection and other resources responding to the incident.
118. It was emphasised by Mr Dugan and Mr Coward that the information provided to them by tasking agencies was relevant not only to their decisions to accept or reject taskings, but also to their decision-making at the fireground.⁸⁸³
119. It is acknowledged that the RFS is not an aviation agency. It is also acknowledged that it does not appear that the pilots who participated in these inquests, their employers or any other agency previously raised with the RFS the issues which have now been examined and scrutinised.
120. With this in mind, I consider there is a clear need for RFS systems of communication and information provided to aircrafts to be improved.
121. The RFS appropriately conceded that there was further information that could have been provided to the crew of B134, however qualified that nonetheless B134 was provided sufficient information to enable its crew to make an informed decision regarding its taskings.⁸⁸⁴
122. It can be concluded that B134 had sufficient information to enable the pilot-in-command to make an informed decision to proceed with the tasking at the Good Good fireground on 20 January 2023, despite the deficiencies in the information that was provided to crew. This is able to be concluded from the actions of B134 at the fireground, in undertaking the three circuits before proceeding with the tasking in dropping fire retardant. The Court heard clear evidence that pilots-in-command are ultimately responsible for the safety of their crew and able to decline or discontinue taskings at any time, including if they consider they do not have sufficient information to safely proceed,⁸⁸⁵ as evidenced by the crew of B134's actions in electing to not continue with the tasking at Adaminaby.
123. However, it remains necessary and desirable for systems of communication to be improved. The RFS has a responsibility to provide aircrafts with the relevant information it holds in relation to taskings to assist with crews making safe and effective decisions in aerial firefighting.

⁸⁷⁸ Exhibit 66, Brief of Evidence at p. 2195.

⁸⁷⁹ Transcript for 21 March 2023 T 1005.

⁸⁸⁰ Transcript for 21 March 2023 T 1060.

⁸⁸¹ Transcript for 21 March 2023 T 1060, 1061; Exhibit 66, Brief of Evidence at p. 1253.

⁸⁸² Exhibit 66, Brief of Evidence at p. 793.

⁸⁸³ Transcript for 21 March 2023 T 1000, 1008.

⁸⁸⁴ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [15], [18].

⁸⁸⁵ Transcript for 27 March 2023 T 1199:40.

124. The Court heard that pilots could be assisted by being provided the following information when tasked (or re-tasked) by the RFS:
- a. weather forecast for the tasking area, including fire danger and expected winds;⁸⁸⁶
 - b. any local area assets' rejections of taskings, where the reasons for the rejection of tasking would be relevant to other aircraft;⁸⁸⁷
 - c. any reports received from the local area, including information from other aircraft and ground crews as to conditions such as wind conditions and visibility;
 - d. any known hazards;⁸⁸⁸
 - e. contact details (including phone numbers and radio frequencies) for the fireground or target, as well as other aircrafts assigned to the incident;⁸⁸⁹
 - f. summary of assets in the area, including ground crew and other aircraft, and the status of those assets;⁸⁹⁰
 - g. targets or mission intent locations in formats that can be used by aircrafts, assets for protection and strategy for aerial operations to support the fireground;⁸⁹¹
 - h. fire status and condition;
 - i. air space, temporary flight restrictions and airport closures;⁸⁹² and
 - j. information on incidents in surrounding areas.⁸⁹³
125. The RFS largely agreed with the proposed recommendation that pilots are to be provided with the above information when tasked or re-tasked.⁸⁹⁴
126. Where this information was the subject of particular evidence in relation to the events of 23 January 2020, this has been examined below.

Local weather data

127. As part of preparation of their flight plans, aircraft crews access data on the weather conditions in the local area of their taskings.⁸⁹⁵ This weather information is limited to local area forecasts and terminal area forecasts (being forecasts within 5 nautical miles of an airport or aerodrome), and often firegrounds are not located within these areas where weather data is available.⁸⁹⁶ Likewise, forecasts do not contain low-level wind data.⁸⁹⁷
128. If a tasking or re-tasking is received while an aircraft is flying, the same access to weather data may not be available due to issues with connectivity.⁸⁹⁸
129. It was emphasised that weather information obtained on-scene is of crucial importance, whether it be weather information from local pilots or by crews proceeding to the area to observe conditions themselves.⁸⁹⁹

⁸⁸⁶ Transcript for 21 March 2023 T 1020; Exhibit 66, Brief of Evidence at p. 1247.

⁸⁸⁷ Transcript for 21 March 2023 T 1007.

⁸⁸⁸ Transcript for 21 March 2023 T 998, 1001; Exhibit 66, Brief of Evidence at pp. 1246–1247.

⁸⁸⁹ Transcript for 21 March 2023 T 1006–8; Exhibit 66, Brief of Evidence at p. 1247.

⁸⁹⁰ Transcript for 21 March 2023 T 1006.

⁸⁹¹ Transcript for 21 March 2023 T 1008.

⁸⁹² Exhibit 66, Brief of Evidence at p. 1247.

⁸⁹³ Transcript for 22 March 2023, T 1094.

⁸⁹⁴ Submissions on behalf of the NSW Rural Fire Service at [31].

⁸⁹⁵ Transcript for 21 March 2023 T 1020.

⁸⁹⁶ Transcript for 20 March 2023 T 946; Transcript for 22 March 2023 T 1086.

⁸⁹⁷ Transcript for 20 March 2023 T 946.

⁸⁹⁸ Transcript for 21 March 2023 T 1020.

⁸⁹⁹ Transcript for 22 March 2023 T 1087–9, 1098.

130. While it remains the responsibility of crews to assess weather conditions for their taskings, agencies can play a role in assisting pilots in providing any relevant weather information that is known to them. The RFS is often in a unique and invaluable position to communicate and convey weather information over firegrounds to pilots.

Rejection of taskings by other aircraft and reasons for those rejections

131. In January 2020, the RFS did not have policies or procedures in place to manage aircraft tasking rejections or any procedures requiring that tasking rejections were communicated internally or to other pilots.⁹⁰⁰
132. On 23 January 2020, the RFS were aware that local aircraft had been grounded due to unsuitable weather and poor visibility as early as 10:00am.⁹⁰¹ However, this was not conveyed to the Richmond ABMs and, in turn, the crews of B134, B137 and the Birddog at the time they were tasked to this area.⁹⁰²
133. In addition, the Cooma ARO told the Court that approximately eight aircraft had told him that it was not safe to fly because of the weather conditions.⁹⁰³
134. The grounding of local aircraft due to unsuitable weather and poor visibility was particularly significant information to Mr Dugan, who told the Court had he known that information, he would have refused the tasking to Adaminaby.⁹⁰⁴
135. It was after B137 had arrived at Adaminaby that Mr Dugan learnt that no aircraft were operating in the area.⁹⁰⁵ Mr Dugan conveyed this to B134.⁹⁰⁶
136. Cooma ARO, Mr Harder, told the Court that he was “*reasonably sure*” that he had conveyed to B137 the reason that local area aircraft were grounded.⁹⁰⁷ Mr Harder’s evidence in this respect conflicts with Mr Dugan’s. Mr Dugan had a clear recollection that he was not informed by the RFS of the reason why aircraft were not flying in the Adaminaby region.⁹⁰⁸ Mr Dugan impressed as credible and confident in his evidence, however I do not consider it necessary to resolve this inconsistency.
137. Mr Coward advised that decisions made by local area aircraft to reject taskings would be a critical piece of information which informed his risk assessment for flights.⁹⁰⁹ Mr Coward noted that it was especially important that task rejections be conveyed to other aircrafts where those crews were expecting their attendance at an incident.⁹¹⁰
138. It is apparent that the grounding of aircraft due to dangerous weather was important information to pilots, notwithstanding that aircrafts have varying performance capabilities and differing abilities to undertake taskings in adverse conditions. Mr Coward used the example of helicopters to explain that a tasking rejection by a helicopter pilot due to weather conditions would be indicative of unsuitable conditions at the low-level environment, similar to that flown by LATs to drop fire retardant.⁹¹¹
139. The grounding of local aircraft due to hazardous weather on 23 January 2020 was particularly significant information to Mr Dugan who told the Court said that local assets provide an invaluable source of information going to the local terrain, conditions and hazards.⁹¹² Mr Dugan said that had he known that information, he would have refused the tasking to Adaminaby.⁹¹³

⁹⁰⁰ Exhibit 66, Brief of Evidence at p. 992.

⁹⁰¹ Exhibit 66, Brief of Evidence at p. 498.

⁹⁰² Transcript for 21 March 2023 T 1058-9, 1074; Transcript for 22 March 2023, T 1087.

⁹⁰³ Transcript for 22 March 2023 T 1118-9.

⁹⁰⁴ Transcript for 21 March 2023 T 1010.

⁹⁰⁵ Exhibit 66, Brief of Evidence at p. 1251.

⁹⁰⁶ Exhibit 66, Brief of Evidence at p. 1253.

⁹⁰⁷ Transcript for 22 March 2023 T 1127-9; Exhibit 66, Brief of Evidence, Tab 43A.

⁹⁰⁸ Transcript for 21 March 2023 T 1010, 1012.

⁹⁰⁹ Transcript for 22 March 2023 T 1088.

⁹¹⁰ Transcript for 22 March 2023 T 1090-1, 1110.

⁹¹¹ Transcript for 22 March 2023 T 1088-9, 1104.

⁹¹² Transcript for 21 March 2023 T 1008, 1010.

⁹¹³ Transcript for 21 March 2023 T 1010.

140. The RFS submitted that Mr Dugan's comments proceeded on a misunderstanding of the circumstances of the grounding of assets at Adaminaby.⁹¹⁴ It was noted that local assets had been grounded by the IMT after the pilots had launched, observed the fireground, and then returned to Cooma Airbase.⁹¹⁵ It was said that this was the same task that B137 and B134 also undertook, being observing the Adaminaby fireground and assessing whether conditions were appropriate for their aircraft.⁹¹⁶
141. Irrespective of the circumstances and events leading to the grounding of aircraft at Adaminaby on 23 January 2020, there is compelling evidence going to the usefulness of pilots being advised of the status of local area aircraft. Tasking rejections are likely to be known by the RFS soon to immediately after a pilot rejects or declines to proceed with the tasking. Where the reason for rejection of that tasking would be relevant to other aircraft, it is desirable that the tasking rejection and reason is conveyed to other pilots proceeding to that area.
142. The RFS has taken steps since the 2019/2020 season, by way of updates to their policies and procedures, to ensure that this information is recorded and conveyed.⁹¹⁷ To add to these useful steps, I consider it necessary for tasking rejections to record the reason why that tasking was declined.

CONCLUSION

I consider it necessary and desirable to make the following Recommendation in order to improve the process by which tasking rejections are recorded and communicated:

To the Commissioner of the NSW Rural Fire Service

Recommendation 4:

The NSW Rural Fire Service amend its Operational Management Procedure: Rejection of Aviation Dispatch/Tasking to consistently record that, as well as a tasking rejection, the reason for the tasking rejection is to be communicated by the State Air Desk to other aircraft tasked, or likely to be tasked, to that region

143. The Court heard that in practice, these updates to RFS procedures require the SAD to communicate the tasking rejection to the AOM, who would then advise the ABMs, who could advise pilots.⁹¹⁸ This lengthy chain of communication is prone to inefficiencies and inadvertent information gaps. As discussed below, it is important for the RFS to consider how these chains of communication may be improved.

Centralised system for recording tasking rejections

144. It was suggested that there may be some benefit in the RFS considering whether tasking rejections and the reasons for rejections could be recorded in a centralised system.⁹¹⁹
145. Currently, tasking rejection information is recorded by the RFS in its information management system, ICON.⁹²⁰ This is not able to be accessed by pilots, nor (based on the evidence provided in these inquests and throughout the 2019/2020 Black Summer Bushfires Coronial Inquiry) does it appear that enabling pilots access to ICON would have practical benefit.⁹²¹
146. I agree with the submission made by the RFS that the updates to its policies, along with the recommendations made in relation to these inquests, provide procedures for the communication of tasking rejections to pilots allocated to or operating on the nominated fire without necessitating any recommendation to be directed to the use of a centralised system for this purpose.

⁹¹⁴ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [19].

⁹¹⁵ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [19].

⁹¹⁶ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [19].

⁹¹⁷ Exhibit 66, Brief of Evidence at p. 1117, p. 1147-1148.

⁹¹⁸ Transcript for 27 March 2023 T 1224.

⁹¹⁹ Submissions on behalf of Counsel Assisting (2 May 2023) at [138].

⁹²⁰ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [36].

⁹²¹ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [36]; Transcript for 20 March 2023 T 992; Transcript for 27 March 2023 T 1217.

Incidents in surrounding areas

147. Mr Coward told the Court that it would be useful to have information on current incidents in areas surrounding taskings and the Airbase, rather than being provided only with information about the particular tasking incident.⁹²² The RFS do not consider that it would be practical or necessarily helpful to provide this information, depending on the number of surrounding incidents.⁹²³
148. I understand Mr Coward's evidence in this respect to be motivated by a desire for greater situation awareness and flow of information from the RFS to pilots. In light of the other proposed recommendations in this area, I do not consider that a recommendation specifically directed to this type of information is necessary.

Contact details

149. On 23 January 2020, B137 was not provided with any contact details for ground crews or the person in charge for the Adaminaby fireground.⁹²⁴ Mr Dugan told the Court that he had to call different FCCs in order to find the relevant contact, and he was unable to clarify the area of the Fire or what targets required protection.⁹²⁵ Mr Coward added that throughout the 2019/2020 season, it could be a "chore" to find out this information, and it would sometimes take up to 45 minutes to locate the relevant contact to coordinate operations.⁹²⁶
150. These difficulties experienced by the pilots are alarming, not only from an operational and safety perspective, but also because the contact details of the AOMs and the relevant FCCs would be known by the RFS at the time of tasking aerial resources to respond to incidents.

CONCLUSION

I consider it necessary and desirable to make the following Recommendation in order to improve RFS communication systems and the sharing of information:

To the Commissioner of the NSW Rural Fire Service

Recommendation 5:

Policies/procedures be developed to ensure that pilots are provided with the following information:

- a. *weather forecast for the shift or tasking area, including fire danger and expected winds;*
- b. *any local area assets' rejections of taskings, where the reasons for the rejection of tasking would be relevant to other aircraft;*
- c. *any reports received from the local area, including information from other aircraft and ground crews as to conditions such as wind conditions and visibility;*
- d. *any known hazards;*
- e. *contact details (including phone numbers and radio frequencies) for the fireground or target, as well as other aircrafts assigned to the incident;*
- f. *summary of assets in the area, including ground crew and other aircraft, and the status of those assets;*
- g. *targets or mission intent and locations in formats that can be used by aircrafts, assets for protection and strategy for aerial operations to support the fireground;*
- h. *fire status and condition; and*
- i. *air space, temporary flight restrictions and airport closures.*

⁹²² Transcript for 22 March 2023 T 1094.

⁹²³ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [31](e).

⁹²⁴ Transcript for 21 March 2023 T 1009; Exhibit 66, Brief of Evidence at p. 1249.

⁹²⁵ Transcript for 21 March 2023 T 1011.

⁹²⁶ Transcript for 22 March 2023 T 1098.

Information provided in daily briefings

151. The Court heard that there was a lack of consistency in the information provided in the morning briefings delivered by ABMs.⁹²⁷ It was said that the morning briefings went ‘hand-in-hand’ with assisting pilots make decisions and prepare their flights plans and risk assessments.⁹²⁸
152. The Court heard that briefings for fire seasons in other jurisdictions would include information as to fire damage, expected winds, airspace restricted areas, temporary flight restrictions, current incidents and expected taskings.⁹²⁹
153. It is recognised that the RFS is supported by a number of volunteers who have varying skills and experience in the areas in which they assist the RFS. This enhances the need and usefulness for standardised procedures to guide RFS officers in providing aerial crews with consistent information.

Incident Action Plans

154. The Court heard that other jurisdictions utilise specialised IAP to provide standard information with aircraft taskings, including details of resources assigned to incidents, strategies, tactics, radio frequencies and contacts for relevant areas.⁹³⁰ A copy of an IAP used by Californian fire agency, CAL Fire, is included in the brief of evidence.⁹³¹
155. While IAPs will likely be created some hours before aircraft taskings are distributed and therefore are not able to reflect the most up-to-date information, they are able to contain key details such as phone numbers and radio frequencies.
156. IAPs are generated and used frequently by the RFS in bushfire management. I consider that modifying and providing this document to aircrafts with taskings would be a useful and practical extension of existing RFS processes, which would enhance the exchange of information between the agency and pilots. While IAPs would likely be generated some time before taskings are determined and finalised, they would likely contain important and useful information particularly in relation to prolonged fire incidents where aircrafts may be deployed.

CONCLUSION

I agree with Counsel Assisting’s proposal for the RFS to provide any available IAPs for relevant incidents to pilots. I note that the RFS supported this proposed Recommendation:

To the Commissioner of the NSW Rural Fire Service

Recommendation 6:

Pilots be provided with any current Incident Action Plans for any fire to which they are tasked.

Such Incident Action Plans is to include at a minimum:

- a. *contact details (including phone numbers and radio frequencies) for the tasking fireground or target; and*
- b. *contact details for other aircraft assigned to the incident.*

⁹²⁷ Transcript for 21 March 2023 T 1005, 1023; Transcript for 22 March 2023 T 1092-3, 1095.

⁹²⁸ Transcript for 22 March 2023 T 1102-3.

⁹²⁹ Transcript for 22 March 2023 T 1094.

⁹³⁰ Transcript for 22 March 2023 T 1089, 1093.

⁹³¹ Exhibit 66, Brief of Evidence at p. 2420.

Chain of communication

157. The chain of communication for the tasking of LATs and other aircraft involves numerous individuals.
158. Within the IMT is the:
- a. AOM, who is responsible for:
 - i. coordinating and managing aerial resources in relation to a particular incident; and
 - ii. implementing the air operations part of the IAP;
 - b. Aircraft Officer, who:
 - i. reports to the AOM; and
 - ii. maintains communication with the AAS and ABM; and
 - c. ARO, who communicates directly with the aircraft.
159. Alongside this, ABMs are responsible for the operation of their assigned airbase and the provision of information to pilots, including ensuring that they are briefed and debriefed.
160. Once in the air, the majority of aircrafts' communication (assuming there is no AAS operational) is with the ARO or the ABMs. Information comes to them from further up the chain within the IMT (for the ARO) and the SAD (for the ABMs).
161. Given the number of parties in the multilayered communication chains used by the RFS, it is unsurprising that there were communication difficulties and issues with sharing information. There was confusion by some RFS members as to who was able to communicate directly with aircraft crews.⁹³² Mr Dugan referred to the American pilots having to resort to 'underground' channels (understood to mean private channels, for example text messages) to exchange information, such as relevant contacts for incidents.⁹³³
162. There have been some updates to RFS communication systems since the 2019/2020 bushfire season. The SAD now participates in morning briefings with operational LAT bases.⁹³⁴ The introduction of the LAT Coordinator is likely to expedite and improve communication systems with LAT pilots. However, the RFS acknowledged that pilots' communication remains initially directed to the ABMs,⁹³⁵ and it is their view that communications should continue to be directed through the ABMs (although this does not inhibit pilots and the LAT coordinator communicating with each other should circumstances require).⁹³⁶

CONCLUSION

I consider that there is a need for the RFS to consider what additional improvements can be made to their communication systems and processes.

I accept that after a consultation process, the RFS will be in a better position to determine whether communication systems require further refinement.

To the Commissioner of the NSW Rural Fire Service

Recommendation 7:

The NSW Rural Fire Service, in consultation with stakeholder representatives, consider what improvements may be possible with communication systems and processes between aircraft, incident ground resources, Incident Management Teams and the State Air Desk.

⁹³² The evidence of one DIC was that the main flow of communication was between the SAD and aircrafts, however other evidence indicates that SAD communication with aircraft was via the ABMs (Transcript for 22 March 2023, T 1152). Likewise, it was unclear whether the AOM could communicate directly with aircrafts.

⁹³³ Transcript for 22 March 2023 T 1098.

⁹³⁴ Transcript 27 March 2023 T 1217.

⁹³⁵ Transcript 27 March 2023 T 1216.

⁹³⁶ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [39].

163. It was also proposed that roles on the SAD could be separated into regions or divisions to assist with creating more detailed situation awareness and simplifying communication channels.⁹³⁷ The LAT Coordinator would maintain state-wide situational awareness for those aircraft. The RFS agreed with this proposed recommendation for days of heightened fire activity where resources are available.⁹³⁸

CONCLUSION

I am persuaded that the proposed Recommendation is necessary and desirable to enhance efficiency of communication systems:

To the Commissioner of the NSW Rural Fire Service

Recommendation 8:

On days of heightened fire activity across the State, resources be made available so that the State Air Desk can be organised such that there are duty and aviation officers assigned to specific regions (for example, Central/Metro, Southern, Northern, Western).

Culture

ISSUE 5

Whether the organisational culture and relationship between fire agencies and contracted aviation services unduly influences service demands.

164. There was suggestion that there may be influence exerted by aviation operators or contractors over pilots which unduly influenced services, namely encouraging an attitude to “*perform at all costs*” and “*continue emergency service operations in adverse conditions*”.⁹³⁹
165. Coulson produced to the Court its Employment Agreements for Rick, Paul and Ian, as well as the contract for services between the NAFC and Coulson.⁹⁴⁰ These documents make clear that pilots are paid annual salaries, and not a rate dependent on time spent flying, therefore removing any overt influence to accept or continue taskings for financial benefit.
166. Mr Gallaher confirmed that Coulson always supports any decision by pilots to reject or not perform a retardant drop for safety reasons.⁹⁴¹ Mr Gallaher impressed as a genuine and sincere witness and his evidence in this respect accords with that of the employees of Coulson.
167. The Court heard from two experienced aerial firefighters, Mr Dugan and Mr Coward, who both denied that they felt pressure from their respective employers to accept or continue taskings, nor would they be impacted financially by rejecting a tasking.⁹⁴² Nor does the evidence before the Court support any inference that pilots would face such repercussions.

⁹³⁷ Transcript for 21 March 2023 T 1045.

⁹³⁸ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [42].

⁹³⁹ Exhibit 66, Brief of Evidence at p. 2346, 2354.

⁹⁴⁰ Exhibit 66, Brief of Evidence at p. 2188-2, 2188-5, 2188-9.

⁹⁴¹ Exhibit 66, Brief of Evidence at p. 1289-e.

⁹⁴² Transcript for 21 March 2023 T 1003, 1022; Transcript for 21 March 2023, T 1003-4; Transcript for 22 March 2023 T 1101.

168. Both Mr Dugan and Mr Coward raised concerns about perceived pressure from the RFS to respond to fire emergencies.⁹⁴³ It was said that there was a desire for LATs to be launched “*just for the optics of flying*” as a visible RFS response to emergencies,⁹⁴⁴ and that there were occasions where aircraft would be launched to attend incidents where weather conditions, although not unsafe, meant that pilots assessed there to be limited utility or benefit to the taskings due to operational limitations.⁹⁴⁵ Both Mr Dugan and Mr Coward agreed that they understood that it was their prerogative to cancel a tasking at any time and there would be no adverse repercussions from the RFS.⁹⁴⁶
169. I appreciate the concerns raised by Mr Dugan and Mr Coward, particularly given that the inefficient (or perceived inefficient) use of resources can lead to fatigue.⁹⁴⁷ As has been explored throughout these Inquiry proceedings, it is uncontroversial that the efficient use of resources is desirable and to the benefit of individuals, fire agencies and the community.

CONCLUSION

I do not consider it necessary to make any recommendations in respect of the organisational culture or relationship between fire agencies, contractors, and aviation officers.

For clarity, I do not consider there is any undue influence (financial or otherwise) placed on pilots or aviation operators to accept or continue with unsafe taskings. The evidence does not support such suggestion and it was not the experience of the pilots who appeared before the Court.

Other

Training

170. The Court heard that aerial firefighters who assist the RFS during bushfire seasons are often residents of countries other than Australia (such as Canada and America), and their experience working within Australia may be limited. Unsurprisingly, the RFS utilise systems and procedures different to those used by other firefighting agencies internationally.⁹⁴⁸
171. It appears that, at least ahead of the 2019/2020 bushfire season, pilots contracted by the RFS underwent limited to no RFS training ahead of working through the season.
172. I agree with the evidence of the pilots who appeared before the Court that it would be beneficial for pilots contracted by the RFS to undertake inductions or briefings administered by the RFS going to their systems and processes ahead of each bushfire season.⁹⁴⁹
173. It was likewise suggested that the RFS could conduct training simulations for its management and decision-makers to address potential issues in a controlled environment. Acknowledging the varying expertise of RFS employees and volunteers, as well as the number of improvements which can be implemented in relation to the use of firefighting aircraft as discussed elsewhere in these reasons, I consider that it would be beneficial for the RFS to increase the training offered in respect of aerial resources.
174. I note that save for minor suggestions regarding phrasing, the RFS agreed with the proposed Recommendations in relation to further training.⁹⁵⁰

⁹⁴³ Transcript for 21 March 2023 T 1002; Exhibit 66, Brief of Evidence at p. 1246.

⁹⁴⁴ Transcript for 21 March 2023 T 1003; Transcript for 22 March 2023, T 1095.

⁹⁴⁵ Transcript for 22 March 2023 T 1096.

⁹⁴⁶ Transcript for 21 March 2023 T 1022:5.

⁹⁴⁷ Transcript for 22 March 2023 T 1096, 1104-5.

⁹⁴⁸ See, for example, the evidence of Mr Dugan: Transcript for 21 March 2023 T 999.

⁹⁴⁹ Transcript for 21 March 2023 T 999; Transcript for 22 March 2023 T 1097. Transcript for 27 March 2023 T 1192.

⁹⁵⁰ Submissions on behalf of the NSW Rural Fire Service (23 May 2023) at [43]-[45].

CONCLUSION

I consider the following Recommendations are necessary and desirable in the context of this matter:

To the Commissioner of the NSW Rural Fire Service

Recommendation 9:

The NSW Rural Fire Service conduct pre-season briefings/inductions with pilots in respect of NSW Rural Fire Service communications and NSW Rural Fire Service operational functions and capabilities.

To the Commissioner of the NSW Rural Fire Service

Recommendation 10:

The NSW Rural Fire Service conduct training simulations for its officers of potential situations where aerial firefighting aircraft will need to be dispatched, with an aim to educate regarding tasking, decision-making and communication.

Windshear detection systems

175. There was some evidence before the Court going to the effectiveness and potential for improved safety outcomes from the use of windshear detection systems in firefighting aircraft.⁹⁵¹
176. The crew of B134, as former military officers, would have undertaken windshear-simulated training in the year prior to the accident,⁹⁵² and had implemented some windshear recovery procedures when exiting the jettison run on 23 January 2020.⁹⁵³ There was evidence challenging the usefulness of windshear detection systems in firefighting aircrafts given the environments and patterns they typically fly in.⁹⁵⁴ There were also questions regarding whether some aerial firefighting aircraft would be able to be fitted with windshear detection systems.⁹⁵⁵
177. I agree with the submission of Counsel Assisting that the evidence does not give rise to the need for any recommendations in this respect.

⁹⁵¹ Exhibit 66, Brief of Evidence at p. 296; Transcript for 27 March 2023 T 1190; Transcript for 27 March 2023 T 1191; Transcript for 21 March 2023 T 1013, 1032, 1035.

⁹⁵² Transcript for 27 March 2023 T 1190.

⁹⁵³ Transcript for 27 March 2023 T 1202.

⁹⁵⁴ Transcript for 27 March 2023 T 1181, 1191; Transcript for 21 March 2023, T 1013, 1032.

⁹⁵⁵ Exhibit 66, Brief of Evidence at p. 228; Transcript for 21 March 2023 T 1035; Transcript for 27 March 2023 T 1191.

Section 81 Findings

178. As a result of considering all of the documentary evidence and the oral evidence given at the inquests, the Findings I make under section 81(1) of the Act are:

Rick Allen DeMorgan Jr

The identity of the deceased

The person who died was Rick Allen DeMorgan Jr.

Date of death

Rick died on 23 January 2020.

Place of death

He died on a private property located at 2311 Peak View Road, Peak View.

Cause of death

The medical cause of death was unable to be ascertained.

Manner of death

Rick died when the aircraft on which he was flight engineer was likely affected by a sudden and significant wind event, entered an aerodynamic stall, and collided with terrain whilst engaged in aerial firefighting efforts to assist suppression of a fire known as the Good Good Fire.

Paul Hudson

The identity of the deceased

The person who died was Paul Hudson.

Date of death

Paul died on 23 January 2020.

Place of death

He died on a private property located at 2311 Peak View Road, Peak View.

Cause of death

The medical cause of death was unable to be ascertained.

Manner of death

Paul died when the aircraft on which he was co-pilot was likely affected by a sudden and significant wind event, entered an aerodynamic stall, and collided with terrain whilst engaged in aerial firefighting efforts to assist suppression of a fire known as the Good Good Fire.

Ian McBeth

The identity of the deceased

The person who died was Ian McBeth.

Date of death

Ian died on 23 January 2020.

Place of death

He died on a private property located at 2311 Peak View Road, Peak View.

Cause of death

The medical cause of death was unable to be ascertained.

Manner of death

Ian died when the aircraft on which he was pilot was likely affected by a sudden and significant wind event, entered an aerodynamic stall, and collided with terrain whilst engaged in aerial firefighting efforts to assist suppression of a fire known as the Good Good Fire.

Conclusion

179. I wish to express my gratitude to those who provided information to the Court to assist with these inquests, particularly those witnesses and family members who travelled internationally or joined remotely from overseas locations.
180. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Rick, Paul and Ian's families and loved ones, friends, and communities for their losses.
181. At the conclusion of the evidence in the inquests, Rick and Ian's families provided statements to the Court to help us understand their lives and the impact of their passing. These statements are reproduced in Part 7 – Testimonials.
182. I also thank Noreen Hudson who attended the inquest in-person and provided helpful assistance and contributions in respect of the inquest into her husband, Paul.

23. Creewah Cluster of Fires

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Creewah Cluster of Fires.

Introduction

2. The Creewah Cluster of Fires consisted of three fires that started in relative proximity to each other in the far south of New South Wales in late January 2020.
3. The Creewah Road, Glen Allen Fire (also known as the Creewah Fire) originated in the Snowy Monaro LGA, very close to its border with the Bega Valley Shire LGA. This Fire burned in an area encompassed primarily within the lands of the Ngarigo and Yuin people for approximately five and a half weeks, between late January and early March 2020, and damaged an area of approximately 9,300 hectares. The damage caused by the Fire included the destruction of around nine homes and outbuildings, with a further six partially damaged.
4. The Postmans Trail, Tantawangalo Fire (also known as the Postmans Trail Fire) originated in the Bega Valley Shire LGA. The Postmans Trail Fire was initially treated as part of the Creewah Fire, but it was later recorded by the RFS as an independent fire for operational reasons, being that it was burning in the Bega Valley Shire, as opposed to the Snowy Monaro region where the Creewah Fire was burning. The fire burned for a period of six weeks, damaging an area of around 12,200 hectares and damaging or destroying approximately 21 structures.
5. The Big Jack Mountain Road, Cathcart Fire (also known as the Big Jack Mountain Fire) also originated in the Bega Valley Shire LGA. This Fire was first discovered on the same date and burning in close proximity to the Creewah Fire. The Big Jack Mountain Fire burned for approximately six weeks and damaged an area of approximately 19,600 hectares. Over 100 structures were destroyed or damaged primarily located at Wyndham, Rocky Hall, Mount Darragh and Devils Hole.
6. All three fires ultimately merged forming one larger, continuous area of fire, named the 'Creewah Cluster of Fires'.⁹⁵⁶

⁹⁵⁶ Exhibit 60A, Brief of Evidence at p. 3.

7. The below image created by the NSWPF shows the impacted area of the Creewah Cluster Fire and affected properties:⁹⁵⁷



Chronology of events

8. A TOBAN declaration was in force for 23 January 2020 for parts of Southern NSW, including the Far South Coast region due to forecasted unfavourable weather conditions.⁹⁵⁸

Big Jack Mountain Fire ignition

9. The earliest report of fire that led to the Creewah Cluster of Fires was received at 7:50am on 23 January 2020, when a concerned member of the public called 000 and reported seeing smoke in an area of Big Jack Mountain Road near Rocky Hall. This was followed by four other triple zero calls that morning.⁹⁵⁹
10. RFS ground crews responded promptly and discovered the Fire to be moving quickly in an easterly to south-easterly direction.⁹⁶⁰

⁹⁵⁷ Exhibit 60A, Brief of Evidence at p. 9.

⁹⁵⁸ Exhibit 60A, Brief of Evidence at p. 128–129.

⁹⁵⁹ Exhibit 60A, Brief of Evidence, Tab 18.

⁹⁶⁰ Exhibit 60A, Brief of Evidence at p. 84 [46].

Creewah Fire ignition

11. At around 11:17am on 23 January 2020, Essential Energy recorded a power failure in the vicinity of Creewah Road, Creewah, within the Snowy Monaro LGA.⁹⁶¹ Essential Energy crews attended the scene at Creewah Road and “isolated line for RFS”.⁹⁶²
12. Around midday, Mr Peter Duncan, Captain of the Creewah RFS, deployed after he was advised of the location of the Fire by a neighbour.⁹⁶³ Upon arriving, he observed fire on both sides of Creewah Road. According to his report, Mr Duncan did not see any power lines that had come down, as they were over the hill from where he was standing.⁹⁶⁴
13. This Fire was first reported to the RFS at 12:05pm.⁹⁶⁵
14. Mr Richard Blyton, a RFS volunteer, arrived at the scene at about 1:00pm and observed that one tree had fallen, breaking a single powerline and pulling another under the head of the tree.⁹⁶⁶

Postmans Trail Fire ignition

15. At 7:40pm on 23 January 2020, a separate area of fire was detected by a RFS linescan approximately two kilometres to the east-southeast of the Creewah Fire. Given the prevailing weather conditions and proximity to the Creewah Fire, this separate fire was initially understood by the RFS to be the result of spotting from the Creewah Fire.⁹⁶⁷
16. Over the coming days, the Postmans Trail Fire was operationally managed by the RFS as part of the Creewah Fire. However, on 26 January 2020, it was reclassified and renamed the Postmans Trail Fire in order to facilitate a more effective response from the RFS, allowing different IMTs to respond to the Fires which then burned across two LGAs.⁹⁶⁸

Combined progression of fires

17. Under the prevailing weather conditions, the three fires each spread considerable distances and became rapidly established on the day of ignition (23 January 2020).
18. In the following days the rate of spread of the Fires slowed significantly to a daily rate of between one and two kilometres in various directions. This remained the case between 24 and 30 January 2020.
19. On 31 January 2020, unfavourable weather conditions caused all three fires make significant runs. On this day, the Creewah Fire and the Postmans Trail Fire physically merged and formed a single fire.
20. The following day, on 1 February 2020, the Fires again made significant runs. The Big Jack Mountain Fire coalesced with the already joined Creewah and Postmans Trail Fires. The fire then spread large distances of up to 13 kilometres in the course of the day.
21. The progression of the Creewah Cluster Fire again slowed thereafter. The rate of spread dropped to distances of less than one kilometre per day and by around 8 February 2020, following the impact of rainfall across the fireground, the Fire stopped growing altogether.
22. Despite the fact the Fires had merged into one, they were never administratively merged within ICON and they were managed by the RFS as separate fires for operational reasons. This also meant that they were declared ‘Out’ at different times. The Creewah Fire was eventually declared ‘Out’ on 2 March 2020,⁹⁶⁹ and the Big Jack Mountain and Postmans Trail Fires were declared ‘Out’ two days later on 4 March 2020.⁹⁷⁰

⁹⁶¹ Exhibit 60A, Brief of Evidence at p. 83.

⁹⁶² Exhibit 60A, Brief of Evidence at p. 74.

⁹⁶³ Exhibit 60A, Brief of Evidence at p. 89.

⁹⁶⁴ Exhibit 60A, Brief of Evidence at p. 89.

⁹⁶⁵ Exhibit 60A, Brief of Evidence at p. 102.

⁹⁶⁶ Exhibit 60A, Brief of Evidence at p. 89.

⁹⁶⁷ Exhibit 60A, Brief of Evidence at p. 132.

⁹⁶⁸ Exhibit 60A, Brief of Evidence at p. 138.

⁹⁶⁹ Exhibit 60A, Brief of Evidence at p. 20.

⁹⁷⁰ Exhibit 60A, Brief of Evidence at p. 132.

Cause and origin

23. The investigations into the causes and origins of the Creewah, Big Jack Mountain and Postmans Trail Fires were significantly delayed, and in some instances did not occur at all. Because of these issues, the Creewah Cluster of Fires was the subject of the Stage 2 inquiry into the investigation of fires by the RFS (this is addressed separately in Volume 2, Part 10, Section 1).

Creewah Fire

24. The Court received evidence from several investigators and responders to the Creewah Cluster Fire.
25. RFS AFI Rein Peet conducted a cause and origin investigation into the Creewah Fire on 16 April 2020.⁹⁷¹ During his investigation, and despite the passage of time, Mr Peet observed macro indicators (such as angle of char and sooting) which he was able to track back to a point where two trees had fallen.
26. Mr Peet reported that one tree looked like it had been pushed over by heavy earth moving machinery, likely in the aftermath of the Fire and possibly during firefighting efforts. A second tree looked like it had fallen by natural means (the root plate was exposed), but showed no signs of lightning strike. Its branches had been trimmed by chainsaw. This observation, along with the presence of broken metal conductor brackets around a power pole approximately 30 metres to the south (referred to as Pole 94), led Mr Peet to conclude that *“the fallen tree made contact with power lines, breaking one of the power lines and damaging the nearby power pole cross arm and metal brackets”*.⁹⁷²



Reference: D004

Description: Power line easement facing the South. Two fallen tree's shown in centre of photo. Closest tree fell naturally over power line. Furthestmost tree fell at a later date, marking on the ground were consistent with the tree being pushed over by heavy earth moving machinery. Power pole number 1227/99/94 can be seen immediately behind the fallen trees.

27. After eliminating other common causes of bushfire ignition, relying on his scene examination, and reviewing secondary records relating to the power failure, Mr Peet concluded in his Fire Investigation Report that the Fire was the result of *“arcing electrical wires from a fallen tree”*.⁹⁷³

⁹⁷¹ Exhibit 60A, Brief of Evidence at p. 85; Transcript for 29 June 2022 T 472:7-8.

⁹⁷² Exhibit 60A, Brief of Evidence at p. 73.

⁹⁷³ Exhibit 60A, Brief of Evidence at p. 85.

28. Despite this conclusion, in his oral evidence Mr Peet said:⁹⁷⁴
- It was purely on the canvassing reports and also from Essential Energy that one wire was on the ground underneath that, if I can call that the closest tree. I'm referring to D004.⁹⁷⁵ And the other wire was—had obviously broken and was lying somewhere on the ground. I don't know where, so it could've very possibly been on top of the other wire or curled up somewhere else. So, it would've been arcing with the ground somewhere within that photo on D004.*
29. In this evidence, Mr Peet emphasised that his conclusion was based on canvassing reports, what he observed at the scene in terms of the wires, and evidence from Essential Energy. Mr Peet did not observe evidence of arcing damage at the scene.
30. A report provided by Essential Energy Fault Report (from 11:17am on 23 January 2020) corroborates the record of vegetation encroaching upon powerlines, recording a power outage near Creewah Road and, amongst other things, 'vegetation in mains'.⁹⁷⁶ According to an email from Essential Energy to Mr Peet: 'Attending crews observed a tree over [High Voltage] conductors. The crew also observed a broken crossarm and a broken conductor.'⁹⁷⁷
31. Despite these reports, it was submitted by Counsel on behalf of Essential Energy that there was no positive physical evidence at the site to support a finding of arcing as the cause of the Creewah fire.⁹⁷⁸ That is, there was no physical evidence of arcing on the fallen tree, which Mr Peet was able to inspect, nor any other evidence available within the photos taken at the scene or observed by Mr Peet at the time. Counsel Assisting agreed with Essential Energy that a finding ought not to be made based on the presence of a downed conductor and its presumed relationship to a recorded electrical fault.⁹⁷⁹
32. I accept this submission.
33. Due to the observations regarding damaged wires, the Court received evidence going to whether the tree that fell over the High Voltage conductors was identified or should have been previously identified as encroaching into the clearance space of the powerlines.
34. Essential Energy's VMP provides that the area in which the Creewah Fire ignited was "subject to a two-year maintenance cycle including inspection and, if required, treatment".⁹⁸⁰ Taking into account the voltage (22kV), conductor type (steel), span length (170m), portion of the span where the tree fell and connected with the conductor (middle 2/3rd), and the bushfire prone area, the applicable clearance for lines in this area was three metres.⁹⁸¹
35. On 14 November 2019, Active Tree Services, a contractor for Essential Energy, inspected or 'scoped' the Creewah site as part of the cyclic VMP.⁹⁸² They identified and later rectified defects in the span between Pole 95 and Pole 96.⁹⁸³ They did not identify any defects (such as encroaching vegetation) in the span between Pole 95 and Pole 94, being the subject span where the tree later fell.
36. Separately, on 21 November 2019, Shamus Standfield, a Vegetation Officer with Essential Energy, created a work task (using a form described as a Hazard Tree Checklist) for the areas between Pole 95 and Pole 94. Mr Standfield's involvement was described as part of an additional targeted hazard initiative in the area and recorded as 'Fault Reporting' in the Essential Energy Vegetation Information Management System.⁹⁸⁴ The timing of his inspection, coming shortly after Active Tree Services completed the cyclic inspection under the VMP, was coincidental.⁹⁸⁵

⁹⁷⁴ Transcript for 29 June 2022 T 502:24-30.

⁹⁷⁵ Exhibit 60A, Brief of Evidence at p. 94.

⁹⁷⁶ Exhibit 60A, Brief of Evidence at p. 113.

⁹⁷⁷ Exhibit 60A, Brief of Evidence at p. 103.

⁹⁷⁸ Submissions on behalf of Essential Energy (17 February 2023) at [18].

⁹⁷⁹ Transcript for 6 April 2023 T 1372; Submissions on behalf of Essential Energy (17 February 2023) at [19].

⁹⁸⁰ Exhibit 60A, Brief of Evidence at p. 113-25.

⁹⁸¹ Exhibit 60A, Brief of Evidence at p. 113-25.

⁹⁸² Exhibit 60A, Brief of Evidence at p. 113-28.

⁹⁸³ Exhibit 60A, Brief of Evidence at p. 113-28.

⁹⁸⁴ Exhibit 60A, Brief of Evidence at p. 113-25.

⁹⁸⁵ Transcript for 29 June 2022 T 515:21-22.

Proposed rectification required due to clearance zones

37. Mr Standfield identified that remedial action was required between Pole 95 and Pole 94, being “Stage 1 HT – Prune 3 Eucalyptus Trees, all marked orange dot, down below HV line height”.⁹⁸⁶ Mr Standfield attached five photographs to the Hazard Tree Checklist which identified three trees with spray markings: three trees had orange spray paint dots on them, one of which also had a pink ribbon tied around the trunk.⁹⁸⁷ Mr Standfield identified these trees as encroaching within clearance zones, and therefore necessitating rectification.⁹⁸⁸
38. The Court received evidence from Mark Daley, Vegetation Manager (External Delivery Management) for Essential Energy as to the application of the VMP to the trees identified by Mr Standfield.
39. Mr Daley said, and for the reasons provided I accept, Mr Standfield’s calculation that the trees were encroaching within clearance zones was erroneous.⁹⁸⁹ Mr Daley told the Court that this was because the applicable clearance for this area was three metres and therefore, the trees identified by Mr Standfield being five to eight metres away from the conductors in fact fell outside the clearance span.
40. Similarly, under Essential Energy’s BRC scheme, there was no ‘clear to sky’ requirement at this location.⁹⁹⁰ This meant that there was no requirement for the area above the conductors to be kept clear and the three-metre minimum clearance zone applied to vegetation above the conductors.⁹⁹¹ Accordingly, the trees identified as being eight metres above the conductors were outside the three-metre minimum clearance zone.

Proposed rectification required due to tree defects

41. Separately, Mr Standfield had identified the three trees as potential hazard trees because of the various defects, including the severe decline with very poor canopy density, angle of lean and major dead wood in the crown of the trees.⁹⁹² The Essential Energy Bushfire Risk Management Plan in place at the time noted:⁹⁹³

Trees outside of clearances may still pose a risk of contact with conductors should they fall. Inspections may identify works on trees outside the clearances which represent an unacceptable risk. For practical application, this is an assessment of vegetation utilising training and experience (i.e. visibly poor health or of poor structural integrity in the view of the inspector).

42. The task of rectifying the hazard tree defects identified by Mr Standfield was given a completion date of 21 December 2019. Mr Daley gave evidence that the timeframe for rectification of these type of defects is usually within six months.⁹⁹⁴ It is not clear whether the one-month time frame was selected due to some perceived urgency, an inadvertent selection, or for some other reason.
43. Active Tree Services were tasked with rectifying the defects identified by Mr Standfield and on 13 January 2020 advised Essential Energy that “tasks were partially completed ... however an outage was required to complete the remaining works”.⁹⁹⁵
44. Mr Daley gave evidence that outages require 21-30 days’ lead time depending upon the urgency of the task.⁹⁹⁶
45. Perhaps due to the need for an outage to complete the task, the defects identified by Mr Standfield had not been fully rectified by 23 January 2020.

⁹⁸⁶ Exhibit 60A, Brief of Evidence at p. 113-28.

⁹⁸⁷ Exhibit 60A, Brief of Evidence at p. 113-128, 113-138.

⁹⁸⁸ Exhibit 60A, Brief of Evidence at p. 113-133 to 113-139.

⁹⁸⁹ Exhibit 60A, Brief of Evidence at p. 113-29.

⁹⁹⁰ Transcript for 29 June 2022 T 509:16-18.

⁹⁹¹ Exhibit 60A, Brief of Evidence at p. 113-26.

⁹⁹² Exhibit 60A, Brief of Evidence at p. 113-133 to 113-139.

⁹⁹³ Exhibit 60, Brief of Evidence at p. 113-31.

⁹⁹⁴ Transcript for 29 June 2022 T 519:48-49.

⁹⁹⁵ Exhibit 60A, Brief of Evidence at p. 113-29.

⁹⁹⁶ Transcript for 29 June 2022 T 520:24-26.

46. The outstanding tasks were not completed until 23 April 2020, well after the Creewah Fire had commenced. Mr Daley theorised that the extraordinary conditions of the 2019/2020 bushfire season meant contractor resources were focused on completing work tasks in higher bushfire danger areas and other attendance priorities.⁹⁹⁷
47. The evidence does not however go so far as to establish that the tree that fell onto the conductor was actually one of the hazard trees identified by Mr Standfield (which were marked with an orange dot and one of which was also marked with a pink ribbon).
48. In coming to this finding, I rely on the evidence of Mr Peet who informed the Court that he did not recall seeing any trees marked with orange paint or pink ribbons at the time of his investigation.⁹⁹⁸ Nor did DSC Robert Bruce, the NSWPF OIC of the Creewah Fire investigation, recall seeing any trees with orange marks on them near the downed powerline during his investigation at the scene on 16 April 2020.⁹⁹⁹
49. Further, during questioning from Counsel for Essential Energy, DSC Bruce was taken to a photograph in the brief of evidence,¹⁰⁰⁰ which showed a large rock next to the fallen tree. He agreed no such rock was visible in any of the photos Mr Standfield had earlier taken of the hazard trees he had identified.¹⁰⁰¹ Mr Daley was unable to say whether any of the hazard trees photographed by Mr Standfield ultimately fell and contacted the powerlines.¹⁰⁰²

Possibility of lightning impacting trees

50. In the aftermath of the Creewah Fire, Darrell Worley, Vegetation Officer with Essential Energy inspected the scene on 30 January 2020.¹⁰⁰³ He took photos of a fallen tree at the scene (said to be near Pole 96 not Pole 94) and recorded the Incident Type as being 'Fall in -Tree'.¹⁰⁰⁴ Mr Worley referred to lightning as being a contributing factor to the tree fall.
51. Lightning strike data was obtained as part of the FPR for the larger Border ('Rockton') Fire south of the Creewah Cluster of Fires.¹⁰⁰⁵ That data recorded a lightning strike on the western edge of the area where the Creewah Fire ignited. The lightning strike occurred at 1:17pm on 20 January 2020, three days before Essential Energy detected a fault in their infrastructure and three days before the first reports of the Creewah Fire were received on 23 January 2020. It is notable that fire progression mapping for the Creewah Road area commences on 23 January 2020.¹⁰⁰⁶
52. There is no other evidence to support a finding that the tree which fell onto the conductor (or any other tree at the scene) had been struck by lightning on 23 January 2020.
53. Mr Daley reported that in his examination of the identified tree, he did not see "*obvious signs of splitting or bark displacement*" which might have resulted from lightning strike.¹⁰⁰⁷ This caused him to inquire with Mr Worley about his reference to lightning impacting upon a tree near Pole 96 as included in the Incident Detail Form. Mr Worley said he included this because he understood that all of the Fires in the area had been caused by lightning.¹⁰⁰⁸
54. In the circumstances, I am prepared to accept the hearsay evidence of Mr Daley in relation to a conversation he had with Mr Worley. Mr Worley's reference to lightning strike can be dismissed and lightning can be discounted as contributing to the Creewah Fire.

⁹⁹⁷ Exhibit 60A, Brief of Evidence at p. 113-29.

⁹⁹⁸ Transcript for 29 June 2022 T 498:11-16.

⁹⁹⁹ Transcript for 29 June 2022 T 475:49.

¹⁰⁰⁰ Exhibit 60A, Brief of Evidence at p. 80.

¹⁰⁰¹ Transcript for 29 June 2022 T 477:43.

¹⁰⁰² Exhibit 60A, Brief of Evidence at p. 113-28, 113-30; Transcript for 29 June 2022 T 521:5.

¹⁰⁰³ Exhibit 60A, Brief of Evidence at p. 113-141.

¹⁰⁰⁴ Exhibit 60A, Brief of Evidence at p. 113-141.

¹⁰⁰⁵ Exhibit 60A, Brief of Evidence at p. 6.

¹⁰⁰⁶ Exhibit 60A, Brief of Evidence at p. 1-1.

¹⁰⁰⁷ Exhibit 60A, Brief of Evidence at p. 113-30.

¹⁰⁰⁸ Exhibit 60A, Brief of Evidence at p. 113-30.

Postmans Trail Fire

55. The suspected area of origin of the Postmans Trail Fire was not the subject of a scene examination by the NSWPF forensics officers nor RFS AFIs.
56. DSC Evan Gray was the OIC of the investigation into the Postmans Trail Fire. He was first allocated responsibility for investigating the Fire around 13 October 2021.¹⁰⁰⁹ He said there was confusion as to whether the Fire fell within the jurisdiction of his Police District or the neighbouring Snowy Monaro Police District where the Creewah Fire originated.¹⁰¹⁰
57. I accept that in the context of this fire season, police investigations had to be prioritised over cause and origin fire investigations, with the result that some smaller fires were not allocated for investigation until long after the event, if at all. In this regard, DSC Gray was, for example, also part of the team working on the investigation into the Badja Fire and related deaths.¹⁰¹¹
58. In any event, material in the brief of evidence lends some support to the conclusion that the Postmans Trail Fire was caused by spotting from the Creewah Fire, including a linescan taken at 7:40pm on 23 January 2020 which showed by that time an area of fire could be seen burning separately from the main body of the Creewah Fire.¹⁰¹²
59. That smaller fire was first mapped by the RFS at around 12:15am on 24 January 2020.¹⁰¹³ For the next two days, it was managed as part of the Creewah Fire until 26 January 2020, when it was documented as a separate fire.
60. Some RFS records in the brief of evidence also refer to the Postmans Trail Fire as being a spot over from the Creewah Fire which was two kilometres away.¹⁰¹⁴ That was clearly the understanding of the RFS at the time of the Fire. However, in the absence of a scene examination by investigators or other evidence capable of excluding other potential causes of ignition, the cause of this Fire is best described as undetermined, despite a reasonable suspicion that it was caused by spotting from the Creewah Fire.
61. As to the date on which the Postmans Trail Fire commenced, DSC Gray accepted that linescans and RFS data demonstrated the Fire was going from either late 23 January 2020 or the early hours of 24 January 2020, rather than the date he had identified in his report of fire to Coroner of 26 January 2020.¹⁰¹⁵ That later date was the date the Fire was authorised as 'Going' and given its own name on the ICON system.¹⁰¹⁶

Big Jack Mountain Fire

62. The position is somewhat similar with respect to the Big Jack Mountain Fire. Records in the brief of evidence suggest that at the time of responding to the Fire, the RFS understood it was caused by lightning strike. That possible cause was supported by lightning strike data which showed three lightning strikes occurring on the afternoon of 20 January 2020 between 12:35pm and 1:53pm within the vicinity of the Big Jack Mountain Fire.¹⁰¹⁷
63. Those lightning strikes occurred three days prior to the first reports of smoke from members of the public.¹⁰¹⁸ It remains a possibility that a low intensity fire was commenced by lightning strike and burned in a remote location for almost three days before becoming established enough to generate smoke capable of being seen by the community.
64. However, in the absence of a witness to the ignition or a scene examination by either the NSWPF or RFS AFIs, alternate causes of ignition cannot reasonably be excluded.

¹⁰⁰⁹ Transcript for 29 June 2022 T 481:50.

¹⁰¹⁰ Transcript for 29 June 2022 T 482:9-23.

¹⁰¹¹ Transcript for 29 June 2022 T 481:14-19.

¹⁰¹² Exhibit 60A, Brief of Evidence at p. 1-1.

¹⁰¹³ Exhibit 60A, Brief of Evidence at p. 8-1.

¹⁰¹⁴ Exhibit 60A, Brief of Evidence at p. 84-103, 84-114.

¹⁰¹⁵ Exhibit 60A, Brief of Evidence at pp. 114-115.

¹⁰¹⁶ Transcript for 29 June 2022 T 491:50-492:11.

¹⁰¹⁷ Exhibit 60A, Brief of Evidence at p. 5.

¹⁰¹⁸ Exhibit 60A, Brief of Evidence, Tab 18.

Section 81 Findings

65. I accept the submission of Counsel Assisting that there is reasonable suspicion that the Creewah fire was caused by the fall of a 22kV steel electrical conductor at approximately 11:17am on 23 January 2020, after a fallen tree impacted on powerlines in the easement running sought of Creewah Road near the intersection with New Line Road, Creewah. However, due to the absence of physical or other evidence establishing a definitive cause, I make the following Findings under section 81(2) of the Act:

Creewah Road, Glen Allen Fire

The Creewah Road, Glen Allen Fire commenced on 23 January 2020 at approximately 11:17am on Creewah Road near the intersection with New Line Road, Creewah in the vicinity of coordinates -36.713017, 149.391650.

The cause of the Creewah Road Fire is undetermined.

Postmans Trail, Tantawangalo Fire

The Postmans Trail, Tantawangalo Fire commenced sometime between 23-24 January 2020 in bushland near the Postmans Link Trail, Tantawangalo State Forest.

The cause of the Postmans Trail, Tantawangalo Fire is undetermined.

Big Jack Mountain Road, Cathcart Fire

The Big Jack Mountain Road, Cathcart Fire commenced sometime on or before 23 January 2020 in bushland near Big Jack Mountain Road, Rocky Hall.

The cause of the Big Jack Mountain Road, Cathcart Fire is undetermined.

66. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearing into the investigation of fires by the NSWPF. This is detailed in Volume 2, Part 10, Section 1.

Part 5

Stage 1 Inquests and
Inquiries: Northern Region

5

1. Introduction

1. The Northern Region of New South Wales, for the purpose of these inquests and inquiries, encompasses the LGAs of Armidale, Clarence Valley, Glen Innes Severn, Kempsey, MidCoast, Nambucca Valley, Richmond Valley, Tenterfield, and Walcha.
2. The Northern Region sustained unprecedented damage because of the Fires, which burnt through townships and villages, damaging and destroying an extraordinary number of homes, outbuildings, vehicles and other structures.
3. The environmental toll of the Fires was also extreme, with Fires burning through huge portions of national parks, state forests and conservation areas, resulting in the deaths of flora and fauna, including the loss of large areas of koala habitat.
4. Tragically, eight residents lost their lives in the Northern Region in connection with the Fires.
5. For the purpose of the hearings, the Northern Region was divided into three areas – Far Northern, Mid Northern and Lower Northern.

Hearing overview

Far Northern

6. The Far Northern group of hearings took place on 28 February and 1, 2 and 4 March 2022. These hearings were originally scheduled to take place in Lismore. Unfortunately, due to the impact of a substantial and widespread flooding event in the State at the time (with particularly severe impacts in this Region), the Court and legal representatives were prevented from travelling and the hearings took place at Lidcombe and were broadcast via live stream to the public.
7. The Far Northern hearings comprised the following proceedings:
 - a. Inquiry into the Long Gully Road, Drake Fire;
 - b. Inquest into the death of Gwendoline Mair Hyde;
 - c. Inquest into the death of Robert Frederick Lindsay;
 - d. Inquiry into the Busbys Flat, Rappville Fire;
 - e. Inquiry into the Gulf Road, Torrington Fire; and
 - f. Inquiry into the Washpool State Forest, Coombadjha Fire.

Mid Northern

8. The Mid Northern group of hearings took place on 7 – 11, 14 and 16 – 17 March 2022. While the hearings were originally scheduled to take place in Armidale, the Court and legal representatives remained unable to travel and the hearings were also held at Lidcombe and broadcast via live stream to the public.

9. The Mid Northern hearings comprised the following proceedings:
 - a. Inquiry into the Kangawalla, Diehard Fire;
 - b. Inquests into the deaths of Vivien Christine Chaplain and George Nole;
 - c. Inquiry into the Bees Nest (Guy Fawkes National Park) Fire;
 - d. Inquiry into the Liberation Trail (Chaelundi) Fire;
 - e. Inquiry into the Kian Road, South Arm Fire;
 - f. Inquest into the death of Christopher Savva;
 - g. Inquiry into the Mount Mackenzie Road, Tenterfield Fire;
 - h. Inquiry into the Carrai East (Jacobs Spur, Willawarrin) Fire and Carrai Creek Fire;
 - i. Inquest into the death of Barry Parsons;
 - j. Inquiry into the Stockyard Flat, Yarrowitch Fire;
 - k. Inquest into the death of Russell Bratby; and
 - l. Inquiry into the Myall Creek Road, Bora Ridge Fire.

Lower Northern

10. The Lower Northern group of hearings took place during 21 - 24 March 2022. Unfortunately, hearings originally scheduled to take place in Taree also had to be completed at Lidcombe and were broadcast via live stream to the public.
11. The Lower Northern hearings comprised the following proceedings:
 - a. Inquiry into the Rumba Complex Dingo Tops Road (Tapin Tops National Park) Fire;
 - b. Inquiry into the Bills Crossing, Crowdy Bay Fire;
 - c. Inquest into the death of Julie Fletcher;
 - d. Inquiry into the Failford Road, Darawank Fire; and
 - e. Inquiry into the Hillville Fire.

Closing Submissions

12. Closing submissions for the Stage 1 Northern Region hearings were heard by the Court during the 5 - 7, 12 - 14 September 2022, and 7 - 10 August 2023 sittings.

The impacts in more detail

Armidale LGA

13. The Armidale LGA, encompassed within the lands of the Anaiwan People, was affected by the Carrai Creek Fire which burned for approximately three months and was the largest Fire in the Northern Region.
14. This Fire burnt a total of approximately 240,000 hectares, comprising approximately 160,000 hectares of National Park, 61,200 hectares of private land, 15,300 hectares of State Forest and 1,800 hectares of other property.¹⁰¹⁹ It impacted a number of townships in both the Armidale LGA and Kempsey LGA including Carrai, Bellbrook, Willawarrin and Lower Creek.

¹⁰¹⁹ Exhibit 40A, Brief of Evidence at p. 13.

Clarence Valley LGA

15. The Clarence Valley LGA, encompassed within the lands of the Bundjalung, Gumbaynggirr and Yaegl People, was affected by the Bees Nest (Guy Fawkes National Park) Fire, the Liberation Trail (Chaelundi) Fire, the Washpool State Forest, Coombadjha Fire and the Long Gully Road, Drake Fire which originated in the Tenterfield LGA but later crossed over into the neighbouring Clarence Valley LGA.
16. At least 430,700 hectares were burnt,¹⁰²⁰ a significant portion of which was old growth forest within the Guy Fawkes River National Park which forms part of the much larger UNESCO World Heritage Gondwana Rainforest.¹⁰²¹ This old growth forest comprises ecologically mature eucalypt trees that apparently show few signs of human disturbance.¹⁰²²
17. The Clarence Valley LGA was one of the five LGA in New South Wales identified as having lost the greatest number of houses. There were 168 houses were lost and numerous townships were impacted including Bostobrick, Hernani, Tyringham, Ewingar, Nymboida, Newton Boyd, Nana Glen, Glenreagh, Kangaroo Creek and Blaxlands Creek (consequently also impacting the Bellingen and Coffs Harbour LGAs).¹⁰²³

Glen Innes Severn LGA

18. The Glen Innes Severn LGA, encompassed within the lands of the Ngoorabul People, was affected by the Kangawalla, Diehard Fire, which burned for approximately four weeks and damaged an area of approximately 21,000 hectares, including 13,000 hectares of State Forest and National Park and almost 9,000 hectares of private property.¹⁰²⁴
19. This LGA had at least 150 structures destroyed or damaged in connection with this Fire, including Wyaliba Public School and many homes in Wyaliba and Newton Boyd (consequently also impacting the Clarence Valley LGA).¹⁰²⁵
20. George Nole and Vivien Chaplain, residents of Wyaliba, died on 8 November 2019 when the Fire reached their respective properties.

Kempsey LGA

21. The Kempsey LGA, encompassed within the lands of the Dunghutti People, was affected primarily by the Carrai East (Jacobs Spur, Willawarrin) Fire, and the Carrai Creek Fire, which originated in the Armidale LGA but impacted many rural properties in the Kempsey LGA (and consequently also affecting the Nambucca LGA as demonstrated by the following).
22. The Carrai East Fire destroyed approximately 150,000 hectares of land in this LGA.¹⁰²⁶ Together, the Carrai East and Carrai Creek Fires damaged or destroyed at least 90 homes, 240 outbuildings and 10 facilities including in Willawarrin, Toorooka, Bellbrook, Wittittrin, Hickeys Creek, Mungay Creek, Moparrabah, Deep Creek and Temagog.¹⁰²⁷
23. Barry Parsons, resident of Willawarrin, died while attempting to flee the Carrai East Fire on 8 November 2019. Two NPWS officers were also injured in connection with the Carrai East Fire when part of a tree fell on their vehicle at Nulla Nulla.¹⁰²⁸

¹⁰²⁰ Exhibit 31A, Brief of Evidence at p. 3; Exhibit 35A, Brief of Evidence at p. 34; Exhibit 36A, Brief of Evidence at p. 5.

¹⁰²¹ Exhibit 36A, Brief of Evidence at p. 7.

¹⁰²² Exhibit 36A, Brief of Evidence at p. 8.

¹⁰²³ Exhibit 26A, Brief of Evidence, Tab 27; Exhibit 31A, Brief of Evidence, Tab 21; Exhibit 35A, Brief of Evidence at pp. 174–195; Exhibit 36A, Brief of Evidence at pp. 8–11.

¹⁰²⁴ Exhibit 32A, Brief of Evidence at p. 59.

¹⁰²⁵ Exhibit 32A, Brief of Evidence at p. 43.

¹⁰²⁶ Exhibit 41A, Brief of Evidence at pp. 2, 25.

¹⁰²⁷ Exhibit 41A, Brief of Evidence at pp. 23, 82; Tab 19.

¹⁰²⁸ Exhibit 41A, Brief of Evidence at p. 25.

MidCoast LGA

24. The MidCoast LGA, encompassed within the lands of the Biripi People, was affected by the following Fires:
 - a. Bills Crossing, Crowdy Bay Fire;
 - b. Failford Road, Darawank Fire;
 - c. Hillville Fire; and
 - d. Rumba Complex Dingo Tops Road (Tapin Tops National Park) Fire.
25. Together, these Fires burnt a total of approximately 480,000 hectares.¹⁰²⁹ Approximately 300 structures were destroyed or damaged in connection with these Fires, including homes in Bobin, Caffreys Flat, Caparra, Darawank, Failford, Hallidays Point, Hillville, Johns River, Koorainghat, Old Bar, Rainbow Flat and Tinonee.¹⁰³⁰
26. The Fires collectively caused significant damage to numerous areas of environmental significance within and surrounding the MidCoast LGA, including the Cattai Wetlands, Darawank Nature Reserve, Dingo State Forest, Khappinghat National Park, Kiwarrak State Forest, Talawahl State Conservation Area, and Tapin Tops National Park. A staggering 84% of the Crowdy Bay National Park, approximately 9,000 hectares, was impacted by fire, including a large area of critical koala habitat.¹⁰³¹ Further, an 87% decline in koala occupancy in the Khappinghat National Park, and a 100% decline in the Kiwarrak State Forest.¹⁰³²
27. Julie Fletcher, resident of Johns River, died after the Bills Crossing, Crowdy Bay Fire reached her property on 8 November 2019.¹⁰³³

Nambucca Valley LGA

28. The Nambucca Valley LGA encompassed within the lands of the Gumbaynggirr People, was affected by the Kian Road, South Arm Fire. The Kian Road, South Arm Fire burned for approximately 10 weeks and damaged an area of approximately 31,000 hectares comprising approximately 14,000 hectares of private land, 9,300 hectares of National Park and 8,000 hectares of State Forest.¹⁰³⁴ The Fire destroyed or damaged at least 80 homes and 162 other outbuildings including in Bowraville, Buckra Bendinni, Nambucca, South Arm, Talarm and Yarranbella.¹⁰³⁵
29. Christopher Savva, resident of South Arm, died on 8 November 2019 due to injuries sustained in a car accident after the Kian Road Fire passed through South Arm.
30. Two FRNSW firefighters, Daryl Aldridge and Irene Pachos, sustained multiple injuries after a tree fell on their vehicle while they were fighting the Kian Road, South Arm Fire.¹⁰³⁶

Richmond Valley LGA

31. The Richmond Valley LGA, encompassed within the lands of the Bundjalung and Galibal Peoples, was affected by the Busbys Flat, Rappville Fire and the Myall Creek Road, Bora Ridge Fire.

¹⁰²⁹ Exhibit 46A, Brief of Evidence at p. 103; Exhibit 47A, Brief of Evidence at p. 82; Exhibit 49A, Brief of Evidence at p. 2; Exhibit 50A, Brief of Evidence at p. 563-4.

¹⁰³⁰ Exhibit 46A, Brief of Evidence, Tab 18; Exhibit 47A, Brief of Evidence, Tab 16; Exhibit 49A, Brief of Evidence, Tab 41; Exhibit 50A, Brief of Evidence, Tab 30.

¹⁰³¹ Department of Planning, Industry and Environment, *NSW Wildlife and Conservation Bushfire Recovery Supplement B – Report on the Immediate Response January 2020* (Report, 2021) 5.

¹⁰³² World Wide Fund for Nature, *Quantifying the Impacts of Bushfire on Populations of Wild Koalas* (Report, July 2020) 14.

¹⁰³³ Exhibit 47A, Brief of Evidence at p. 2.

¹⁰³⁴ Exhibit 37A, Brief of Evidence at p. 187.

¹⁰³⁵ Exhibit 32A, Brief of Evidence at p. 293.

¹⁰³⁶ Exhibit 32A, Brief of Evidence at p. 375, 387.

32. Tragically, 48% of the total area of this LGA was impacted by the Fires,¹⁰³⁷ which burnt a combined total of approximately 170,000 hectares of land in the area, including approximately 84,500 hectares of State Forest and National Park.¹⁰³⁸ Approximately 340 structures were damaged or destroyed,¹⁰³⁹ including in the towns of Bungawalbin, Busbys Flat, Myall Creek, Bora Ridge, Ellangowan, Myrtle Creek, Rappville, Gibberagee, Whiporie and Swan Bay (consequently also impacting the Inverell and Port Stephens LGAs).
33. At least 21 people sustained injuries on the fireground in connection with the Fire.¹⁰⁴⁰ Fortunately, no lives were lost.

Tenterfield LGA

34. The Tenterfield LGA is encompassed within the lands of the Kamilaroi and Bundjalung People. It is said that the area was originally inhabited by the Jukemba People, who call it 'Moombillen', meaning 'place of wild honey'.
35. The Tenterfield LGA was affected by the Gulf Road, Torrington Fire, the Long Gully Road, Drake Fire and the Mount Mackenzie Road, Tenterfield Fire. The Fires burnt a total of approximately 153,000 hectares of land and damaged or destroyed at least 140 structures in the towns of Emmaville, Torrington, Drake, Tabulam, Bulldog, Rocky River and Tenterfield (consequently also impacting the Glen Innes, Kyogle, Clarence and Uralla LGAs).¹⁰⁴¹
36. One RFS firefighter sustained serious burns while fighting the Mount Mackenzie Fire when a sudden and unexpected wind change pushed an active fire front into his firefighting truck, completely destroying it.¹⁰⁴²
37. Gwendoline Hyde and Robert Lindsay, wife and husband, and residents of Coongbar, died after the Long Gully Road, Drake Fire reached their property on 8 October 2019.

Walcha LGA

38. The Walcha LGA, encompassed within the lands of the Dunghutti People, was affected by the Stockyard Flat, Yarrowitch Fire. The Stockyard Flat Fire burned for approximately 2 weeks and damaged an area of approximately 70,000 hectares and destroying at least 40 structures including many homes in Yarrowitch and Walcha.¹⁰⁴³
39. Russell Bratby, resident of Yarrowitch, was injured when the Fire reached his property on 7 November 2019. He was subsequently conveyed to Port Macquarie Hospital and then transferred to the Royal North Shore Hospital where he died on 29 December 2019.
40. One firefighter also sustained head injuries from a falling object while attending to duties at a property on Kangaroo Flat Road, Yarrowitch.¹⁰⁴⁴ He was airlifted to John Hunter Hospital and discharged the following day.

Conclusion

41. The Fires that burnt collectively in the Northern Region were undoubtedly ferocious and had a significantly detrimental impact.
42. In total, they burnt a total of approximately 1,355,673 hectares, resulting in the damage or destruction of at least 2,173 structures, including many individuals' homes and businesses, and the loss of eight lives.
43. I address each inquest and inquiry identified above as follows.

¹⁰³⁷ Exhibit 45A, Brief of Evidence at p. 84.

¹⁰³⁸ Exhibit 29A, Brief of Evidence at p. 33; Exhibit 45A, Brief of Evidence at p. 9.

¹⁰³⁹ Exhibit 29A, Brief of Evidence at p. 134; Exhibit 45A, Brief of Evidence at p. 9.

¹⁰⁴⁰ Exhibit 29A, Brief of Evidence at p. 77, 113; Exhibit 45A, Brief of Evidence at p. 109.

¹⁰⁴¹ Exhibit 26A, Brief of Evidence at p. 1, 158-17; Exhibit 30A, Brief of Evidence at p. 2, 22; Exhibit 39A, Brief of Evidence at p. 1, 3.

¹⁰⁴² Exhibit 39A, Brief of Evidence at p. 16.

¹⁰⁴³ Exhibit 42A, Brief of Evidence at p. 2, 17-18.

¹⁰⁴⁴ Exhibit 42A, Brief of Evidence at p.18.

2. Long Gully Road, Drake Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Long Gully Road, Drake Fire.

Introduction

2. The Long Gully Road, Drake Fire was first reported to authorities on 5 September 2019.¹⁰⁴⁵ It burned for approximately 5 weeks and was declared ‘Out’ on 27 October 2019.¹⁰⁴⁶
3. It commenced in the Tenterfield LGA encompassed within the lands of the Jukembal, Kamilaroi and Bundjalung People. It burned approximately 74,111 hectares comprising of 44,894 hectares of private land, 26,959 hectares of State Forest, 1,771 hectares of National Park and 487 hectares of other land.¹⁰⁴⁷
4. The Long Gully Road, Drake Fire destroyed at least 30 residences and 83 outbuildings and damaged at least 17 residences and 33 outbuildings after impacting the communities of Drake, Tabulam, Bulldog and Rocky River in the Tenterfield LGA and Ewingar, Mookima Wybra, Keybarbin and Coongar in the Clarence Valley LGA.¹⁰⁴⁸
5. While these findings are limited to the cause and origin of the Long Gully Road, Drake Fire, it should be noted that on 8 October 2019, Gwendoline Hyde and Robert Lindsay died in connection with this Fire. The circumstances of these individuals’ deaths is considered briefly in these findings. Separate, and more detailed, Findings into the manner and cause of these individuals’ deaths are located in Section 3 following.¹⁰⁴⁹

Chronology of events

6. On 5 September 2019 at about 7:00am, Simon Kaplan woke at his home and noticed that a fire had burnt from the south-west across the south of his property, right up to his house. Mr Kaplan lived on a 2-acre property at 681B McLeod’s Creek Road, Sandy Hill surrounded by McLeod’s Creek Station. Mr Kaplan had not noticed any smoke in the days prior, from the evening of 3 September 2019 or on 4 September 2019. He did not report the Fire to authorities because he believed the RFS would have already been made aware of it.¹⁰⁵⁰
7. Between 12:10pm and 2:14pm, four local residents of Tabulam and Drake separately called 000 to report sightings of smoke.¹⁰⁵¹ One resident, Geoffrey Killop, described the location of the smoke to the south-west of Drake near the Bruxner Highway, 20 kilometres west of Tabulam and possibly on Long Gully Road.¹⁰⁵²
8. At 2:18pm, the Long Gully Road, Drake Fire was authorised as ‘Going’.¹⁰⁵³

¹⁰⁴⁵ Exhibit 26A, Brief of Evidence at p. 5.

¹⁰⁴⁶ Exhibit 26A, Brief of Evidence at p. 31, 266.

¹⁰⁴⁷ Exhibit 26A, Brief of Evidence at p. 266.

¹⁰⁴⁸ Exhibit 26A, Brief of Evidence at p. Tab 27, Tab 29.

¹⁰⁴⁹ Exhibit 26A, Brief of Evidence at p. 34.

¹⁰⁵⁰ Exhibit 26A, Brief of Evidence at p. 215–216.

¹⁰⁵¹ Exhibit 26A, Brief of Evidence at p. 5, 220.

¹⁰⁵² Exhibit 26A, Brief of Evidence at p. 5, Tab 31.

¹⁰⁵³ Exhibit 26A, Brief of Evidence at p. 163, 236.

9. The Frazers Cutting and Drake Rural Fire Brigades were dispatched to locate the Long Gully Road, Drake Fire. The Frazers Cutting Rural Fire Brigade was unable to make it through the smoke. However, the Drake Rural Fire Brigade travelled to the bottom of Long Gully Road and after proceeding down a track through private property and crossing McLeod's Creek, they reached the Fire at about 3:04pm. They continued further and arrived at the fire front at about 3:15pm on Goughs Fire Trail. Graham Lightbody, the Acting Crew Leader of the Drake Rural Fire Brigade at the time, informed the RFS Glen Innes FCC of the location of the Fire. It was reported that the Fire was burning in all directions and had a 1-2 kilometre fire front with a flame height of 1-2 metres.¹⁰⁵⁴
10. On 6 September 2019, the Drake Rural Fire Brigade organised a door knock of properties on Long Gully Road to advise residents of the threat from the approaching fire. Throughout the day, several retardant drops were made by supporting aircraft. However, by 4:00pm the Long Gully Road, Drake Fire was reported to have crossed Long Gully Road and jumped Rocky River and took a southerly direction and by 4:36pm, the Fire was spotting 10 kilometres ahead of the fire front. The Long Gully Road, Drake Fire was mapped as having made a significant run, spreading 18 kilometres to the south-east on this day, considered extreme and anomalous fire behaviour.¹⁰⁵⁵
11. On 7 September 2019, it was reported that the Long Gully Road, Drake Fire had reached the Bulldog area with residents relocating to the Bulldog Community Centre. The RFS were tasked with asset protection with aircraft unable to operate at the time due to smoke and extreme winds.¹⁰⁵⁶
12. On 8 and 9 September 2019, the Long Gully Road, Drake Fire impacted properties around Long Gully Road and Patemans Road. Fire activity increased and jumped Cyril Smith Circuit and headed towards Ogilvie Drive. The fire was south of Drake and spreading towards Ewingar. On 9 September 2019, the Long Gully Road, Drake Fire spread up to 4.5 kilometres, generally to the north-east.¹⁰⁵⁷
13. From 10 September 2019 until 7 October 2019, the Long Gully Road, Drake Fire continued to burn, damaging, and destroying properties. The RFS continued to work to contain the Long Gully Road, Drake Fire through backburning to strengthen containment lines, mopping up operations and aerial attack when conditions allowed.¹⁰⁵⁸
14. On 8 October 2019, conditions deteriorated and the Long Gully Road, Drake Fire made a significant 25 kilometre run east-southeast, again considered extreme and anomalous fire behaviour.¹⁰⁵⁹ At 2:58pm and 2:59pm, the RFS issued two emergency alerts targeting the residents of Ewingar to seek shelter as the Fire arrived.¹⁰⁶⁰
15. By about 4:00pm, temperatures were expected to reach 33 degrees Celsius, with humidity at 12% to 14% and westerly wind gusts of 55 kilometres per hour with the Fire impacting or about to impact residences on Ewingar Road. By about 4:35pm, the Fire spotted over the Clarence River and was burning east towards Keybarbin State Forest.¹⁰⁶¹
16. Sometime between 5:16pm and 5:58pm, the Long Gully Road, Drake Fire impacted upon 286 Deadman Creek Road, Coongbar, resulting in the tragic deaths of Gwendoline Hyde and Robert Lindsay.¹⁰⁶²
17. In the evening of 8 October 2019, the Long Gully Road, Drake Fire merged with the Busbys Flat Road, Busbys Flat Fire.¹⁰⁶³

¹⁰⁵⁴ Exhibit 26A, Brief of Evidence at p. 6, 209–210.

¹⁰⁵⁵ Exhibit 26A, Brief of Evidence at p. 7-8, 165.

¹⁰⁵⁶ Exhibit 26A, Brief of Evidence at p. 9.

¹⁰⁵⁷ Exhibit 26A, Brief of Evidence at p. 11-12, 172.

¹⁰⁵⁸ Exhibit 26A, Brief of Evidence at p. 13–25.

¹⁰⁵⁹ Exhibit 26A, Brief of Evidence at p. 180.

¹⁰⁶⁰ Exhibit 26A, Brief of Evidence at p. 274–277.

¹⁰⁶¹ Exhibit 26A, Brief of Evidence at p. 25, 285.

¹⁰⁶² Exhibit 26A, Brief of Evidence at p. 27, 196.

¹⁰⁶³ Exhibit 26A, Brief of Evidence at p. 180.

18. On 9 October 2019, multiple parts of the Long Gully Road, Drake Fire spread up to 2.5 kilometres to the north and north-east. In the afternoon, the portion of the Long Gully Road, Drake Fire which had merged with the Busbys Flat Road, Busbys Flat Fire and which was east of the Clarence River commenced being mapped and managed as part of the Busbys Flat Road, Busbys Flat Fire. The geographical reach of the Long Gully Road, Drake Fire is illustrated by the following fire progression map of that date:¹⁰⁶⁴

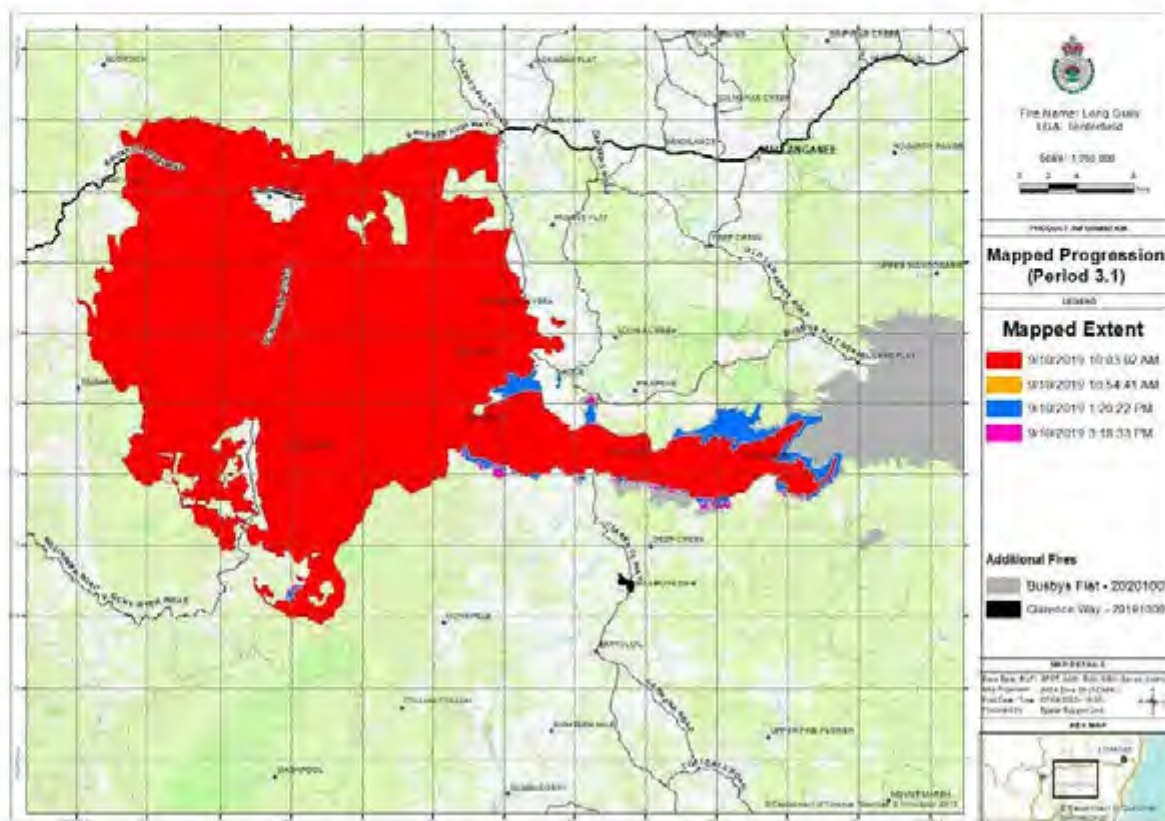


Figure 23 Fire Progression Mapping 0000, 09/10/2019 to 1518, 09/10/2019 (1:200,000 scale)

19. Between 10 and 27 October 2019, fire activity reduced, with significant rain reported at Ewingar on 12 October 2019.¹⁰⁶⁵
20. On 27 October 2019, the Long Gully Road, Drake Fire was declared 'Out'.¹⁰⁶⁶

Cause and origin

21. On 11 September 2019, a cause and origin scene investigation was undertaken by Steven May, RFS AFI, and SC Robert Farragher, of the NSWPF FETS. They were also accompanied by DSC Rod Fenner from Inverell Detectives.¹⁰⁶⁷ Mr May and SC Farragher were provided with access to RFS data including grid references for the area of interest, SITREPs, incident logs and other documents.¹⁰⁶⁸
22. At about 1:20pm, Mr May and SC Farragher made their initial observations of the scene by helicopter near Mr Kaplan's home to observe macro fire travel indicators.¹⁰⁶⁹ From the aerial platform, Mr May observed directional vector indicators for advancing, lateral and backing fires, which confirmed initial SITREPs of the general area of origin.¹⁰⁷⁰

¹⁰⁶⁴ Exhibit 26A, Brief of Evidence at p. 202–203.

¹⁰⁶⁵ Exhibit 26A, Brief of Evidence at p. 28–31.

¹⁰⁶⁶ Exhibit 26A, Brief of Evidence at p. 31.

¹⁰⁶⁷ Exhibit 26A, Brief of Evidence at p. 40, 119.

¹⁰⁶⁸ Exhibit 26A, Brief of Evidence at p. 40, 114–115.

¹⁰⁶⁹ Exhibit 26A, Brief of Evidence at p. 40–41.

¹⁰⁷⁰ Exhibit 26A, Brief of Evidence at p. 40–41.

23. At about 1:35pm, Mr May and SC Farragher landed on scene at Mr Kaplan's home at 681B McLeod's Creek Road, Sandy Hill and there met with Mr Kaplan as well as first responder Mr Lightbody, Acting Crew Leader of the Drake Rural Fire Brigade.¹⁰⁷¹
24. Mr Lightbody provided Mr May and SC Farragher with more detailed information as to the approximate area of where he first observed the Long Gully Road, Drake Fire.¹⁰⁷² They drove from Mr Kaplan's home in a north-westerly direction along McLeod's Creek Road for approximately 604 to 670 metres until they reached a point of unburnt grass on a small knoll, which had been observed from their aerial recognisance and determined this as the point of entry. At that location, they observed macro-scale indicators which suggested that the Fire had advanced to the south-east, from inside the gully, south-west of McLeod's Road. It was determined that this location was the western end of the general area of origin.¹⁰⁷³
25. Mr May and SC Farragher then commenced an internal examination of the general area of origin from the identified point of entry. They walked in a south-easterly direction following the gully walking in a serpentine pattern, identifying direction vectors by clusters of macro and micro indicators to establish the general fire path until they reached a transition zone of the Fire.¹⁰⁷⁴
26. They then walked in a south-westerly direction until they reached unburnt country to the south-western side of the gully, with similar macro and micro indicators. They continued tracking in a serpentine pattern within the gully until a SAO was identified, approximately 333 metres from Mr Kaplan's home.¹⁰⁷⁵
27. Within the SAO and again using a serpentine tracking pattern, they tracked the micro-scale indicators which lead to a burnt-out fallen tree and the remains of its stump which had been consumed by fire internally. Mr May noted that the natural earth and rocks around the base of the tree appeared to have been displaced in an upward direction consistent with lightning that had discharged through the tree root system, with charred, splintered branches also found. Backing fire in every direction from the stump and fallen tree was also identified.¹⁰⁷⁶
28. On 13 October 2019, Mr May returned to the scene on to take more detailed photographs of the SAO and the tree stump.¹⁰⁷⁷
29. Mr May told the Court, "*when lightning strikes a dead tree unless the core of the tree is moist, the tree doesn't explode. You'll get branches that have come off which are in a number of photos [of the scene] and you'll get slabs of timber that actually resemble fence posts or four-by-twos. It actually gets sliced off the tree...and around that tree stump there was indications of that sort of timber even with natural wood colour that had been charred and removed.*"¹⁰⁷⁸
30. Mr May further had regard to lightning strike data, which recorded three lightning strikes on 30 August 2019 within 1.6 to 1.8 kilometres from the suspected area of origin. While none of these strikes corresponded with the precise area of the burnt-out tree, Mr May was conscious of what he understood to be the limitations of lightning strike data, specifically that not all ground strikes are in fact recorded, and the geographical accuracy of where lightning actually strikes can vary, particularly in hilly terrain such as the gully Mr May examined.¹⁰⁷⁹

¹⁰⁷¹ Exhibit 26A, Brief of Evidence at p. 40–41, 119–120.

¹⁰⁷² Transcript for 1 March 2022 T 570:35–44.

¹⁰⁷³ Exhibit 26A, Brief of Evidence at p. 41, 120.

¹⁰⁷⁴ Exhibit 26A, Brief of Evidence at p. 41.

¹⁰⁷⁵ Exhibit 26A, Brief of Evidence at p. 41.

¹⁰⁷⁶ Exhibit 26A, Brief of Evidence at p. 41, 89; Transcript for 1 March 2022 T 575:6–28.

¹⁰⁷⁷ Exhibit 26A, Brief of Evidence at p. 40; Transcript for 1 March 2022 T 569:22–28.

¹⁰⁷⁸ Transcript for 1 March 2022 T 575:16–22.

¹⁰⁷⁹ Exhibit 26A, Brief of Evidence at p. 41; Transcript for 1 March 2022 T 578:12–40.

31. Mr May was able to eliminate other causes for the Fire due to lack of evidence, including campfire, smoking, debris burning, equipment use, suspicious means, juvenile fire play, rail, powerline or other miscellaneous causes.¹⁰⁸⁰ In reaching this opinion, Mr May took into account that the Fire originated in a very remote area without much passing traffic or other people around.¹⁰⁸¹ Despite lightning being recorded in the area on 30 August 2019 but the Fire itself not being observed by Mr Kaplan and others until 5 September 2019 was, in his view, consistent with an internal fire commencing in a tree struck by lightning, which most likely burnt for several days before the tree fell, causing fire to spread. Mr May told the Court there was likely little visible smoke in the meantime.¹⁰⁸²
32. SC Farragher identified the same area of origin for the ignition of the Fire as Mr May. This was the gully approximated 330 metres west/north-west of Mr Kaplan's home at 681B McLeod's Creek Road. SC Farragher observed fire indicators in the gully which pointed to a fire of a low flame height and low intensity, spreading from the gully, and moving with the prevailing light winds.¹⁰⁸³
33. SC Farragher found that there was no obvious ignition source in or around the gully, nor was there any indication that the Long Gully Road, Drake Fire was an accelerated fire. Taking that into consideration along with the isolated location and difficult terrain, he found that it was unlikely that the Fire was deliberately lit.¹⁰⁸⁴
34. Acknowledging that the lightning strike data indicated that there was lightning and storm activity within the area on the evening of 30 August 2019, SC Farragher noted that there were no lightning strikes recorded within a 1-kilometre radius of the area of origin. SC Farragher had identified two large trees in the gully which were almost completely consumed by fire. He considered the two trees were possibly subject to lightning strike, but there was no damage or lightning scar evidence to allow him to make that assessment.¹⁰⁸⁵
35. In considering these factors, SC Farragher was unable to make a determination as to the cause of the Long Gully Road, Drake Fire, however he thought that the most likely cause was lightning strike on 30 August 2019. He ultimately found the cause to be undetermined.¹⁰⁸⁶
36. On 21 January 2022, an independent expert report was obtained from Geoff Conway AFSM. Mr Conway's previous roles have included Director of Forest and Fire Operations within the Victorian Department of Environment Land, Water and Planning, Deputy Chief Fire Officer of FFM, and Deputy Chief Officer of the CFA.¹⁰⁸⁷
37. Restrictions arising from the COVID-19 pandemic response and further flooding emergencies in northern NSW at the time of hearing prevented Mr Conway from travelling to the scene himself. His review therefore focused upon methodology and the conclusions reached by Mr May and SC Farragher based upon their observations at the scene, as recorded in their fire investigation report and statement, respectively, and other documentary evidence including RFS fire progression mapping and lightning strike data and Bureau data.¹⁰⁸⁸
38. Mr Conway concluded that the cause and origin investigations conducted by Mr May and SC Farragher were conducted in a way that closely aligned with fire investigation training and were representative of good practice.¹⁰⁸⁹ He was not concerned by the difference of opinion expressed between the investigators, noting varying views are quite common as a consequence of individual determinations based on available evidence.¹⁰⁹⁰

¹⁰⁸⁰ Exhibit 26A, Brief of Evidence at p. 41-42.

¹⁰⁸¹ Transcript for 1 March 2022 T 579:14-16.

¹⁰⁸² Transcript for 1 March 2022 T 579:4-12.

¹⁰⁸³ Exhibit 27A, Brief of Evidence at p. 126.

¹⁰⁸⁴ Exhibit 27A, Brief of Evidence at p. 127.

¹⁰⁸⁵ Exhibit 27A, Brief of Evidence at p. 127.

¹⁰⁸⁶ Exhibit 27A, Brief of Evidence at p. 127.

¹⁰⁸⁷ Exhibit 27A, Brief of Evidence at p. 158-14.

¹⁰⁸⁸ Transcript for 1 March 2022 T 564:18-23; Exhibit 27A, Brief of Evidence at p. 158-2.

¹⁰⁸⁹ Transcript for 1 March 2022 T 581:18-22.

¹⁰⁹⁰ Transcript for 1 March 2022 T 582:1-6.

39. In his report, Mr Conway ultimately concluded that the methodologies applied by both investigators were generally adequate and while there were additional investigative tasks that conceivably could have been undertaken to determine the cause and origin of the Long Gully Road, Drake Fire, those steps were unlikely to have changed the conclusions reached.¹⁰⁹¹
40. Mr Conway informed the Court that, in his experience, and having regard to available research, the systems used to monitor and identify lightning strikes are 70-90% reliable in identifying that a strike occurred, and the accuracy of where a lightning strike occurred can vary from 100 metres to 10 kilometres.¹⁰⁹² He characterised lightning strike data as an incredibly useful tool which can be used in conjunction with lightning strike indicators at the scene to identify lightning strike as a possible cause of a fire.¹⁰⁹³
41. Mr Conway agreed with Mr May that soil disturbance, as shown in the photographs taken by Mr May, is an indicator that supports a conclusion that lightning was a potential cause of the Long Gully Road, Drake Fire.¹⁰⁹⁴
42. Mr Conway placed weight on the presence of the internally burnt stump as evidence consistent with lightning strike and ultimately concluded that lightning strike could be identified as the most probable cause of the Long Gully Road, Drake Fire on the basis of the information before him. Mr Conway was fortified in this conclusion by the remote location of the area of origin, the exclusion of any other potential causes and the presence of consistent fire indicators.¹⁰⁹⁵

Section 81 Findings

43. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Long Gully Road, Drake Fire commenced on or about 30 August 2019 in a small bush gully south-west of the property at 681B McLeod's Creek Road, Sandy Hill, approximately 10 kilometres south-west of the small rural community of Drake.

The Long Gully Road, Drake Fire was caused by a lightning strike to a tree on or about 30 August 2019.

44. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹⁰⁹¹ Exhibit 27A, Brief of Evidence at p. 158-13.

¹⁰⁹² Transcript for 1 March 2022 582:48-50; Transcript for 1 March 2022 T 583:1-4; Exhibit 27A, Brief of Evidence at p. 158-8.

¹⁰⁹³ Transcript for 1 March 2022 T 583:13-22.

¹⁰⁹⁴ Transcript for 1 March 2022 T 583:49-50; Transcript for 1 March 2022 T 584:1-13.

¹⁰⁹⁵ Transcript for 1 March 2022 T 584:15-50.

3. Robert Lindsay and Gwendoline Hyde

Why was an inquest held?

1. In this inquest, the identities of Gwendoline (Gwen) Mair Hyde and Robert Frederick Lindsay are known, as is the date and place of their deaths. For this reason, the inquest into the deaths of Gwen and Robert focused on the manner and cause of their deaths.

Introduction

2. On 8 October 2019, under extreme fire weather conditions, the Long Gully Road, Drake Fire impacted several communities within the Clarence Valley LGA when it made a significant 25 kilometre run east-southeast.¹⁰⁹⁶
3. At that time, Gwen and her husband Robert were at home 286 Deadman Creek Road, Coongbar.¹⁰⁹⁷ The property where Gwen and Robert lived was 778.4-acres in size¹⁰⁹⁸, and surrounded by pine forest plantation and rugged bushland.¹⁰⁹⁹ It was located in the Ewingar range area, and was extremely isolated and remote, only accessible via a network of small dirt roads.¹¹⁰⁰ The house was a rustic log cabin that had no internal linings. The roof was made of corrugated iron sheeting, exposing large gaps in the eaves.¹¹⁰¹
4. Gwen was 68 years old, and Robert was 77 years old when they both tragically died at their home between 5:47pm and 5:57pm on 8 October 2019 after the Long Gully Road, Drake Fire overwhelmed their property.¹¹⁰² It was not until 10 October 2019 that their remains were located.¹¹⁰³

Gwen

5. Gwendoline Hyde was born on 14 December 1950 and was known to her family and friends as Gwen. She was married to Archibald (Archie) Hyde for many years, and the couple had three children: Jenny, Steven, and Anthony.¹¹⁰⁴ Gwen and Archie purchased the property of 286 Deadman Creek Road, Coongbar on 16 May 1991.¹¹⁰⁵ Together they resided there until Archie passed away in around 2016, and Gwen remained living on the property alone.¹¹⁰⁶
6. Gwen would travel to Casino to purchase food and supplies, including attending the service station owned by Robert and his family, as she had often done with Archie prior to his death.¹¹⁰⁷ In around 2016, Gwen and Robert commenced a relationship and soon after they got married at Casino Court House. Shortly thereafter, Robert moved in with Gwen at 286 Deadman Creek Road, Coongbar where they resided together until their deaths.¹¹⁰⁸
7. Gwen's younger brother, Vaughan Jones, described Gwen as a very kind person, generous and active, often walking around her property. Gwen had been diagnosed with low-level Asperger's syndrome and Vaughan described her as very confident in her decision making and would give strong, sound advice when asked. When Gwen would make up her mind, that's what would happen.¹¹⁰⁹

¹⁰⁹⁶ Exhibit 26A, Brief of Evidence at p. 180.

¹⁰⁹⁷ Exhibit 28, Brief of Evidence at p. 45.

¹⁰⁹⁸ Exhibit 28, Brief of Evidence at p. 49.

¹⁰⁹⁹ Exhibit 28, Brief of Evidence at p. 50.

¹¹⁰⁰ Exhibit 28, Brief of Evidence at p. 2.

¹¹⁰¹ Exhibit 28, Brief of Evidence at p. 50.

¹¹⁰² Exhibit 28, Brief of Evidence at p. 1, 154; Exhibit 27, Brief of Evidence at p.1.

¹¹⁰³ Exhibit 28, Brief of Evidence at p. 94.

¹¹⁰⁴ Exhibit 28, Brief of Evidence at p. 1, 46.

¹¹⁰⁵ Exhibit 28, Brief of Evidence at p. 49.

¹¹⁰⁶ Exhibit 28, Brief of Evidence at p. 46.

¹¹⁰⁷ Exhibit 28, Brief of Evidence at p. 47.

¹¹⁰⁸ Exhibit 28, Brief of Evidence at p. 49.

¹¹⁰⁹ Exhibit 28, Brief of Evidence at p. 42.

8. Gwen was described by many friends as a very active person and physically fit for her age, she was as ‘tough as nails’ and strong.¹¹¹⁰ She would reportedly walk for kilometres checking fences and attending to her property and would sometimes muster her cattle on foot.¹¹¹¹ Gwen was described as having a great set of morals and would be upfront and honest with everyone, she was a strong-headed person with strong opinions that she was not afraid to express.¹¹¹²
9. Gwen was regarded as ‘bush-smart’, having lived most of her life on the land and was well-known within her local community.¹¹¹³ She was described as having had a great love for the bush and her animals.¹¹¹⁴

Robert

10. Robert was born on 1 September 1942 and was known as Bob by some friends. He was born in Lismore and was the oldest child of George and Ivy Lindsay. He had two sisters, Janice, and Margaret, and one brother, Thomas, and the family grew up on the family farm at Larnook. When Robert was a teenager, he helped his family on the farm, and was always willing to lend a hand.¹¹¹⁵
11. Robert met Maureen Fromuller and after getting married, they had three children together: Michael, Leesa, and Anthony. Robert owned a number of businesses over the years, mostly service stations and workshops, and a wholesale nursery business. He also worked as a mechanic.¹¹¹⁶
12. Robert and Maureen welcomed into the family their son-in-law, Allen, and daughters-in-law, Julie, and Rebekah. Soon after, Robert became grandfather to Eric, Kieran, Rodney, Colin, Troy, Benjamin, Trent, Tahlia, Jessica, Mitchell, and Lachlan, each of whom he loved greatly.¹¹¹⁷
13. Robert and Maureen moved to Terranora where they operated the wholesale nursery business. Robert loved to surf at Kirra Beach, and he particularly loved taking his grandchildren to the beach and then home for a barbecue.¹¹¹⁸
14. Eventually, Robert and Maureen decided to move back closer to family and they moved to Casino. In 2002, Robert and Maureen purchased a service station in Casino with their son Michael and Michael’s wife, Julie.¹¹¹⁹
15. Sadly, on 30 November 2015, Maureen passed away. Robert and Maureen had been married for 48 years.¹¹²⁰
16. Robert, Michael, and Julie ran the service station business until June 2017; however, Robert had already left the business by that point.¹¹²¹
17. Robert met Gwen at the service station in Casino which she had regularly visited with Archie and continued to do so after Archie’s death. Shortly after Maureen’s passing in 2015, Robert moved in with Gwen at 286 Deadman Creek Road, Coongbar where Robert enjoyed doing farm work. About two years later, Robert and Gwen got married however, Robert’s family were not informed at the time. After commencing his relationship with Gwen and in the years prior to his death, Robert had little contact with his family.¹¹²²

¹¹¹⁰ Exhibit 28, Brief of Evidence at p. 221, 225, 227, 231, 235.

¹¹¹¹ Exhibit 28, Brief of Evidence at p. 235.

¹¹¹² Exhibit 28, Brief of Evidence at p. 221, 235.

¹¹¹³ Exhibit 28, Brief of Evidence at p. 227, 240; Transcript for 1 March 2022 T 596:6-9.

¹¹¹⁴ Transcript for 1 March 2022 T 596:6-9.

¹¹¹⁵ Exhibit 27, Brief of Evidence at p. 42; Family Statement provided to the Court on 2 March 2022; Transcript for 1 March 2022 T 614:20-23.

¹¹¹⁶ Exhibit 27, Brief of Evidence at p. 42; Family Statement provided to the Court on 2 March 2022.

¹¹¹⁷ Family Statement provided to the Court on 2 March 2022.

¹¹¹⁸ Family Statement provided to Court on 2 March 2022.

¹¹¹⁹ Exhibit 27, Brief of Evidence at p. 43; Family Statement provided to the Court on 2 March 2022.

¹¹²⁰ Exhibit 27, Brief of Evidence at p. 42.

¹¹²¹ Exhibit 27, Brief of Evidence at p. 43.

¹¹²² Exhibit 27, Brief of Evidence at p. 44.

18. Robert was described as a fit, strong man well into his 50s.¹¹²³ However, his health deteriorated in the years prior to his death. He had mobility limitations, heart problems and high blood pressure and was experiencing some degree of memory loss.¹¹²⁴

Chronology of events

19. On 5 September 2019, the Long Gully Road, Drake Fire was first reported to authorities, commencing in the Tenterfield LGA.¹¹²⁵
20. On 8 October 2019, the Long Gully Road, Drake Fire made a significant 25 kilometre run east-southeast. It crossed the Clarence River and Clarence Way and burned through dense pine tree plantations and scrubland into Coongbar.¹¹²⁶ DS Steven Hoffman, the NSWPF OIC of the inquests into Gwen and Robert's deaths, described the conditions around Coongbar on the afternoon of 8 October 2019 as extreme.¹¹²⁷
21. DS Hoffman described Gwen and Robert's property at 286 Deadman Creek Road, Coongbar as very remote and accessible only by narrow, isolated dirt roads. It was situated at the end of Deadman Creek Road, a dead-end road, meaning that there was only one road in and out of their property.¹¹²⁸
22. In DS Hoffman's view, Gwen and Robert's property was not well prepared from a fire safety perspective and was at high risk of being impacted by bushfire. Although the area around their property was largely cleared of large trees, the property itself, being constructed largely of timber, was cluttered with many items within it and in close proximity to the house.¹¹²⁹
23. Gwen had previous interactions with the RFS and the FCNSW and was considered a regular reporter of fire activity in the area over the years.¹¹³⁰
24. Although Gwen and Robert did not have a formalised or documented bushfire plan, Gwen's family and friends indicated that she had an informal plan that in the event of a bushfire, she would drive to a dam to the north-west of her property, between 100 to 250 metres away. It was believed that in the event of a fire, Gwen would never have left her property without Robert or defending the animals from fire.¹¹³¹
25. Returning to the day of 8 October 2019, Gwen and Robert were at their home at 286 Deadman Creek Road, Coongbar and over the course of the day between 10:44am to 5:36pm, Gwen's landline telephone was active and used numerous times although some of those telephone calls went unanswered.¹¹³²
26. At 10:44am, Gwen's friend Barry Usher telephoned Gwen, however, it was Robert who answered the phone. Robert informed Mr Usher that Gwen was out checking the dams and fences and that he had been in the house all morning. There was no mention of fire at that time.¹¹³³
27. At 11:03am, Gwen returned Mr Usher's call and they discussed plans for the following day. Gwen said to Mr Usher, "*bloody fires again*". According to Mr Usher, Gwen sounded concerned but not panicked.¹¹³⁴

¹¹²³ Exhibit 27, Brief of Evidence at p. 238.

¹¹²⁴ Exhibit 27, Brief of Evidence at p. 3, 45, 52, 234, 238.

¹¹²⁵ Exhibit 26A, Brief of Evidence at p. 5.

¹¹²⁶ Exhibit 26A, Brief of Evidence at p. 180; Exhibit 27, Brief of Evidence at p. 48.

¹¹²⁷ Transcript for 1 March 2022 T 592:17-21.

¹¹²⁸ Transcript for 1 March 2022 T 592:29-46.

¹¹²⁹ Transcript for 1 March 2022 T 594:44-50; Transcript for 1 March 2022 T 595:1-17.

¹¹³⁰ Transcript for 1 March 2022 T 596:15-37.

¹¹³¹ Exhibit 28, Brief of Evidence at p. 42; Transcript for 1 March 2022 T 596:44-50; Transcript for 1 March 2022 T 597:1-22.

¹¹³² Exhibit 28, Brief of Evidence at p. 275-276.

¹¹³³ Exhibit 27, Brief of Evidence at p. 225, 278.

¹¹³⁴ Exhibit 27, Brief of Evidence at p. 75, 225, 278.

28. At 2:58pm and 2:59pm, two emergency warnings for the Long Gully Road, Drake Fire were issued by the RFS to residents east of Ewingar and parts of Keybarbin. It did not target residents who resided east of Clarence Way, including Gwen and Robert. A review of the call charge records for Gwen's landline telephone number confirmed that she did not receive any emergency warning telephone calls or messages.¹¹³⁵
29. At 3:21pm, Gwen telephoned another friend, Jose McGovern. According to Ms McGovern, Gwen spoke of her plans to come to Casino the following day for a prayer group meeting but at no stage during their telephone conversation had Gwen mentioned the Fires in the area.¹¹³⁶
30. At 4:48pm, Gwen's local friend, Vance Tamblyn, telephoned Gwen concerned about the encroaching fire after noticing black smoke with white cumulus clouds above the mountains towards Gwen's place. According to Mr Tamblyn, Gwen did not seem concerned about the Fires and seemed more concerned about Robert and his possible dementia.¹¹³⁷
31. At 4:52pm, Gwen received a telephone call from Stuart Watts, DIC at the RFS Glen Innes FCC at the time, who had serious concerns for Gwen's safety. DIC Watts informed Gwen about the status of the Long Gully Road, Drake Fire, and advised her that it had jumped the Clarence River and was burning towards her home. He asked if she could download the Fires Near Me app, but Gwen advised she didn't have any mobile phone reception.¹¹³⁸
32. At 5:01pm, whilst still on the phone with Gwen, DIC Watts emailed her a RFS linescan depicting the approaching fire. Gwen viewed the linescan and according to DIC Watts, she gasped and said, "It's just State Forest trying to burn me out again". DIC Watts reiterated the seriousness of the Fire to Gwen and told her that he had concerns for her safety. He provided her with advice on taking shelter as he thought that the Fire would have been too close to leave safely.¹¹³⁹
33. At 5:05pm, Gwen left a voicemail message for her friend, Phillip Douglas Leadbeatter, on his mobile phone. In the message she said, "Doug, its urgent. The fire has crossed the river and is about to cross the Summerland Way and is coming to me". Sadly, Mr Leadbeatter did not receive this voicemail message until about 7:30am on 10 October 2019 when he activated his new mobile phone after damaging his old one whilst fighting fire in Rappville on 8 October 2019.¹¹⁴⁰
34. Between 5:16pm and 5:58pm, RFS linescans showed that the Long Gully Road, Drake Fire impacted upon Gwen and Robert's property.¹¹⁴¹
35. At 5:20pm, Gwen telephoned her friend Carol Dillon. As soon as she answered the phone, Ms Dillon could tell something was wrong and Gwen sounded very worried. Gwen mentioned that DIC Watts had called her earlier and told her that the Fire had jumped the river and Clarence Way. Ms Dillon knew that Gwen was referring to the Clarence River. Gwen mentioned that the Fire was now spotting in her orchard, and she needed to contact DIC Watts to let him know. Ms Dillon didn't have DIC Watt's number, so she provided Gwen with the telephone number for the RFS Ulmarra FCC.¹¹⁴²
36. At 5:21pm, Gwen called the RFS Ulmarra FCC and spoke with Helen Dickson, District Co-Ordinator at the time. Gwen told Ms Dickson that Stuart had called her about 15 minutes ago and as she hung up the phone, the Fire was about 100 yards above her house. Gwen said that she had no one there to help her. Ms Dickson said that she would contact DIC Watts, which she did at about 5:23pm.¹¹⁴³
37. Immediate attempts were made by the RFS to arrange firefighting crews to assist Gwen. However, no crews were available at that time as they had already been deployed to multiple active firegrounds.¹¹⁴⁴

¹¹³⁵ Exhibit 27, Brief of Evidence at p. 77-78.

¹¹³⁶ Exhibit 27, Brief of Evidence at p. 78, 231.

¹¹³⁷ Exhibit 27, Brief of Evidence at p. 80, 243-244.

¹¹³⁸ Exhibit 27, Brief of Evidence at p. 162-163.

¹¹³⁹ Exhibit 27, Brief of Evidence at p. 162-163, 172.

¹¹⁴⁰ Exhibit 27, Brief of Evidence at p. 239-240, Tab 18.

¹¹⁴¹ Exhibit 26A, Brief of Evidence at p. 196-201.

¹¹⁴² Exhibit 27, Brief of Evidence at p. 235-236.

¹¹⁴³ Exhibit 27, Brief of Evidence at p. 163, 174, 176-1, 277-292, Tab 9.

¹¹⁴⁴ Exhibit 27, Brief of Evidence at p. 172-2, 175-2.

38. At 5:25pm, Gwen left another voicemail message on Mr Leadbeatter's phone. In that message she said, "It's Gwen. Fire is at the house". Again, Mr Leadbeatter did not receive this message until about 7:30am on 10 October 2019.¹¹⁴⁵
39. At 5:36pm, Gwen made a final telephone call to her friend, Carl Walters. Mr Walters provided evidence in his statement of the conversation he had with Gwen at that time:
- "At 5.36pm the same day [on 8 October 2019], I received a telephone call from Gwen. I spoke with Gwen. She asked me for help, something like, "Can you help". I said, "What is wrong?" She said, "Something about the fire." ... all the entries were blocked by fires. No one could get in. I said: "Have you contacted the fire services?" She said, "They're are [sic] not coming." I said, "What are the conditions?" She said, "Everything outside is on fire. The house had just caught on fire." I said: "Just get somewhere safe, that's all you can do."¹¹⁴⁶*
40. Just prior to 5:35pm, RFS contracted helicopter pilot, Ashleigh Hogan, was conducting water bombing operations when he saw a RFS rescue helicopter with the call sign 'Helitak 202'. At about 5:35pm, Mr Hogan had radio communications with an aircraft 'Birddog', which was in communication with Helitak 202, and confirmed that Helitak 202 was searching for people.¹¹⁴⁷
41. Mr Hogan followed Helitak 202 and by that stage there was another waterbombing aircraft in the area with call sign 'Helitak 343'. All three aircraft proceeded to Gwen and Robert's property. Helitak 343 vacated the area as conditions made it difficult to continue conducting waterbombing operations and Helitak 202 had also vacated the area, possibly due to the same reasons or because it had been tasked to another area.¹¹⁴⁸
42. Despite the conditions, Mr Hogan was successful in flying over Gwen and Robert's property. Mr Hogan noticed a woman come off the verandah of the house and began to wave at Mr Hogan. Mr Hogan noticed another person was on the verandah, but they were not waving and stayed on the verandah. Mr Hogan thought that as he flew over Gwen and Robert's property, it was going to be difficult to defend because of the amount of timber, sheds, and equipment around the property, and a lack of cleared space.¹¹⁴⁹
43. At that stage, Gwen and Robert's home was not on fire. Mr Hogan observed trees, scrub, and a shed or some sort of structure to the north and west of the property on fire so, at about 5:47pm, he dropped water from his helicopter on the active flames around the structure. After doing so, Mr Hogan made an urgent radio call informing the RFS IMT of the seriousness of the situation.¹¹⁵⁰
44. Mr Hogan then departed the area to locate a water source needed to re-fill the bucket attached to his helicopter. He returned to Gwen and Robert's property about 10 minutes later, at approximately 5:57pm. However, by this time the Fire had progressed, and he was unable to safely approach the property and the house was no longer visible due to smoke and Mr Hogan reported this to back to Helitack 343 and Birddog.¹¹⁵¹
45. It was not until about 7:40pm when two teams from the RFS, including John Page, Group Officer with the Clarence Valley Rural Fire Brigade, were able to reach Gwen and Robert's property. This was due to the Long Gully Road, Drake Fire actively burning in the area and many fallen trees, restricting access. On arrival, Gwen and Robert's property had been completely destroyed by fire and had collapsed in onto itself. All that remained was the corrugated iron roof that was sitting on top of smouldering remains. Despite the efforts of the RFS, Gwen and Robert could not be located and Mr Page radioed his concerns to the RFS.¹¹⁵²

¹¹⁴⁵ Exhibit 27, Brief of Evidence at p. 239–240, 277–292, Tab 18.

¹¹⁴⁶ Exhibit 27, Brief of Evidence at p. 228.

¹¹⁴⁷ Exhibit 27, Brief of Evidence at p. 206.

¹¹⁴⁸ Exhibit 27, Brief of Evidence at p. 207; Transcript for 1 March 2022 T 609:1-32.

¹¹⁴⁹ Exhibit 27, Brief of Evidence at p. 208; Transcript for 1 March 2022 T 610:1-7.

¹¹⁵⁰ Exhibit 27, Brief of Evidence at p. 208; Transcript for 1 March 2022 T 610:17-35; Transcript for 1 March 2022 T 612:24-32.

¹¹⁵¹ Exhibit 27, Brief of Evidence at p. 209; Transcript for 1 March 2022 T 612:24-32; Transcript for 1 March 2022 T 613:22-33.

¹¹⁵² Exhibit 27, Brief of Evidence at p. 86, 175-4, 177-178.

46. On 9 October 2019 at about 3:00pm, the NSWPF attended Gwen and Robert's property and conducted a search, but they could not locate Gwen or Robert. Later that day, DS Hoffman contacted the NSWPF Forensic Services Group, FRNSW, and the RFS and proceeded to the property to conduct a further search, arriving there at about 5:50pm, which also did not result in Gwen or Robert being located.¹¹⁵³
47. On 10 October 2019, officers of the NSWPF Forensic Services Group located skeletal human bone fragments in the south-eastern corner of Gwen and Robert's residence, underneath the collapsed, corrugated iron roof. The bones were incredibly fragile and as a result, were left in situ at the scene, pending the arrival of Dr Penny McCardle, Forensic Anthropologist, contracted by the NSW Department of Forensic Medicine.¹¹⁵⁴
48. On 11 October 2019, the NSWPF officers, Dr McCardle and support staff attended Gwen and Robert's property. A thorough excavation and search of the home was conducted, and the skeletal remains of two people were located together. The lower skeletal remains appeared to have been slightly more distant from the upper remains, and DS Hoffman thought this was likely due to the structure collapsing onto Gwen and Robert.¹¹⁵⁵
49. On 12 October 2019, Steven May, RFS AFI, attended Gwen and Robert's property and conducted an examination of the scene. Mr May observed indicators of spot fires and ember attack in numerous locations. He was of the view that the Fire came from the west, as indicated by the angle of char on posts, clumps of grass, a stock crate, trees and because the deceased livestock in the chook pens were all on the eastern side. As the Fire moved west towards the dwelling, Mr May stated that it made a run with very low flame heights, through the chook pen and into the dwelling, and then continuing eastwards. Mr May considered that the main fire front did not impact the property, rather it was impacted heavily by ember attacks and spot fires, which caused a fire within the chook pen area, and spread rapidly to the western or south-western side of the dwelling.¹¹⁵⁶
50. On 16 and 17 October 2019, Dr McCardle conducted an examination of the remains found on 10 and 11 October 2019 and confirmed the presence of remains from at least two different individuals, one female and one male. DNA analysis was not possible due to the significant fire damage caused to the remains.¹¹⁵⁷
51. On 22 October 2019, Dr Allan Cala also conducted an examination of the remains. On the balance of probabilities, Dr Cala found that the remains belonged to Gwen and Robert, and they died as a result of "effects of fire".¹¹⁵⁸

¹¹⁵³ Exhibit 27, Brief of Evidence at p. 89–90, 93–94.

¹¹⁵⁴ Exhibit 27, Brief of Evidence at p. 94.

¹¹⁵⁵ Exhibit 27, Brief of Evidence at p. 95.

¹¹⁵⁶ Exhibit 27, Brief of Evidence at p. 102, Tab 27.

¹¹⁵⁷ Exhibit 27, Brief of Evidence at p. 96–97, Tab 4.

¹¹⁵⁸ Exhibit 27, Brief of Evidence at p. 10–12; Exhibit 28, Brief of Evidence at p. 10–12.

Section 81 Findings

52. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The persons who died were Gwendoline Mair Hyde and Robert Frederick Lindsay.

Date of death

Gwen and Robert died between 5:47pm and 5:57pm on 8 October 2019.

Place of death

They died at a property located at 286 Deadmans Creek Road, Coongbar.

Cause of death

The cause of their deaths was due to the effects of fire.

Manner of death

Gwen and Robert died when the Long Gully Road, Drake Fire impacted their home.

53. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.
54. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Gwen and Robert's families and loved ones, friends, and community for their loss.
55. At the conclusion of the evidence in the inquest, Robert's son, Michael, provided the Court with a family statement and photograph of Robert, which was read out by Counsel Assisting. It is reproduced in Part 7 – Testimonials.

4. Busbys Flat, Rappville Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Busbys Flat, Rappville Fire.

Introduction

2. The Busbys Flat Fire started on 4 October 2019 and in the early stages, it was also known as the Rappville Fire, taking its name from the village of Rappville, which came under attack from the Fire. It burned for two months until it was declared 'Out' on 4 December 2019.¹¹⁵⁹
3. The Busbys Flat Fire burned within the Richmond Valley LGA. It impacted upon the lands of the Galibal People. It burned approximately 51,517 hectares of private and public land.¹¹⁶⁰
4. The Busbys Flat Fire destroyed at least 44 residences and damaged 9 others, it destroyed 7 other structures including the local community hall, sawmill, and telephone exchange and 81 outbuildings, and damaged 31 other structures. Further, it was estimated that approximately 1,033 livestock including cattle were lost to the Busbys Flat Fire, approximately 3,219 kilometres of private and public boundary and internal fencing, about five kilometres of railway and associated infrastructure and at least 35 vehicles. Fortunately, no lives were lost.¹¹⁶¹

Chronology of events

5. On 4 October 2019 at about 9:30pm, the Busbys Flat Fire is believed to have commenced on the southern side of Busbys Flat Road, about one kilometre west of the intersection with O'Keefes Road at Busbys Flat. According to DS Hoffman, the OIC of the investigation, O'Keefes Road is more accurately described as an overgrown bush track.¹¹⁶²
6. The Busbys Flat Fire was first observed by a truck driver, Jeye Ballard, who was travelling west along Busbys Flat Road. He was on his way to pick up woodchip from a work site on Coongbar Road, Coongbar to transport it Condong. When he initially observed the Fire at about 9:30pm, it was burning in grassland on the side of the road and was about four or five metres wide with flames of about one metre high.¹¹⁶³
7. Mr Ballard was not able to immediately call 000 because he had no mobile phone reception. He continued driving further west, and once he was able to, at 9:42pm, Mr Ballard rang his boss, intending that his boss would then call 000 and report the existence of the Fire. However, there appears to have been a misunderstanding and no call was made to 000.¹¹⁶⁴
8. This time marking for the mobile phone call from Mr Ballard to his boss is taken from Mr Ballard's mobile phone. It reliably establishes that the Busbys Flat Fire commenced prior to 9:42pm, with Mr Ballard estimating that he saw the Fire about 10 minutes earlier, at around 9:30pm.¹¹⁶⁵
9. At around 11:00pm, Paul Syben, a resident on Busbys Flat Road with the closest cross street being O'Keefes Road, heard a vehicle he described as revving its engine in a stationary position. He thought that the sound was coming from the vicinity of the Old Tenterfield Road and Busbys Flat Road intersection, which is about 1 kilometre east from his property.¹¹⁶⁶

¹¹⁵⁹ Exhibit 29A, Brief of Evidence at p. 1-3, 173.

¹¹⁶⁰ Exhibit 29A, Brief of Evidence at p. 171, 192.

¹¹⁶¹ Exhibit 29A, Brief of Evidence at p. 171, 192.

¹¹⁶² Exhibit 29A, Brief of Evidence at p. 12, 15, 277-278.

¹¹⁶³ Exhibit 29A, Brief of Evidence at p. 277-279.

¹¹⁶⁴ Exhibit 29A, Brief of Evidence at p. 278-279.

¹¹⁶⁵ Exhibit 29A, Brief of Evidence at p. 278.

¹¹⁶⁶ Exhibit 29A, Brief of Evidence at p. 286.

10. Mr Syben then heard the vehicle accelerating with excessive engine revving in a westerly direction, travelling from Old Tenterfield Road towards O'Keefes Road and past his property. Mr Syben heard the vehicle engine quieten down which he associated with it likely having to slow down to turn corners and then didn't hear the vehicle again for a period of time. He later heard that same vehicle travelling back along Busbys Flat Road in the other direction, so he presumed that it had turned around and was travelling back towards Rappville.¹¹⁶⁷
11. Although the sound was loud and distinctive enough to be remarked upon by Mr Syben¹¹⁶⁸, the Court accepts that this vehicle is not implicated in the ignition of the Busbys Flat Fire. This is because on Mr Syben's account this vehicle travelled along Busbys Flat Road over an hour after the Fire had already commenced.
12. Meanwhile, Mr Ballard who had earlier witnessed the Busbys Flat Fire in its infancy, had proceeded in his truck to the work site on Coongbar Road, collected another load of woodchip and eventually began his return journey east towards Condong. As he travelled down a hill on Busbys Flat Road towards the area where he had earlier seen the Fire, he could see the glow of fire in the distance. By the time he reached the area where the Fire likely originated, based on his earlier observation, he estimated the Fire had spread to about 40 to 50 metres wide and was burning in thick scrub. Once again, Mr Ballard did not have mobile phone reception at the scene. He continued east along Busbys Flat Road for two or three minutes until he had reception, pulled over and rang 000 himself to report the Fire. The timing of this call was at 11:41pm, as corroborated by 000 records.¹¹⁶⁹
13. Around this time, a forestry worker, Clinton Gill, finished his shift a little earlier than usual at the same work site on Coongbar Road that Mr Ballard had left. Mr Gill and a colleague then travelled from the work site on Coongbar Road towards Busbys Flat.¹¹⁷⁰
14. As they travelled from the west-southwest along Busbys Flat Road, Mr Gill saw an old dual-cab Toyota Hilux coming towards him. He was able to remember this because he recalled having to flash his headlights at the Toyota Hilux to get the driver of that vehicle to dim their high beam lights. Mr Gill shortly thereafter came across the Busbys Flat Fire.¹¹⁷¹
15. It is accepted that the presence of the Toyota Hilux driving along Busbys Flat Road that Mr Gill passed was not suspicious nor implicated in the ignition of the Busbys Flat Fire. By this point in time, the Busbys Flat Fire had already been burning for over two hours.
16. DS Hoffman's evidence is also accepted and offers a reasonable explanation for the presence of another vehicle in such a remote area. In particular, that there were a number of private properties along Busbys Flat Road and a number of places where people liked to camp. It follows that there were legitimate reasons why someone might have been driving along Busbys Flat Road, particularly on the evening of a long weekend.¹¹⁷²
17. Mr Gill described the Busbys Flat Fire when he first saw it as being about 200 metres wide, burning way back into the bush and up into the treetops.¹¹⁷³ That is, he described a bigger fire than that described by Jeye, but the Court does not need to resolve the discrepancy in their evidence because on either account the Fire was well established by this time.
18. Mr Gill also wanted to call 000, but like Mr Ballard, he had no mobile phone reception at the scene. He continued down Busbys Flat Road, and eventually came upon Mr Ballard, who had pulled over to the side of the road to make his call to the authorities.¹¹⁷⁴
19. Mr Ballard, being unfamiliar with the local area, was having some trouble explaining the precise location of the Fire to the 000 operator. Mr Gill took over the phone from Mr Ballard and provided more precise details about the location of the Fire.¹¹⁷⁵

¹¹⁶⁷ Exhibit 29A, Brief of Evidence at p. 287.

¹¹⁶⁸ Exhibit 29A, Brief of Evidence at p. 287.

¹¹⁶⁹ Exhibit 29A, Brief of Evidence at p. 279, 339, Tab 23.

¹¹⁷⁰ Exhibit 29A, Brief of Evidence at p. 282–283.

¹¹⁷¹ Exhibit 29A, Brief of Evidence at p. 283.

¹¹⁷² Transcript for 2 March 2022 T 633:46-50; Transcript for 2 March 2022 T 634:1-32.

¹¹⁷³ Exhibit 29A, Brief of Evidence at p. 283.

¹¹⁷⁴ Exhibit 29A, Brief of Evidence at p. 283–284.

¹¹⁷⁵ Exhibit 29A, Brief of Evidence at p. 284, Tab 23.

20. At 11:50pm, the Busbys Flat Fire was authorised as 'Going'.¹¹⁷⁶
21. At 11:54pm, Neil Burnett, Captain of the Rappville Rural Fire Brigade, was alerted to the presence of the Fire. He responded accordingly and arrived at the scene with another member of the Rappville Rural Fire Brigade at about 12:20am on 5 October 2019.¹¹⁷⁷
22. At that time, the Busbys Flat Fire had burned approximately 300 to 350 metres along Busbys Flat Road. It was moving in a south-westerly direction through inaccessible terrain away from some of the local properties, including those owned by Mr Syben and by Anya and Tom O'Keeffe.¹¹⁷⁸
23. Mr Ballard later marked on a map the approximate location of where he believed he saw the Fire, as indicated by the red circle in the centre of the map and provided it to DS Hoffman.¹¹⁷⁹



24. The Busbys Flat Fire was burning through dry swamp and heavily timbered country that was inaccessible by vehicle. However, no properties at that time were threatened by the Fire, and once firefighters from the Casino and Whiporie Rural Fire Brigades arrived on scene, a containment plan was developed to execute at daybreak.¹¹⁸⁰
25. At about 9:00am on 5 October 2019, a bulldozer arrived and started work on a fire break along O'Keefes Road. This included clearing a fire break across the property of Mr and Mrs O'Keeffe further along Busbys Flat Road from Mr Syben's property. Backburning operations took place along Busbys Flat Road and O'Keefes Road, working west towards the Busbys Flat Fire.¹¹⁸¹
26. By nightfall on 5 October 2019, the Busbys Flat Fire was burning in an area that was not too heavily vegetated.¹¹⁸²
27. On 6 October 2019, backburning operations continued by the RFS with the assistance of firefighters from the FCNSW.¹¹⁸³

¹¹⁷⁶ Exhibit 29A, Brief of Evidence at p. 311.

¹¹⁷⁷ Exhibit 29A, Brief of Evidence at p. 225.

¹¹⁷⁸ Exhibit 29A, Brief of Evidence at p. 225.

¹¹⁷⁹ Exhibit 29A, Brief of Evidence at p. 281.

¹¹⁸⁰ Exhibit 29A, Brief of Evidence at p. 225–226.

¹¹⁸¹ Exhibit 29A, Brief of Evidence at p. 226, 293.

¹¹⁸² Exhibit 29A, Brief of Evidence at p. 227.

¹¹⁸³ Exhibit 29A, Brief of Evidence at p. 18, 227.

28. On 7 and 8 October 2019, conditions deteriorated, and containment efforts could not withstand changes in the Fire brought on by treacherous weather including hot, dry conditions with a fresh westerly wind. Temperatures were expected to reach up to 38 degrees Celsius, RH as low as 10% and wind gusts of up to 50 kilometres per hour.¹¹⁸⁴ All backburning was suspended and property protection operations began. The Busbys Flat Fire ultimately travelled at a speed that was much faster than expected.¹¹⁸⁵
29. By 11:00am on 8 October 2019, the focus moved to property protection.¹¹⁸⁶
30. By 11:20am, the alert level for the Busbys Flat fire was upgraded to EW due to predicted dangerous and erratic fire behaviour expected in the afternoon.¹¹⁸⁷
31. At 11:21am and 11:24am, emergency warnings were disseminated by the RFS warning residents to take shelter as the Busbys Flat Fire continued to burn in an easterly direction towards Old Tenterfield Road.¹¹⁸⁸
32. The Busbys Flat Fire had travelled a considerable distance to the east with several farming properties on Old Tenterfield Road coming under direct threat earlier than expected. As the Busbys Flat Fire jumped Old Tenterfield Road, it split into three distinct fronts. The first travelled in a north-east direction towards the Coombell area. The middle front travelled east and would later impact Rappville village, and the third travelled south towards the Myrtle Creek area.¹¹⁸⁹
33. Over the course of the afternoon additional aerial support was requested, and two large air tankers were deployed to make strategic runs to protect properties where fire crews were working. However, visibility was compromised, and the air tankers were redirected to lay retardant lines to the west of Rappville in the event the Busbys Flat Fire spread that far.¹¹⁹⁰
34. By 3:57pm and 4:03pm, further emergency warnings were disseminated by the RFS advising residents of the Busbys Flat Fire spreading quickly in the Wyan, The Island, Rappville, Myrtle Creek, and Summerland Way areas and to seek shelter as the Fire approached.¹¹⁹¹
35. As the Busbys Flat Fire impacted Rappville, about 42 residents in the small community were forced to seek shelter at Rappville School. One RFS vehicle, Wyrallah 1, was based at the school to defend it, and the people sheltering there. The school came under ember attack causing nearby trees to catch alight, but the school didn't burn, and lives were saved.¹¹⁹²
36. Sadly, several homes were lost along with the community hall. As the Busbys Flat Fire continued to spread east, it crossed the Sydney to Brisbane railway line damaging about five kilometres of railway and associated infrastructure. It moved into the Ellangowan, Myrtle Creek and Bungawalbin areas due to a south-easterly wind change at about 4:30pm. The change in wind direction created new threats and the 60-kilometre northern flank of the Fire became the focus and the protection of a large number of properties to the north. Several more properties were lost as the Fire continued to burn with intensity well into the night.¹¹⁹³
37. In the evening of 8 October 2019, the Long Gully Road, Drake Fire burning in the Tenterfield LGA to the west broke containment and made a significant run to the east, crossing the Clarence River and entering the Clarence Valley LGA. The Long Gully Road, Drake Fire ultimately merged with the western heel of the Busbys Flat Fire.¹¹⁹⁴

¹¹⁸⁴ Exhibit 29A, Brief of Evidence at p. 332–334.

¹¹⁸⁵ Exhibit 29A, Brief of Evidence at p. 20-21, 227–228.

¹¹⁸⁶ Exhibit 29A, Brief of Evidence at p. 170, 228.

¹¹⁸⁷ Exhibit 29A, Brief of Evidence at p. 21, 170.

¹¹⁸⁸ Exhibit 29A, Brief of Evidence at p. 362.

¹¹⁸⁹ Exhibit 29A, Brief of Evidence at p. 23, 170, 228.

¹¹⁹⁰ Exhibit 29A, Brief of Evidence at p. 170.

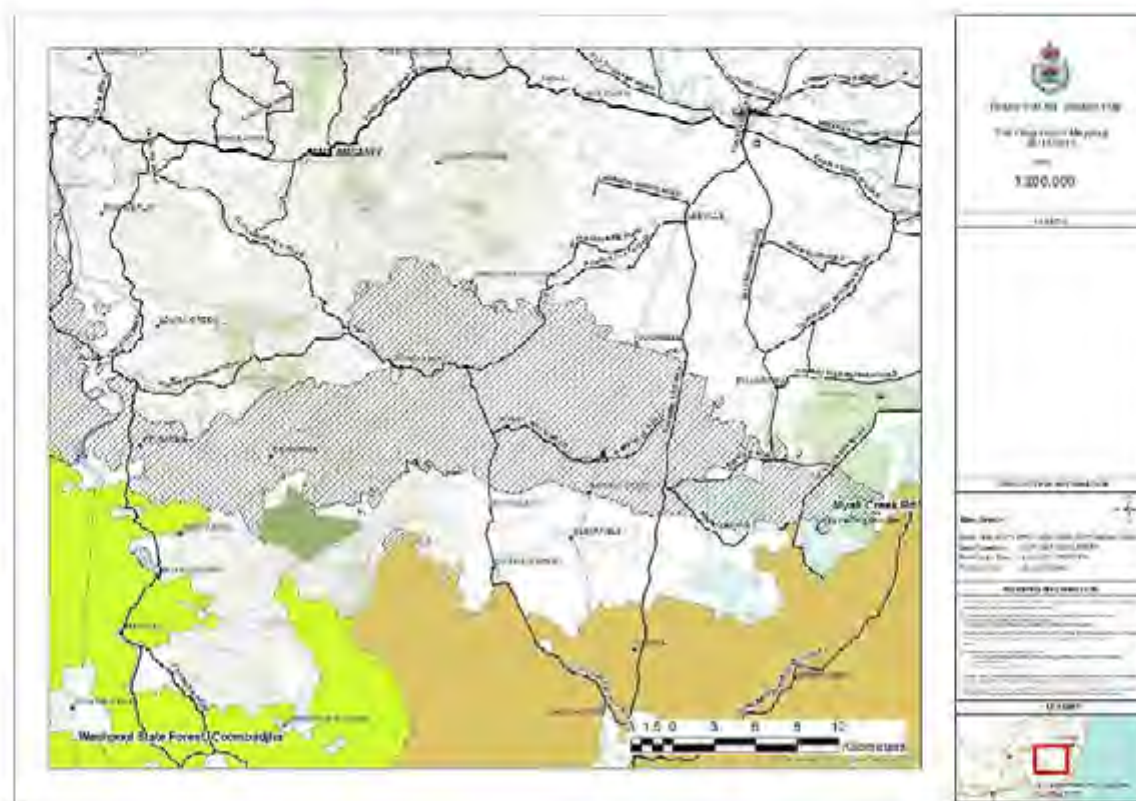
¹¹⁹¹ Exhibit 29A, Brief of Evidence at p. 365.

¹¹⁹² Exhibit 29A, Brief of Evidence at p. 25, 263–264.

¹¹⁹³ Exhibit 29A, Brief of Evidence at p. 171.

¹¹⁹⁴ Exhibit 29A, Brief of Evidence at p. 170–171.

38. From 9 October 2019, the Busbys Flat Fire continued to burn for weeks due to continued erratic weather conditions and extensive fire perimeters. Extensive heavy plant was engaged to construct and consolidate containment lines and aerial assets were used to support ground operations.¹¹⁹⁵
39. By 28 October 2019, as a result of favourable containment and conditions on the fireground, the status of the Busbys Flat Fire was updated to 'Patrol' and by 31 October 2019, resources were scaled back further.¹¹⁹⁶
40. On 4 December 2019, the Busbys Flat Fire was officially declared 'Out'. The final extent of the Fire is demonstrated in the image below:¹¹⁹⁷



Cause and origin

41. As to the date and likely time of ignition, DS Hoffman concluded that the Busbys Flat Fire commenced sometime around 9:30pm on 4 October 2019. This estimate was based upon the size of the Fire when Mr Ballard reported it to his boss during the telephone call made at 9:42pm on 4 October 2019.¹¹⁹⁸
42. Mr Ballard had initially described a fire that was about 4-5 metres wide and about 6 metres into the bush from the side of the road. This led DS Hoffman to believe that, given such description and how the land and the grass around the roadside was at that particular time, it was a fairly recent ignition.¹¹⁹⁹
43. In addition to the wider investigation undertaken by the NSWPF, Peter Arthur, RFS AFI, commenced an investigation into the cause and origin of the Busbys Flat Fire.

¹¹⁹⁵ Exhibit 29A, Brief of Evidence at p. 33, 178-183.

¹¹⁹⁶ Exhibit 29A, Brief of Evidence at p. 183.

¹¹⁹⁷ Exhibit 29A, Brief of Evidence at p. 228, 329.

¹¹⁹⁸ Transcript for 2 March 2022 T 637:40-50; Transcript for 2 March 2022 T 638:1-9.

¹¹⁹⁹ Transcript for 2 March 2022 T 638:5-9.

44. Mr Arthur attended the scene of the Busbys Flat Fire on two separate occasions. The first inspection commenced at 4:00pm on 5 October 2019; the day after the Fire had first been reported. The second occasion was on 26 October 2019, the purpose of which was to have a second fire investigator confirm Mr Arthur's findings.¹²⁰⁰
45. At the time of his first inspection at the scene, Mr Arthur was able to speak to Neil Burnett, being the first RFS responder to the Fire, who pointed out the general area of origin.¹²⁰¹
46. Using this general area of origin, Mr Arthur was able to enter the scene and walked in a serpentine fashion looking for macro fire indicators of fire spread and tracking them back to a suspected area of origin. From there he was able to track micro-indicators of fire spread until fixing upon a probable point of origin with low intensity fire originating from this spot.¹²⁰²
47. Having tracked indicators to the point of origin, Mr Arthur found a piece of steel belting with some remnants of rubber around it, burnt on the ground. Mr Arthur told the Court he believed this was part of a tyre from a car or other vehicle. Other parts of rubber from a blown tyre were observed to the north and south of the point of origin, spread along about a 50-metre range. Some of these remnants appeared to have tyre tread still visible on the rubber and some remnants, such as the piece Mr Arthur located at the point of origin, still had pieces of steel belting contained within.¹²⁰³
48. It was the fact that the piece of steel belting was located at the point of origin of the Busbys Flat Fire that allowed Mr Arthur to hypothesise that the remnant actually caused the Fire.¹²⁰⁴
49. Mr Arthur concluded that the oxidisation and damage to the wire was the result of damage from the intense heat generated when the rubber burnt.¹²⁰⁵
50. Mr Arthur fairly acknowledged that *"this is the first time I've seen a car tyre fire like this. I do have – I've seen it in car fires themselves, the tyres will burn with rubber, leaving...the wire exposed. But this is the first time on the side of the road I've seen this happen."*¹²⁰⁶
51. Mr Arthur further told the Court that at previous car fires scenes he had observed similar discolouration of the steel belting as a result of oxidisation during the Fire. He did not think that such damage to the steel belting could have occurred from weathering or exposure to the elements prior to the Fire.¹²⁰⁷
52. Mr Arthur's cause and origin report also referred to a cigarette lighter which he had discovered and photographed in the general area of origin but about 18 metres away from the point of origin.¹²⁰⁸
53. It is accepted that the cigarette lighter found at the scene can be discounted as a potential ignition source. This is because Mr Arthur tested the lighter and it didn't work, the lighting mechanism was rusted and the lighter itself was faded from sitting in the sun for quite a while.¹²⁰⁹
54. Mr Arthur's cause and origin report also included photographs and references to three black markings on the road approximately three metres from the point of origin which he concluded were skid marks from tyres. Mr Arthur concluded these had been there for quite a while.¹²¹⁰
55. As such, it is accepted that there is no need to determine whether the tyre skid marks can be accurately dated. Even if that were possible, there is no available evidence to match the identified skid marks to any particular vehicle.

¹²⁰⁰ Exhibit 29A, Brief of Evidence at p. 131; Transcript for 16 March 2022 T 40:43-45.

¹²⁰¹ Exhibit 29A, Brief of Evidence at p. 131; Transcript for 16 March 2022 T 41:1-4.

¹²⁰² Exhibit 29A, Brief of Evidence at p. 131 –132; Transcript for 16 March 2022 T 41:13-23.

¹²⁰³ Exhibit 29A, Brief of Evidence at p. 132; Transcript for 16 March 2022 T 41:44-48; Transcript for 16 March 2022 T 48:44-50; Transcript for 16 March 2022 T 49:1-35.

¹²⁰⁴ Exhibit 29A, Brief of Evidence at p. 132; Transcript for 16 March 2022 T 47:48-50; Transcript for 16 March 2022 T 48:1-9.

¹²⁰⁵ Transcript for 16 March 2022 T 46:38-45; Transcript for 16 March 2022 T 47:25-36.

¹²⁰⁶ Transcript for 16 March 2022 T 47:38-43.

¹²⁰⁷ Transcript for 16 March 2022 T 47:25-50; Transcript for 16 March 2022 T 48:1-17.

¹²⁰⁸ Exhibit 29A, Brief of Evidence at p. 133.

¹²⁰⁹ Transcript for 16 March 2022 T 42:1-33.

¹²¹⁰ Exhibit 29A, Brief of Evidence at p. 133; Transcript for 16 March 2022 T 45:6-50; Transcript for 16 March 2022 T 46:1.

56. Ultimately, having tracked the indicators to the point of origin and then observing the oxidised wire at that point, along with the remnants of tyre tread that had been scattered to the north and south of the general area of origin, Mr Arthur concluded that the Fire was not the result of any intentional act. Mr Arthur's view was that the Fire had started as a result of the steel belting landing in dry, crisp grass and leaf matter.¹²¹¹
57. Mr Arthur eliminated other potential causes of the Busbys Flat Fire including lightning, campfire, smoking, debris burning, equipment use, suspicious activity, juvenile fire play, rail infrastructure, and powerlines, with which DS Hoffman agreed.¹²¹² However, DS Hoffman was not prepared to go as far as Mr Arthur as to the cause of the Busbys Flat Fire being due to a remnant from a tyre landing in dry grass by the side of the road.¹²¹³
58. In the course of his investigation DS Hoffman was provided with intel reported to Crime Stoppers and from community sources about other people, including locals, that might have been implicated in the Fire. Following further investigation, DS Hoffman concluded that there was no credible evidence suggesting that any of those people were likely involved in starting the Busbys Flat Fire. DS Hoffman's ultimate opinion was that the cause of the Fire was unintentional, not deliberately lit.¹²¹⁴

Section 81 Findings

59. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Busbys Flat, Rappville Fire commenced at approximately 9:30pm on 4 October 2019 adjacent to Busbys Flat Road and about one kilometre west of the intersection with O'Keefes Road, Busbys Flat.

The Busbys Flat, Rappville Fire was caused by an unintentional human act, with the fire most likely having started when steel belting from a piece of shredded tyre ignited dry, crisp grass and leaf matter at the scene.

60. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹²¹¹ Exhibit 29A, Brief of Evidence at p. 133; Transcript for 16 March 2022 T 48:39-50; Transcript for 16 March 2022 T 49:1-10; Transcript for 16 March 2022 T 50:9-25.

¹²¹² Exhibit 29A, Brief of Evidence at p. 132-133; Transcript for 2 March 2022 T 642-644.

¹²¹³ Transcript for 2 March 2022 T 646:11-30.

¹²¹⁴ Exhibit 29A, Brief of Evidence at p. 115-125.

5. Gulf Road, Torrington Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Gulf Road, Torrington Fire.

Introduction

2. The Gulf Road, Torrington Fire started on 26 October 2019. It burned for five weeks until it was declared 'Out' on 30 November 2019.¹²¹⁵
3. It burned predominantly within the Tenterfield LGA but also extended into the neighbouring Glen Innes Severn LGA. It impacted upon the lands of the Jukembal, Kamilaroi, Bundjalung and Ngarrabul People. It burned approximately 74,238 hectares comprising of 41,438 hectares of private land, 29,653 hectares of National Park, 1,667 hectares of State Forest, and 1,480 hectares of other land.¹²¹⁶
4. The Gulf Road, Torrington Fire destroyed at least 22 residences, 2 facilities, 33 outbuildings and damaged 5 residences and 15 outbuildings in the towns of Torrington, Emmaville, Silent Grove, Bolivia, and Dumaresq Valley. The most severely impacted of those communities, being Torrington, was home to about 100 people and they lost 16 residences with other buildings partially damaged.¹²¹⁷ This is a significant loss for such a small community.
5. Further, the additional loss of livelihoods resulting from the impact of the Gulf Road, Torrington Fire on commercial quantities of stock and feed cannot be overstated for the region, which is heavily dependent on agriculture. Similarly, there was a terrible loss in terms of native flora and fauna, which will never be quantified. Fortunately, however, no lives were lost in connection with this Fire.¹²¹⁸

Chronology of events

6. On 26 October 2019, Robert Overmars was at his home, known as 'Trap Mountain', on Gulf Road, Emmaville when he saw a storm developing to the north-west of an airstrip/runway on his property. At about 5:00pm, he saw a lightning strike to the north-west of the runway and about 3-4 seconds later, he heard thunder. As a result, he estimated the distance of the lightning strike to be between 1 to 1.4 kilometres north-west from the hanger on his property, in an area he described as rough granite terrain containing large boulders and dry bushland inaccessible by vehicle and difficult to navigate by foot.¹²¹⁹
7. Throughout the evening of 26 October 2019 and on the morning of 27 October 2019, Mr Overmars and his wife, Winnie, smelt bushfire smoke but they were unsure if the smoke was from a new fire or an established fire burning in the region at the time.¹²²⁰
8. On 27 October 2019 at around 1:30pm, Mr and Mrs Overmars and friends who were visiting them saw an aircraft fly over the Overmars' property, circle the area where Mr Overmars had observed the lightning strike the previous day, and then it turned around and departed the area.¹²²¹
9. At around 2:00pm, after noticing the smell of smoke getting stronger, Mr Overmars and his friend went to the end of the runway and saw a thin, wispy column of smoke coming from the area where Mr Overmars had observed the lightning strike the previous day. Mr Overmars subsequently called the RFS Glen Innes FCC, and he described what he had observed.¹²²²

¹²¹⁵ Exhibit 30A, Brief of Evidence at p. 2, 18, 14.

¹²¹⁶ Exhibit 30A, Brief of Evidence at p. 3, 22, 55.

¹²¹⁷ Exhibit 30A, Brief of Evidence at p. 2, 20–22, Tab 18.

¹²¹⁸ Exhibit 30A, Brief of Evidence at p. 22.

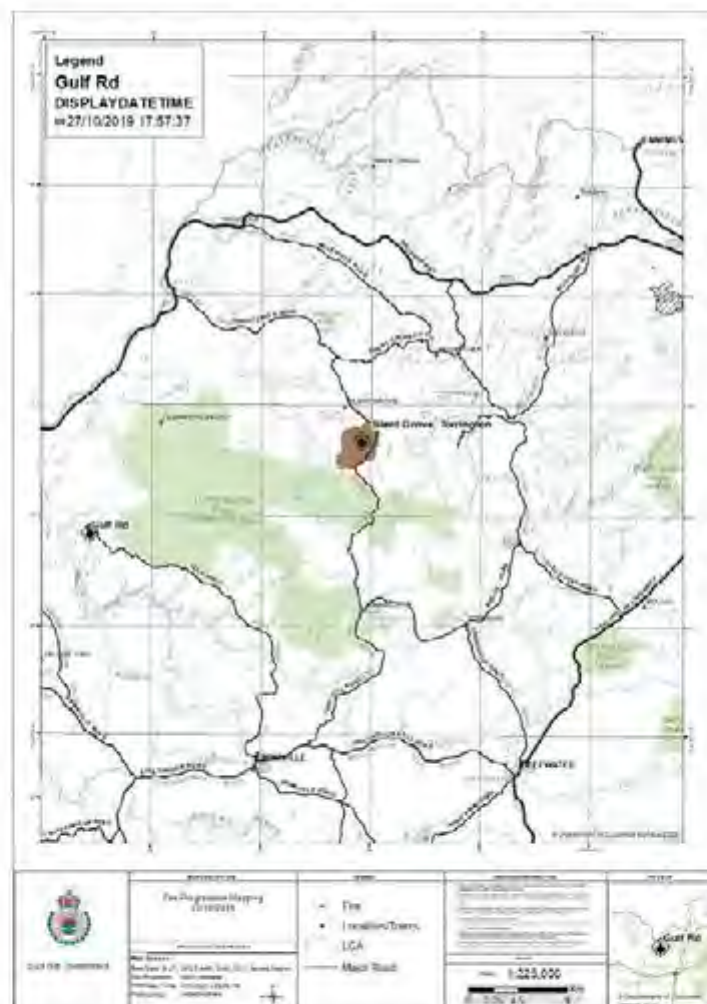
¹²¹⁹ Exhibit 30A, Brief of Evidence at p. 33-1, Tab 7.

¹²²⁰ Exhibit 30A, Brief of Evidence at p. 33-1, Tab 7.

¹²²¹ Exhibit 30A, Brief of Evidence at p. 33-1, Tab 7.

¹²²² Exhibit 30A, Brief of Evidence at p. 6, 15, 33-1, Tab 7.

10. After making the call, Mr Overmars, and the others on his property at the time returned to the runway to monitor the situation and they observed the smoke column to be getting thicker although there was no fire visible. This prompted Mr Overmars to call the RFS Glen Innes FCC again. At that time, he was asked to take a photograph, so he travelled with Mrs Overmars down a track to Beardy River and about halfway down the track from a vantage point, Mr Overmars took a photograph at about 3:21pm and sent it to the RFS at about 3:23pm. Mr Overmars stressed the need to get resources onto the Fire quickly and provided details of water sources on his property including a large dam. Mr Overmars also notified the NPWS and his neighbours of the Fire.¹²²³
11. At 4:56pm, FRNSW received a 000 call from Murray Hall who reported that there was a fire 20 kilometres south of Bonshaw, over the Beardy River Bridge on Gulf Road.¹²²⁴
12. At 4:57pm, the Gulf Road, Torrington Fire was authorised as 'Going' and was first mapped.¹²²⁵
13. At around 5:00pm or shortly thereafter, Mr Overmars saw a helicopter circle the Gulf Road, Torrington Fire. The helicopter landed and Mr Overmars spoke to the pilot about the Fire for a short time before the pilot departed the area.¹²²⁶
14. Soon after, Mr Overmars received a telephone call notifying him that RFS ground crew were on their way. At around this time, Robert had advised the RFS that the Fire had grown rapidly in size, approximately 20 hectares with flames one to two metres high heading in a north-easterly direction. The Gulf Road, Torrington Fire had burnt approximately 1 kilometre into Torrington Conservation Forest and was spotting well ahead of itself (as demonstrated in the image below):¹²²⁷



¹²²³ Exhibit 30A, Brief of Evidence at p. 33-1-33-2, Tab 7.

¹²²⁴ Exhibit 30A, Brief of Evidence at p. 8, 144.

¹²²⁵ Exhibit 30A, Brief of Evidence at p. 37, 58, 102-1.

¹²²⁶ Exhibit 30A, Brief of Evidence at p. 33-1, Tab 7.

¹²²⁷ Exhibit 30A, Brief of Evidence at p. 15, 33-1, Tab 7.

15. Once the RFS crew arrived at around 7:00pm, Mr Overmars opened his property gate, let them in and took them to the end of the runway where the Gulf Road, Torrington Fire was burning. It was indicated to Mr Overmars that it would be helpful with fire suppression if he could clear a containment line on his property, which he did. By this point in time, it was dark and as Mr Overmars was working, the Fire was burning to his left, and two spot fires started on his right. An additional RFS crew had arrived, but all crews left soon after as the wind had abated, and the Fire was calm.¹²²⁸
16. The following morning, on 28 October 2019, Mr Overmars again cleared containment lines about 3 kilometres to the north-east and to the west on his property. RFS crews were assessing fallback containment options as fire activity was increasing.¹²²⁹
17. The RFS, FRNSW, the NPWS, the FCNSW, FFM, crews from as far as Queensland in addition to members of the community contributed to fighting the Fire at various stages.¹²³⁰
18. From 1 to 6 November 2019, the Gulf Road, Torrington Fire continued to burn with backburning, retardant lines, fallback containment lines and aerial support utilised to slow the spread however, it continued to travel east towards Silent Grove and Torrington.¹²³¹
19. On 7 November 2019, the situation worsened as weather conditions deteriorated. The Gulf Road, Torrington Fire broke containment lines and was threatening local communities. The RFS conducted a community meeting at the RFS Torrington Fire Station as the town braced for impact. About 40 residents attended and, following that, strike teams began doorknocking residents in the western part of town. Firefighting efforts extended well into the night as the focus shifted away from direct attack and towards asset protection.¹²³²
20. On the morning of 8 November 2019, conditions worsened still in the Emmaville and Torrington areas. The Bureau Incident Weather Forecast for the Gulf Road, Torrington Fire predicted temperatures to reach 29 degrees Celsius from 2:00pm to 4:00pm, 9% to 11% RH, and west/north-west winds gusting at 70 kilometres per hour.¹²³³
21. By 12:59pm, properties in Silent Grove were impacted with the Fire having crossed Silent Grove Road and spotting ahead of the fire front at least half a kilometre west of Stannum.¹²³⁴
22. By 1:45pm, properties in the small town of Torrington were impacted with extreme fire conditions reported and long-distance spotting.¹²³⁵
23. Over the next two weeks, firefighting crews continued to work to contain the Gulf Road, Torrington Fire through backburning, aggressive blacking out, establishing new containment lines and aerial attack.¹²³⁶

¹²²⁸ Exhibit 30A, Brief of Evidence at p. 33-2, Tab 7.

¹²²⁹ Exhibit 30A, Brief of Evidence at Tab 7, p. 61, 64.

¹²³⁰ Exhibit 30A, Brief of Evidence at p. 9-14, Tab 13.

¹²³¹ Exhibit 30A, Brief of Evidence at p. 15-16, 23.

¹²³² Exhibit 30A, Brief of Evidence at p. 16-17.

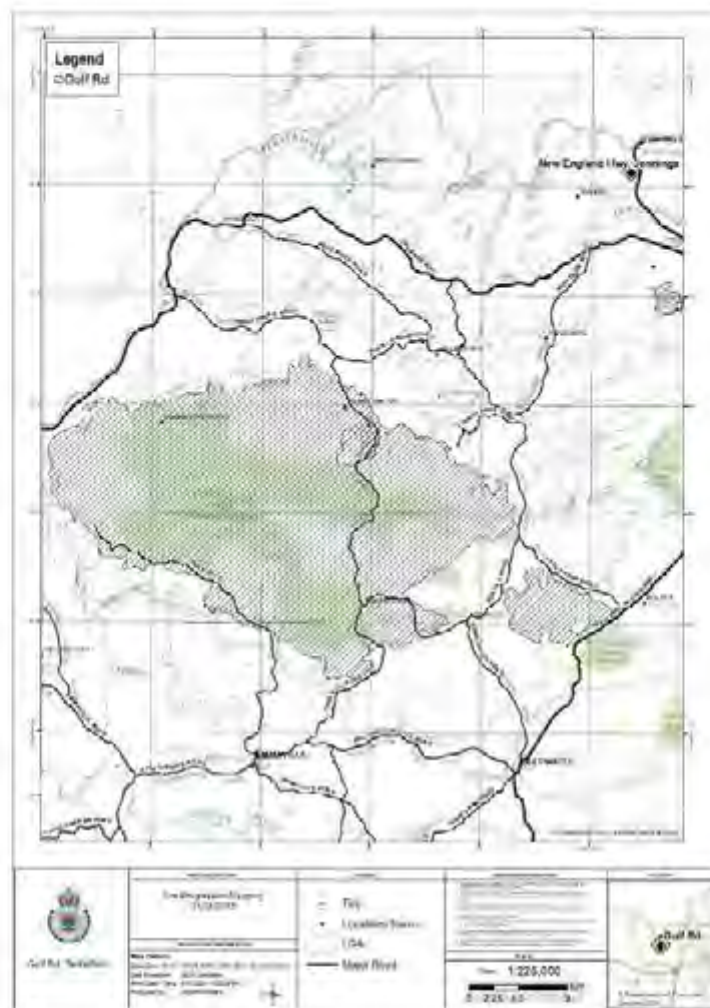
¹²³³ Exhibit 30A, Brief of Evidence at p. 139-140.

¹²³⁴ Exhibit 30A, Brief of Evidence at p. 23, 75-78.

¹²³⁵ Exhibit 30A, Brief of Evidence at p. 18, 79.

¹²³⁶ Exhibit 30A, Brief of Evidence at p. 13-14.

24. On 30 November 2019, following much needed rain in the area, the Gulf Road, Torrington Fire was declared 'Out'.¹²³⁷ However, the Overmars reported that they had fire on their property in hollow trees and smouldering tree stumps right up until Christmas 2019.¹²³⁸ The final extent of the Fire is demonstrated in the fire progression map below:



Cause and origin

25. There was no cause and origin investigation conducted by the RFS. Similarly, the NSWPF FETS did not conduct a cause and origin investigation. This was in part due to resourcing given the need to triage investigating resources to other fires first, such as those involving a suspicious cause, a death or where a person was seriously injured.¹²³⁹
26. It was not until 11 months after the Gulf Road, Torrington Fire had started that DSC Nicole Ramsay, the OIC, and her colleagues at Glen Innes Detectives were tasked with travelling to the suspected area of origin. Regeneration in the surrounding area and the passage of time did not assist with their investigation, therefore the primary source of evidence concerning the cause and origin of the Gulf Road, Torrington Fire originated from the eyewitness account of Mr Overmars.¹²⁴⁰

¹²³⁷ Exhibit 30A, Brief of Evidence at p. 18.

¹²³⁸ Exhibit 30A, Brief of Evidence at Tab 7.

¹²³⁹ Transcript for 2 March 2022 T 659:46-50; Transcript for 2 March 2022 T 660:1-5.

¹²⁴⁰ Transcript for 2 March 2022 T 660:7-23.

27. After interviewing Mr Overmars at his property on 24 September 2020, DSC Ramsay obtained lightning strike data for the relevant area across the period of 20 October 2019 to 28 October 2019. The data confirmed lightning strike activity in the area on 26 October 2019 but on first review of the data, it did not accord with the time reported by Mr Overmars and showed lightning strike activity earlier in the day from between 6:04am and 6:21am (as demonstrated in the fire progression map below):¹²⁴¹



Figure 5 Fire Progression Mapping 27/10/2019 and lightning recorded in the vicinity of the Gulf Rd on the 26/10/2019 UTC (1100, 26/10/2019 to 1100, 27/10/2019 AEDT) (1:100,000 scale)

28. DSC Ramsay was surprised that the lightning data did not match up with Mr Overmars' account of events because he seemed truthful and reliable in his evidence.¹²⁴²
29. However, on closer inspection of the data, DSC Ramsay uncovered that the times were recorded in Universal Time Coordinated or 'UTC'. When the times were converted into Australian Eastern Daylight-Saving Time or 'AEDT' it placed lightning strikes in the area on the afternoon of 26 October 2019.¹²⁴³
30. RFS lightning data later obtained also corroborated Mr Overmars' account of lightning strikes on the afternoon of 26 October 2019.¹²⁴⁴

¹²⁴¹ Exhibit 30A, Brief of Evidence at p. 87-102; Transcript for 2 March 2022 T 661:20-35.

¹²⁴² Transcript for 2 March 2022 T 661:29-35.

¹²⁴³ Transcript for 2 March 2022 T 661:37-40.

¹²⁴⁴ Exhibit 30A, Brief of Evidence at p. 102-7-102-8.

31. Notably, there were several lightning strikes recorded in the vicinity of Gulf Road. Lightning strikes commenced at 5:05pm until 5:21pm on 26 October 2019.¹²⁴⁵ This is broadly consistent with Mr Overmars' evidence of having observed lightning strikes in the region at around 5:00pm.
32. In relation to the RFS lightning strike data obtained for 26 October 2019 and plotted on fire progression mapping for 27 October 2019, DSC Ramsay confirmed that the small fire symbol is indicative of the point of origin of the Fire as established by the RFS. The smaller yellow circles are the lightning strikes recorded in the vicinity of Gulf Road on 26 October 2019 with an identification number next to them. DSC Ramsay agreed that none of the plotted lightning strikes matched neatly against the mapped location of the Gulf Road, Torrington Fire.¹²⁴⁶
33. However, given Mr Overmars' evidence of having observed a lightning strike at 'Trap Mountain' at the end of Gulf Road, which is broadly corroborated by the lightning strike data, DSC Ramsay agreed that it would suggest that the Gulf Road, Torrington Fire was likely to have been caused by the lightning strike observed by Mr Overmars.¹²⁴⁷
34. DSC Ramsay also provided evidence that the area of origin was extremely remote. Therefore, she was able to eliminate other potential causes of the Gulf Road, Torrington Fire including powerlines, campfires, smoking, human activity, equipment, juvenile fire play and rail infrastructure.¹²⁴⁸

Section 81 Findings

35. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Gulf Road, Torrington Fire commenced on 26 October 2019 at approximately 5:00pm in remote bushland on a private property at 3133 Gulf Road, Emmaville, known as 'Trap Mountain'.

The Gulf Road, Torrington Fire was likely caused by lightning strike on 26 October 2019.
36. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹²⁴⁵ Exhibit 30A, Brief of Evidence at p. 102-7-102-8.

¹²⁴⁶ Exhibit 30A, Brief of Evidence at p. 102-7-102-8; Transcript for 2 March 2022 T 662:38-50, Transcript for 2 March 2022 T 663:1-3.

¹²⁴⁷ Exhibit 30A, Brief of Evidence at p. 102-7-102-8; Transcript for 2 March 2022 T 658:28-31; Transcript for 2 March 2022 T 663:23-29.

¹²⁴⁸ Transcript for 2 March 2022 T 663:31-50; Transcript for 2 March 2022 T 664:1-17.

6. Washpool State Forest, Coombadjha Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Washpool State Forest, Coombadjha Fire.

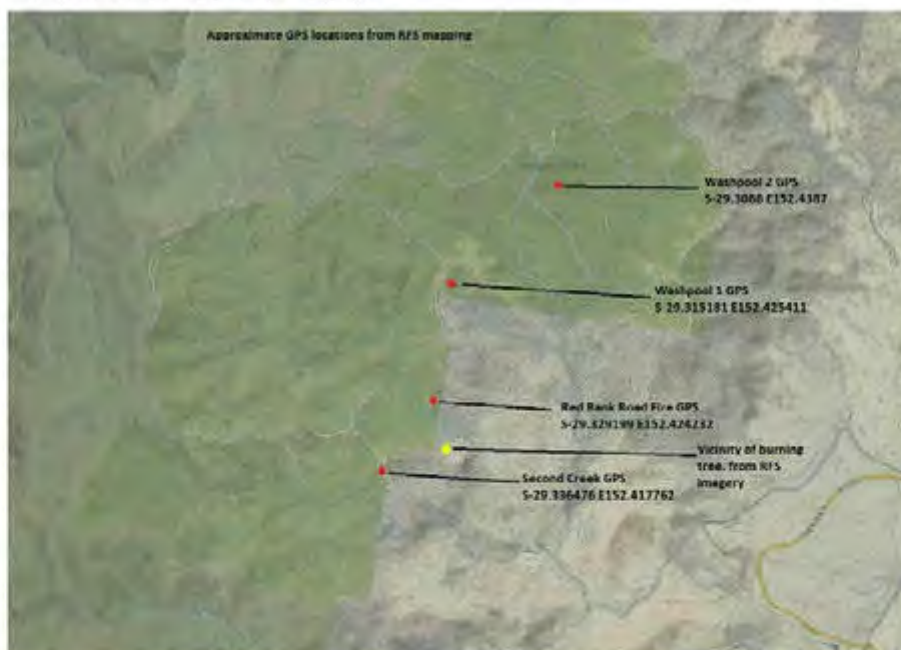
Introduction

2. The Washpool State Forest, Coombadjha Fire, referred to throughout the inquiry as the Washpool 2 Fire and hereafter will be referred to as such, started on or around 30 October 2019.
3. It burned for approximately ten weeks until it was declared 'Out' on 7 January 2020. It burned in the Clarence Valley LGA, on the lands of the Bundjalung, *Gumbanynggirr* and Ngarrabul people.¹²⁴⁹
4. During that time, the Washpool 2 Fire burned approximately 133,318 hectares comprising of 71,349 hectares of private land, 41,796 hectares of National Park, including the Washpool National Park of significant heritage value, 19,414 hectares of State Forest, and 759 hectares of other land. The Washpool 2 Fire destroyed 10 residences and 39 outbuildings and damaged 5 residences, 12 outbuildings and 1 facility.¹²⁵⁰

Chronology of events

5. There were complexities associated with identifying the cause of the Washpool 2 Fire and to understand the cause of the Fire, it is necessary to examine the months leading up to its ignition. There were three smaller fires that burned within the same area prior to the Washpool 2 Fire which were only identified by investigating NSWPF officers during a bushfire season review conducted many months after the event. These fires included the Second Creek Fire, Washpool State Forest Fire, Red Bank Road, Coombadjha Fire and Washpool 1 Fire (see image below):¹²⁵¹

2. Approximate points of interest with GPS coordinates



¹²⁴⁹ Exhibit 31A, Brief of Evidence at p. 5, 153.

¹²⁵⁰ Exhibit 31A, Brief of Evidence at p. 5, 7, 121, 153.

¹²⁵¹ Exhibit 31A, Brief of Evidence at p. 5, 86.

Second Creek, Washpool State Forest Fire; Red Bank Road, Coombadjha Fire; and Washpool 1 Fire

6. On 17 August 2019 at 2:48pm, the first fire, named the Second Creek, Washpool State Forest Fire by the RFS, was located in the Washpool State Forest, detected by a member of air attack from the NPWS. By 2:50pm, it was authorised as ‘Going’ by the RFS.¹²⁵²
7. The Second Creek, Washpool State Forest Fire burned for approximately two weeks until it was declared ‘Out’ on 30 August 2019. It burnt approximately 704 hectares of land comprising of 618 hectares of State Forest, 69 hectares of private land and 17 hectares of National Park.¹²⁵³
8. On 8 September 2019, just over one week after the Second Creek, Washpool State Forest Fire had been declared ‘Out’, the Red Bank Road, Coombadjha Fire was detected in the vicinity of Red Bank Road.¹²⁵⁴
9. The Red Bank Road, Coombadjha Fire burnt for 10 days before it was declared ‘Out’ on 18 September 2019. It burnt approximately 350 hectares of land comprising of 301 hectares of private land, 48 hectares of State Forest, and 1 hectare of other land.¹²⁵⁵
10. On 9 October 2019, about 3 weeks after the Red Bank Road, Coombadjha Fire was declared ‘Out’, there was another fire which commenced in the Washpool State Forest. This Fire was first managed by the RFS under the same name as the former fire, namely the Red Bank Road, Coombadjha Fire, but was renamed to the Washpool, Coombadjha Fire and later the Washpool 1 Fire.¹²⁵⁶
11. The fire was declared ‘Out’ on 24 October 2019. It destroyed approximately 275 hectares of land, comprising of 217 hectares of State Forest, 57 hectares of private land, and 1 hectare of National Park.¹²⁵⁷

Washpool 2 Fire – the subject of this inquiry

12. The Washpool State Forest, Coombadjha Fire, known as the Washpool 2 Fire, was first detected on 30 October 2019. This was about six days after the Washpool 1 Fire was declared ‘Out’.¹²⁵⁸
13. During the first week of the Washpool 2 Fire igniting, firefighting operations focussed on containment.¹²⁵⁹
14. On 7 and 8 November 2019, weather conditions significantly deteriorated. At Grafton Airport, maximum temperatures on 7 November 2019 reached a high of 36.2 degrees Celsius and on 8 November 2019 temperatures reached a high of 34.9 degrees Celsius. The Washpool 2 Fire broke containment lines in multiple locations and burned out of control to the west, east and north. Operations focussed upon property protection until conditions eased.¹²⁶⁰
15. From 9 November 2019 until 24 November 2019, the Washpool 2 Fire continued to break containment lines and burned out of control to the west, east and north. On 12 November 2019, it impacted upon the towns of Malabugilmah, Baryulgil and Coaldale under strong winds.¹²⁶¹
16. On 25 November 2019, the Washpool Fire and Myall Creek Road Fire merged.¹²⁶²

¹²⁵² Exhibit 31A, Brief of Evidence at p. 127–128.

¹²⁵³ Exhibit 31A, Brief of Evidence at p. 132.

¹²⁵⁴ Exhibit 31A, Brief of Evidence at p. 136–137.

¹²⁵⁵ Exhibit 31A, Brief of Evidence at p. 139.

¹²⁵⁶ Exhibit 31A, Brief of Evidence at p. 141–142.

¹²⁵⁷ Exhibit 31A, Brief of Evidence at p. 146.

¹²⁵⁸ Exhibit 31A, Brief of Evidence at p. 148–149.

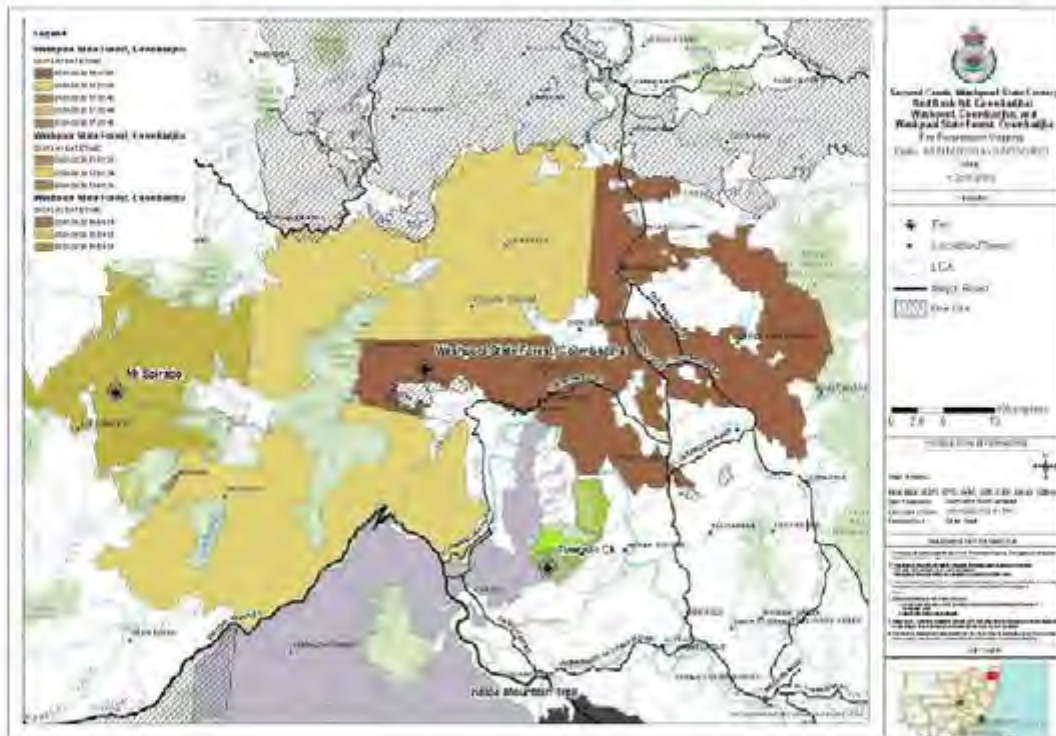
¹²⁵⁹ Exhibit 31A, Brief of Evidence at p. 31, 104.

¹²⁶⁰ Exhibit 31A, Brief of Evidence at p. 31, 156–100, 156–101.

¹²⁶¹ Exhibit 31A, Brief of Evidence at p. 31–37.

¹²⁶² Exhibit 31A, Brief of Evidence at p. 35.

17. On 7 January 2020, the Washpool 2 Fire was declared 'Out' after it merged with the Mount Spirabo Fire.¹²⁶³ The final extent of the Fire is demonstrated in the image below:



Cause and origin

Second Creek, Washpool State Forest Fire

18. At the time of the Second Creek, Washpool State Forest Fire, the RFS did not consider that it met its criteria for a cause and origin investigation. Accordingly, no investigation was conducted at that time.¹²⁶⁴
19. About one year later, on 26 August 2020, the RFS reviewed historical satellite imaging around the area of origin and identified a smoking tree on 13 August 2019 approximately 800 metres to the east of the suspected point of origin.¹²⁶⁵
20. The suspected area of origin of this Fire was mapped by the RFS as originating to the west of Red Bank Road in the Washpool State Forest, bordering on private property. This area of origin was attended by SC Daniel Drew and Mark Fullagar, RFS AFI.¹²⁶⁶
21. In his fire investigation review, Mr Fullagar indicated that he observed macro indicators of fire including angle of char and some foliage freeze, which suggested that the Fire moved in an easterly and northerly direction. There were also indicators of backburning along and off the roads in the area. It appeared that there had been fire on the northern side of an unnamed road in the area in that it had travelled in a northerly and easterly direction. He was unable to locate any hard containment lines on the northern or eastern perimeters of this Fire.¹²⁶⁷
22. SC Drew considered that the cause of the Second Creek Fire was undetermined.¹²⁶⁸

¹²⁶³ Exhibit 31A, Brief of Evidence at p. 110, 153.

¹²⁶⁴ Transcript of 4 March 2022 T 674:16-19.

¹²⁶⁵ Exhibit 31A, Brief of Evidence at p. 66, 134; Transcript of 4 March 2022 T 674:24-43.

¹²⁶⁶ Exhibit 31A, Brief of Evidence at p. 65-66.

¹²⁶⁷ Exhibit 31A, Brief of Evidence at p. 65-66.

¹²⁶⁸ Exhibit 31A, Brief of Evidence at p. 74.

23. Mr Fullagar deemed the origin of the Fire to be located where the burning tree was sighted on satellite imagery, where private land bordered the Washpool State Forest. However, he could not find the specific area of ignition at that point in time or any lightning data which indicated lightning in the fire area.¹²⁶⁹
24. In oral evidence, Mr Fullagar confirmed to the Court that he was also unable to determine the cause of the Second Creek Fire when he attended the fire scene and concluded that the cause of the Fire should be undetermined.¹²⁷⁰
25. Richards Woods, an adjunct lecturer in wildfire investigation and a former Inspector and Superintendent of the ACT and RFS, was engaged to review documents, including RFS documents, lightning strike data, cause and origin statements from the NSWPF and weather observations relating to the Second Creek Fire. Mr Woods did not attend the scene for a number of reasons, including the significant passage of time which had elapsed since the Fire.¹²⁷¹
26. Mr Woods received lightning strike data obtained within a 50-kilometre radius of the smoking tree identified on 13 August 2019, which showed no lightning strikes in the vicinity of the smoking tree. He therefore eliminated lightning as a cause of the Second Creek Fire.¹²⁷²
27. Ultimately, Mr Woods also formed the view that the cause of the Second Creek Fire is undetermined. He told the Court that there was a lack of evidence in relation to a number of potential causes, therefore they remain unresolved.¹²⁷³

Red Bank Road, Coombadjha Fire

28. On 25 September 2020, which was about a year after the Red Bank Road, Coombadjha Fire was declared 'Out', SC Drew with the assistance of Mr Fullagar conducted an examination of the scene of the Fire. Both observed macro indicators of angel char on the trees and formed a view that the Fire originated on the western side of the Red Bank Road between a dry creek bed used to contain the earlier fire and Red Bank Road.¹²⁷⁴
29. Mr Fullagar was of the view that as there were no hard containment lines around the earlier fire from his observations on the ground and the linescans of 9 September 2020, the Fire was a reignition of the earlier fire. However, he could not discount human intervention. Ultimately, he opined that the cause of this Fire was undetermined.¹²⁷⁵
30. SC Drew agreed that the cause of the Red Bank Road, Coombadjha Fire was undetermined. He opined that the Red Bank Road Fire and the Second Creek Fire could have been one continuous fire as there were no hard containment lines separating the mapped area of the Fires, the height of char and angle of char on the trees throughout the area.¹²⁷⁶
31. Mr Woods was of the view that south-westerly winds may have enhanced any remaining fuel resulting in embers from the Second Creek Fire being carried by wind or the movement of that fire burning into vegetation as it progressed across the containment.¹²⁷⁷
32. Mr Woods was able to eliminate a number of potential causes, including campfire, smoking, debris burning, juvenile play and railway infrastructure. He could not discount others and could not eliminate a re-ignition of the earlier fire as the potential cause of the Red Bank Road Fire. He was of the view that prevailing winds could have caused a spot over or ignition from that first fire.¹²⁷⁸

¹²⁶⁹ Exhibit 31A, Brief of Evidence at p. 66.

¹²⁷⁰ Transcript of 4 March 2022 T 681:41-46.

¹²⁷¹ Exhibit 31A, Brief of Evidence at p. 97-1–97-3; Transcript of 4 March 2022 T 685:31-34.

¹²⁷² Exhibit 31A, Brief of Evidence at p. 97-27.

¹²⁷³ Exhibit 31A, Brief of Evidence at p. 97-20–97-27; Transcript of 4 March 2022 T 688:5-50; Transcript of 4 March 2022 T 689:1-50; Transcript of 4 March 2022 T 690:1-8.

¹²⁷⁴ Exhibit 31A, Brief of Evidence at p. 66, 73.

¹²⁷⁵ Exhibit 31A, Brief of Evidence at p. 66, 66-3.

¹²⁷⁶ Exhibit 31A, Brief of Evidence at p. 73-74.

¹²⁷⁷ Exhibit 31A, Brief of Evidence at p. 97-9–97-11.

¹²⁷⁸ Exhibit 31A, Brief of Evidence at p. 97-28–97-33.

33. Mr Woods opined that lightning could not be eliminated as a potential cause of the Red Bank Road Fire, therefore remained unresolved, on the basis that there were 18 recorded lightning strikes from 29 to 30 August 2019 within 5 kilometres of the burnt area identified in lightning strike data.¹²⁷⁹
34. Taking into account the above, Mr Woods confirmed in his oral evidence his view that the cause of the Red Bank Road Fire is undetermined.¹²⁸⁰

Washpool 1 Fire

35. On 14 August 2020, SC Drew investigated the cause and origin of the Washpool 1 Fire and attended the scene of the Fire with Mr Fullagar. They opined that the Washpool 1 Fire originated around 1.2 kilometres north of the area of origin of the Red Bank Road Fire. During that examination, they observed the most predominant fire indicator as the angle of char. They formed a view that the Fire travelled in a northerly direction on either side of Red Bank Road.¹²⁸¹
36. SC Drew was of the view that the cause of the Washpool 1 Fire was undetermined and likely a continuation of a previous fire.¹²⁸²
37. Mr Fullagar concluded that the Washpool 1 Fire was likely caused by smouldering debris re-igniting from either the Second Creek or the Red Bank Road Fires, or both, however human intervention could not be discounted. He did not observe hard containment lines which had been constructed by machinery or humans for the first two fires or the Washpool 1 Fire.¹²⁸³
38. Mr Woods agreed with Mr Fullagar that it was plausible that any remnants of smouldering fuel near the northern-western boundaries of the Second Creek and Red Bank Road Fires possibly resulted in embers being carried by wind, or the movement of fire burning in vegetation progressing north, into unburnt fuel, resulting in the ignition of the third fire.¹²⁸⁴
39. Mr Woods eliminated a number of potential causes for the Washpool 1 Fire, including juvenile play and railway infrastructure. He also determined that campfire or smoking was an unlikely cause of the Fire. He further noted that some other potential causes remained unresolved, such as a deliberate act and equipment use. Lightning as a potential cause also remained unresolved. Mr Woods therefore considered that the cause of the Fire was undetermined.¹²⁸⁵

Washpool 2 Fire

40. On 14 August 2020, SC Drew investigated the cause and origin of the Washpool 2 Fire and attended the scene of the Fire with Mr Fullagar. They attempted to access the assumed area of origin proximate to Red Bank Road in the Washpool State Forest but due to the number of fallen trees, and time constraints, they were unable to reach that particular area.¹²⁸⁶
41. Based on his analysis of available RFS maps and linescans, Mr Fullagar formed the view that the Washpool 2 Fire was caused by a re-ignition of the Washpool 1 Fire on the south-easter side of Red Bank Road.¹²⁸⁷
42. SC Drew could not determine a SAO, however determined some approximate points of origin for each fire. He concluded that the cause of the Washpool 2 Fire was undetermined.¹²⁸⁸

¹²⁷⁹ Exhibit 31A, Brief of Evidence at p. 97-31 – 97-32.

¹²⁸⁰ Transcript for 4 March 2022 T 693:11-14.

¹²⁸¹ Exhibit 31A, Brief of Evidence at p. 65.

¹²⁸² Exhibit 31A, Brief of Evidence at p. 72–73.

¹²⁸³ Exhibit 31A, Brief of Evidence at p. 65; 66-4.

¹²⁸⁴ Exhibit 31A, Brief of Evidence at p. 97-34 – 97-39; Transcript for 4 March 2022 T 694:8-28.

¹²⁸⁵ Exhibit 31A, Brief of Evidence at p. 97-34 – 97-39.

¹²⁸⁶ Exhibit 31A, Brief of Evidence at p. 65, 66-3, 72–73.

¹²⁸⁷ Exhibit 31A, Brief of Evidence at p. 65.

¹²⁸⁸ Exhibit 31A, Brief of Evidence at p. 72–75.

43. Mr Fullagar provided oral evidence that to review the Washpool 2 Fire, he obtained data from the RFS incident management system, ICON, and his opinion was based on linescan review and mapping.¹²⁸⁹ In respect of the methodologies used to conduct his fire investigation review prepared in early November 2020, Mr Fullagar told the Court of the difficulties associated with the locations of the Fires, including the steep terrain and regrowth of vegetation.¹²⁹⁰
44. Mr Fullagar ultimately opined that the Washpool 2 Fire was a re-ignition from the Washpool 1 Fire and a re-ignition of the previous two fires.¹²⁹¹
45. Mr Woods considered that the cause of the Washpool 2 fire was undetermined. He did not consider that there was enough evidence to determine that the Fire was one continuous fire as opposed to a number of separate fires. He indicated that it was possible that the Fire was a re-ignition of a previous fire, more likely the preceding fire known as the Washpool 1 Fire.¹²⁹²
46. Further, Mr Woods told the Court that the area of origin hadn't been clearly identified making the ability to ascertain the cause of the Fire difficult.¹²⁹³
47. Based on his review of the available records, Mr Woods determined that there was extensive lightning activity in the area leading up to the ignition on 30 October 2019. However, without a SAO, it was difficult to ascertain whether the lightning activity contributed to the ignition of the Fire.¹²⁹⁴

Section 81 Findings

48. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Washpool State Forest, Coombadjha Fire, also known as the Washpool 2 Fire, commenced on or around 30 October 2019 in an area proximate to Red Bank Road in the Washpool State Forest.

The cause of the Washpool State Forest, Coombadjha Fire, also known as the Washpool 2 Fire, is undetermined.

49. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹²⁸⁹ Transcript for 4 March 2022 T 680:3-6; Transcript for 4 March 2022 T 682:31-36.

¹²⁹⁰ Transcript for 4 March 2022 T 680:34-50.

¹²⁹¹ Exhibit 31A, Brief of Evidence at p. 66, 66-3 – 66-4; Transcript for 4 March 2022 T 683:5-13.

¹²⁹² Exhibit 31A, Brief of Evidence at p. 97-40 – 97-45; Transcript for 4 March 2022 T 695:20-50; Transcript for 4 March 2022 T 696:1-17.

¹²⁹³ Transcript for 4 March 2022 T 696:5-17.

¹²⁹⁴ Transcript for 4 March 2022 T 696:19-44.

7. Kangawalla, Diehard Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Kangawalla, Diehard Fire that started on 26 October 2019.

Introduction

2. The Kangawalla, Diehard Fire started on 26 October 2019. It burned for approximately four weeks until it was declared 'Out' on 24 November 2019.¹²⁹⁵
3. It burned in the Glen Innes LGA and impacted upon the lands of the Ngoorabul people. It burned approximately 21,143 hectares comprising of 3,899 hectares of State Forest, 8,903 hectares of National Park, 8,288 hectares of private land and 53 hectares of other land.¹²⁹⁶
4. The Kangawalla, Diehard Fire destroyed at least 72 residential homes, 66 outbuildings and the Wyaliba Public School. It damaged at least 18 residential homes and 18 outbuildings.¹²⁹⁷
5. While these findings are limited to the cause and origin of the Kangawalla, Diehard Fire, it should be noted that on 8 November 2019, Vivien Chaplain and George Nole died in connection with this Fire. The circumstances of these individuals' death is considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of these individuals' deaths are located in Sections 8 and 9 following.¹²⁹⁸

Chronology of events

6. On the afternoon of 26 October 2019, Dylan McKean who lives at 464 Cooper Road, Red Range, witnessed a storm pass through the valley near his property in the direction of the Mann River. Dylan described hearing a large crack of lightning, believing it was close; he could hear the sound of a sizzle following the crack.¹²⁹⁹

¹²⁹⁵ Exhibit 32A, Brief of Evidence at p. 41, Tab 40.

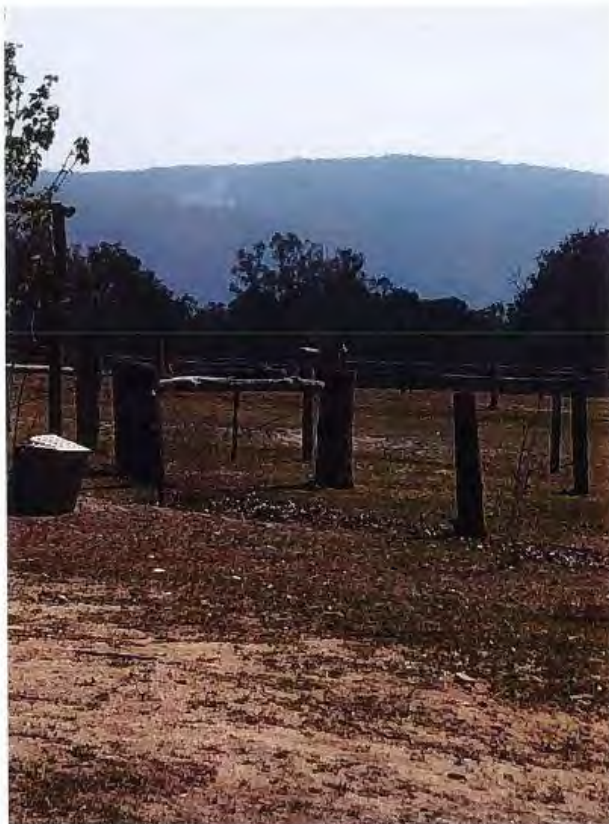
¹²⁹⁶ Exhibit 32A, Brief of Evidence at p. 59.

¹²⁹⁷ Exhibit 32A, Brief of Evidence at p. 43.

¹²⁹⁸ Exhibit 32A, Brief of Evidence at p. 2.

¹²⁹⁹ Exhibit 32A, Brief of Evidence at p. 186-187.

7. Just before 10:00am on 27 October 2019, Dylan observed a plume of smoke on the northern side of the Mann River. He took a photograph of what he saw and sent it to the Glen Innes FCC at 10:07am. He then telephoned the Glen Innes FCC and asked whether he should call 000 but was notified that they would do so. Dylan provided a map and coordinates of what he believed to be the general location of the Fire (see images below):¹³⁰⁰



8. At 10:37am, the Kangawalla, Diehard Fire was authorised as 'Going'.¹³⁰¹
9. At 11:30am, the Shannon Vale Rural Fire Brigade telephoned Peter Alexander, resident of Skelton Creek Road, Shannon Vale, and member of the Shannon Vale Rural Fire Brigade, to inform him that a fire had been detected at his property. Peter stated that the firefighters arrived at his property, and he accompanied them to the south-west corner where they located the Kangawalla, Diehard Fire. At that time, the Kangawalla, Diehard Fire was burning in an area of about two hectares with smoke plumes about 500 metres high in an area described as very rocky, undulating terrain.¹³⁰²
10. At about 1:45pm, Dylan noticed that what he first saw as a small plume of smoke had developed into a larger fire. It had progressed significantly in an easterly direction across the hill.¹³⁰³

¹³⁰⁰ Exhibit 32A, Brief of Evidence at p. 187–188.

¹³⁰¹ Exhibit 32A, Brief of Evidence at p. 150, 222.

¹³⁰² Exhibit 32A, Brief of Evidence at p. 196-1.

¹³⁰³ Exhibit 32A, Brief of Evidence at p. 189.

11. At 3:12pm, Dylan took another photograph (see below) which displayed the progression of the Kangawalla, Diehard Fire. According to Dylan, by this time, the Fire had crossed the ridge.¹³⁰⁴



12. From 30 October 2019 to 7 November 2019, the Kangawalla, Diehard Fire continued to burn but its progression slowed significantly. From 2 November 2019, the Kangawalla, Diehard Fire was contained, and it was mapped as only progressing short distances or not at all and was eventually authorised as 'Patrol' status.¹³⁰⁵
13. That changed on 8 November 2019 when the weather conditions deteriorated quickly and dramatically. On this day, the maximum temperatures in Glen Innes were predicted to reach up to 30 degrees Celsius with a north-westerly wind and gusts of up to 60 kilometres per hour.¹³⁰⁶
14. At 10:00am, the RFS recorded that there were no reports of smoke, and it was predicted that there was a low chance of the Kangawalla, Diehard Fire impacting on property, with the Fire remaining at 'Patrol' status.¹³⁰⁷
15. However, at 3:15pm, Grant Donnelly of the Bald Nob Rural Fire Brigade telephoned the Glen Innes FCC. Mr Donnelly informed the IMT that the Kangawalla, Diehard Fire had broken out:
- 'Heading east. More than likely in the Mann River Nature reserve by now... and heading towards the Old Grafton Road.'*
- ...
- 'Wyaliba might have to look at some strategies there off the Old Grafton Road, but the wind's got to drop. It's potentially threatening Wyaliba.'*¹³⁰⁸
16. Several calls were received by the Glen Innes FCC reporting sightings of smoke and fire in the vicinity of Wyaliba.¹³⁰⁹

¹³⁰⁴ Exhibit 32A, Brief of Evidence at p. 191.

¹³⁰⁵ Exhibit 32A, Brief of Evidence at p. 356–387, 506.

¹³⁰⁶ Exhibit 32A, Brief of Evidence at p. 279–280.

¹³⁰⁷ Exhibit 32A, Brief of Evidence at p. 225.

¹³⁰⁸ Exhibit 32A, Brief of Evidence, Tab 60 (recording 15:15).

¹³⁰⁹ Exhibit 32A, Brief of Evidence, Tab 60 (recording 15:26, recording 15:39).

17. At 3:53pm, Kym Jerney, Captain of the Wyaliba Rural Fire Brigade, made a telephone call to the Glen Innes FCC. During the call, Captain Jerney advised:
 - iii. *'... we've got a big problem down here. We've got a fire below Tommy's Rock on the west end paddock heading to Wyaliba. We need all the help we can get...'*¹³¹⁰
18. In that same call, Andre Cook, a fellow RFS member, stated in part:

*"[At the camping ground] from the southern side of the river a k and half up the hill I can see the flames. It's spotting in front of itself by about 500m every couple of minutes ...
"It's going to hit the western road of Wyaliba within the hour or two..."*¹³¹¹
19. At 4:28pm, the Kangawalla, Diehard Fire was authorised as 'Going'.¹³¹²
20. At 4:36pm, Brett Miller, Deputy Captain of the Wyaliba Rural Fire Brigade, radioed the IMT:

'Fire Comm Fire Comm, Emergency, Emergency. Wyaliba 7'

*'We have fire impacting the whole of the west end of Wyaliba. It is extremely dangerous situation. We are pulling as many people out as we can.'*¹³¹³
21. At 4:48pm, an emergency alert was issued for the Kangawalla area, with SMS messages sent to 357 services of which 67 were not delivered and voice messages sent to 17 services of which seven were not answered.¹³¹⁴
22. The Kangawalla, Diehard Fire engulfed homes within the Wyaliba community with fire crew access impeded by fallen trees, inaccessible roads, and the Fire itself. At some time between 5:05pm and 6:11pm, the Kangawalla, Diehard Fire impacted upon the properties of Vivien Chaplain and George Nole, claiming their lives.¹³¹⁵
23. By 6:08pm, the Kangawalla, Diehard Fire had impacted Wyaliba School.¹³¹⁶
24. By 7:04pm, the Kangawalla, Diehard Fire had started spotting about 6 kilometres ahead of itself to Henry River and Newton Boyd.¹³¹⁷
25. At 8:00pm, it was reported that NSW Ambulances were being escorted into Wyaliba as there had been damage to the bridge that provided access to the township. The Kangawalla, Diehard Fire in Wyaliba was still active at that time and it posed a continued threat to the community and to rural properties east of the town. At this stage, the Glen Innes Council had arranged for bulk water to be provided to assist support operations.¹³¹⁸
26. For 8 November 2019, the Kangawalla, Diehard Fire was mapped as having made a significant run approximately 9.4 kilometres to the east, considered extreme and anomalous fire behaviour, with multiple spot fires produced.¹³¹⁹
27. On 9 November 2019, the Kangawalla, Diehard Fire continued to spread. The northern flank of the Fire progressed to the north and north-east, a distance of approximately 2.6 kilometres. The eastern flank of the Kangawalla, Diehard Fire progressed 1 to 2 kilometres, east-southeast, and merged with a number of previously separate spot fires and other parts of the Fire spread less than a kilometre in various directions.¹³²⁰

¹³¹⁰ Exhibit 32A, Brief of Evidence, Tab 60 (recording 15:53).

¹³¹¹ Exhibit 32A, Brief of Evidence, Tab 60 (recording 15:53).

¹³¹² Exhibit 32A, Brief of Evidence at p. 228.

¹³¹³ Exhibit 32A, Brief of Evidence at Tab 59 (recording 16:36).

¹³¹⁴ Exhibit 32A, Brief of Evidence at p. 295.

¹³¹⁵ Exhibit 32A, Brief of Evidence at p. 228–250.

¹³¹⁶ Exhibit 32A, Brief of Evidence at Tab 40.

¹³¹⁷ Exhibit 32A, Brief of Evidence at p. 252.

¹³¹⁸ Exhibit 32A, Brief of Evidence at p. 256.

¹³¹⁹ Exhibit 32A, Brief of Evidence at p. 388.

¹³²⁰ Exhibit 32A, Brief of Evidence at p. 395.

28. On 9 November 2019, the Glen Innes Council attended to installing crossings where the bridge had been damaged the day before. It was estimated at this time that over 40 properties had been lost in Wyalaliba. The Gwydir Highway was closed between Gwydir and Grafton with fire impacting the Old Grafton Road in multiple locations.¹³²¹
29. On 10 November 2019, the north-west section of the Kangawalla, Diehard Fire was mapped as progressing approximately 2 kilometres in a north-west direction. The north-east section was mapped as being extended to the north-east, south of the Gwydir Highway approximately 16 kilometres and the southern section was mapped as progressing approximately 1 kilometre to the south.¹³²²
30. On 11 November 2019, the status of the Kangawalla, Diehard Fire was finally downgraded to 'Controlled'. Crews continued to actively patrol and black out along containment lines including the Gwydir Highway, east of the Glen Innes Correctional Centre, to contain the Fire south of the highway. Access to Wyalaliba was still closed due to the danger posed by trees along access roads.¹³²³
31. From 11 November 2019, the Kangawalla, Diehard Fire continued to burn but was mapped as progressing only short distances in various directions. It spotted in difficult to access country and RAFTs were deployed. Fire crews prioritised consolidating containment lines, backburning and active patrols.¹³²⁴
32. The extent of the Fire as at 21 November 2019 is demonstrated in the fire progression map below:

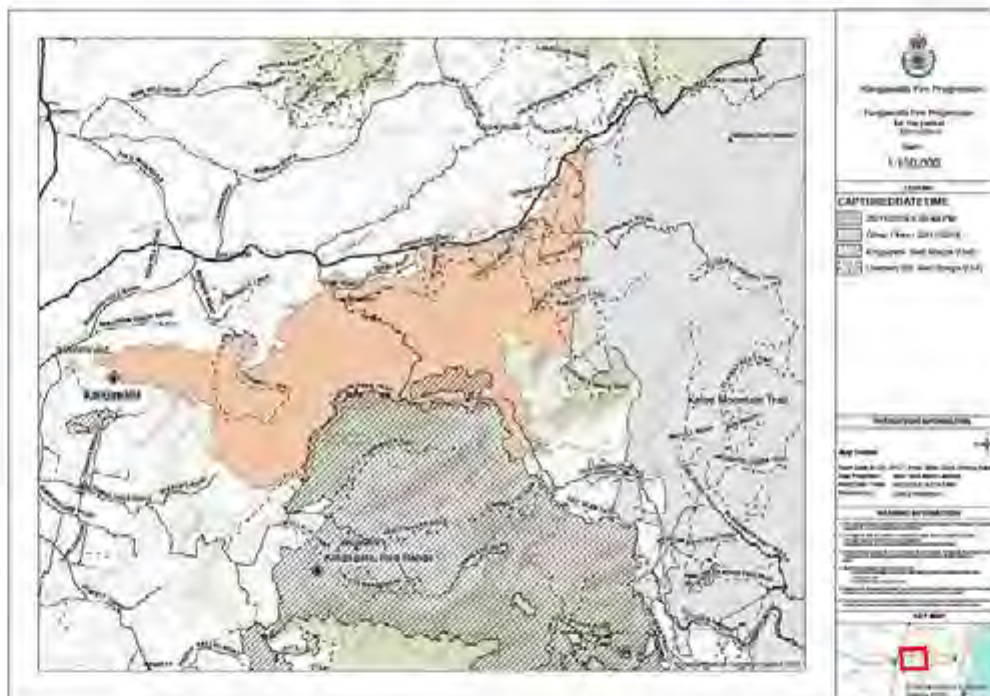


Figure 44 Fire Progression Mapping 0000, 20/11/2019 to 0000, 21/11/2019 (1:150,000 scale)

33. On 24 November 2019, the Kangawalla, Diehard Fire was declared 'Out'.¹³²⁵

¹³²¹ Exhibit 32A, Brief of Evidence at p. 530, 550, 554.

¹³²² Exhibit 32A, Brief of Evidence at p. 401.

¹³²³ Exhibit 32A, Brief of Evidence at Tab 40.

¹³²⁴ Exhibit 32A, Brief of Evidence at p. 406–443, Tab 40.

¹³²⁵ Exhibit 32A, Brief of Evidence at Tab 40.

Cause and origin

34. On 10 November 2019, Danny Busch, RFS AFI, and DSC Andrew Chetham of the NSWPF Forensic Services Group commenced their investigation into the cause and origin of the Kangawalla, Diehard Fire.¹³²⁶
35. They carried out an aerial based inspection, informed by a photograph taken by Dylan McKean from his property. Mr Busch was looking for a run of the Fire and once identified, a ground-based investigation was then performed.¹³²⁷
36. Mr Busch gave evidence that he could not identify multiple ignitions during his site visit, canvassing, or through the gathering of empirical data. He could only ascertain one particular point of origin in relation to the Kangawalla, Diehard Fire.¹³²⁸
37. That location was south of Skeleton Creek Road and north of the Mann River. In his aerial inspection of the site, Mr Busch observed a general vector run which was west to east in a large 'U' pattern.¹³²⁹ During his ground investigation, he was able to track back further to the west to what Mr Busch believed to be the area or point of origin.¹³³⁰
38. Mr Busch confirmed that it was not particularly difficult to identify macro or micro indicators. He saw significant macro indicators of angular char on large eucalypt sclerophyll trees. Taking heed of those indicators he traced them to the west towards Shannon Vale. Mr Busch described the terrain as angulating to very steep. It was a heavily forested with sclerophyll trees.¹³³¹
39. On 11 November 2019, Peter Alexander's property was canvassed, and Mr Alexander provided Mr Busch and DSC Chetham with information in relation to what he felt was the origin of the Fire. Mr Busch said they then drove to a certain extent and then had to walk on foot into the general area they believed could have been the potential origin based on the macro indicators and Mr Alexander's canvassing. They started in a semi serpentine direction trying to follow indicators or macro indicators, going from east back towards the west.¹³³²
40. As a result of his ground-based investigation, Mr Busch identified a specific point which he believed may have been where the Fire ignited, a tree that had been clearly affected by a lightning strike. Mr Busch told the Court that it was DSC Chetham who had initially observed the tree.¹³³³
41. Based on the macro and micro indicators, visual observations of the lightning struck tree, empirical data sets (including lightning data) and canvassing of local residents, Mr Busch's working hypothesis was that the lightning struck tree they identified was the likely cause of the Kangawalla, Diehard Fire.¹³³⁴
42. When put to him, Mr Busch agreed that the evidence suggests there was lightning strike activity in the afternoon of 26 October 2019 and the Kangawalla, Diehard Fire was first sighted and reported to the Glen Innes FCC on 27 October 2019.¹³³⁵
43. Mr Busch excluded all other potential causes of the Kangawalla, Diehard Fire largely due to the location of where he believed to be the point of origin, being remote and inaccessible and away from human activity.¹³³⁶
44. In his oral evidence, DSC Chetham confirmed that he reached the same conclusion as Mr Busch; the most likely cause of the Kangawalla, Diehard Fire was lightning strike.¹³³⁷

¹³²⁶ Exhibit 32A, Brief of Evidence at p. 56, 86.

¹³²⁷ Transcript for 7 March 2022 T 715:44-47; Transcript for 7 March 2022 T 716:9-15

¹³²⁸ Transcript for 7 March 2022 T 716:45-50; Transcript for 7 March 2022 T 717:1-3.

¹³²⁹ Transcript 7 March 2022 T 718:5-17.

¹³³⁰ Transcript for 7 March 2022 T 717:40-50.

¹³³¹ Transcript for 7 March 2022 T 718:19-40.

¹³³² Exhibit 32A, Brief of Evidence at p. 56; Transcript for 7 March 2022 T 718:42-50; Transcript for 7 March 2022 T 719:1-2.

¹³³³ Exhibit 32A, Brief of Evidence at p. 56; Transcript for 7 March 2022 T 719:4-18.

¹³³⁴ Exhibit 32A, Brief of Evidence at p. 56-58; Transcript for 7 March 2022 T 720:9-19.

¹³³⁵ Transcript for 7 March 2022 T 720:21-28.

¹³³⁶ Exhibit 32A, Brief of Evidence at p. 58.

¹³³⁷ Transcript for 7 March 2022 T 727:10-13.

45. DSC Chetham described in evidence the macro or micro indicators that he tracked that led him to that specific point of origin. He said they tend to use grass, indicators like foliage freeze and then micro indicators like cupping and how ash flies into the face of trees in the direction the wind is travelling.¹³³⁸ There was no degradation of the fire scene that made it difficult to track the Fire by the time the investigation took place, particularly because of the remote and isolated location.¹³³⁹
46. From tracking the fire indicators, DSC Chetham identified a tree with a significant lightning scar. The scar ran from high in the tree and spiralled down the bark of the tree all the way to the ground. He ultimately recorded the coordinates of the lightning struck tree, as latitude -29.70345, longitude 151.94001.¹³⁴⁰
47. In relation to excluding other causes for the Kangawalla, Diehard Fire, DSC Chetham told the Court there were no other obvious indicators. It was an isolated area where there was no human activity, concluding the likely cause was the lightning struck tree.¹³⁴¹
48. In Court, DSC Chetham gave evidence in relation to his statement and a view that he expressed namely, that there was more than one point of ignition. Concerning this evidence, the RFS clarified that their fire progression mapping for the early stages of the Kangawalla, Diehard Fire did not show two areas of fire. Rather, a second shaded area was in fact a moveable icon known as an 'incident point', the purpose of which is to identify the location of where the IMT initially believed the Fire location to be, together with its assumed fire spread. It does not represent either a point of origin of the Kangawalla, Diehard Fire, or a second ignition.¹³⁴²

Section 81 Findings

49. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Kangawalla, Diehard Fire commenced on or around 26 October 2019 in bushland in Shannon Vale in an area north of the Mann River and south of Skeleton Creek Road, at coordinates latitude -29.70345, longitude 151.94001.

The Kangawalla, Diehard Fire was caused by a lightning strike to a tree on or around 26 October 2019.

50. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS, and communication and warnings. These are detailed in Volume 2, Part 10, Section 3.

¹³³⁸ Transcript for 7 March 2022 T 728:37-43.

¹³³⁹ Transcript for 7 March 2022 T 734:41-47.

¹³⁴⁰ Exhibit 32A, Brief of Evidence at p. 146-5 – 146-6.

¹³⁴¹ Transcript for 7 March 2022 T 732:48-50; Transcript for 7 March 2022 T 7331-12.

¹³⁴² Transcript for 7 March 2022 T 732:11-46; Exhibit 32A, Brief of Evidence at p. 146-6 – 146-9, 295-3.

8. Vivien Chaplain

Why was an inquest held?

1. In this inquest, the identity of Vivien Christine Chaplain is known, as is the date and place of her death. For this reason, the inquest into Vivien's death focused on the manner and cause of her death.

Introduction

2. On 8 November 2019, under extreme fire weather conditions, the Kangawalla, Diehard Fire, which had previously been contained, swept through the remote community of Wyaliba, with little notice.¹³⁴³
3. At that time, Vivien was at her home in Wyaliba at 10847 Old Grafton Road. Vivien's home in Wyaliba, known as 'Cristy's', was surrounded by dense bushland, and sat behind the Brothers State Forest. The property was 1,500 acres comprising farmland, uncleared scrubland and a dwelling made of Colourbond steel. Vivien lived in that dwelling with her son, Aaron Hulme. Aaron's father, Dennis Hulme, lived in a separate dwelling on the property.¹³⁴⁴
4. After the Kangawalla, Diehard Fire impacted upon and destroyed Vivien's home, she was discovered by a family friend, unconscious at the back of her property and was airlifted to Concord Repatriation General Hospital in Sydney for treatment.¹³⁴⁵
5. Tragically, Vivien died as a result of her injuries on 9 November 2019 at 10:35am at the Concord Repatriation General Hospital. She was 69 years old.¹³⁴⁶
6. Vivien Chaplain was born on 12 January 1950 to parents Les and Winifred Chaplain, and she was the younger sister to Kay.¹³⁴⁷
7. Vivien met Dennis Hulme and they had two sons, Aaron and Reuben. Vivien and Dennis moved away from the city to the New England area with their young family until settling in Wyaliba in 1983 where they became heavily involved with the community.¹³⁴⁸
8. When it came time for Aaron and Reuben to attend high school, Vivien decided to move to Armidale with her sons while Dennis continued living in Wyaliba, giving their sons the best of both worlds.¹³⁴⁹
9. During her time in Armidale, Vivien completed a psychology degree at university whilst working part-time and raising her sons as a single mother.¹³⁵⁰
10. Once her sons had completed high school, Vivien returned to the bush after the family purchased a property in Wyaliba at 10847 Old Grafton Road. Over the years, they all worked on the property, and it became the family farm, where Vivien and Dennis made plans to live, retire and watch their six grandchildren grow and learn.¹³⁵¹
11. Vivien's son, Aaron, described Vivien as an amazing person, mother, wife and grandmother with a deep love for the bush and being surrounded by the native flora and fauna.¹³⁵²
12. About 12 months before the Kangawalla, Diehard Fire, Vivien had hip replacement surgery, following which she became mobile and self-sufficient. Although she had a cane, she didn't rely on it.¹³⁵³

¹³⁴³ Exhibit 33, Brief of Evidence at p. 24–26.

¹³⁴⁴ Exhibit 33, Brief of Evidence at p. 19-1, 19-7.

¹³⁴⁵ Exhibit 33, Brief of Evidence at p. 101-4.

¹³⁴⁶ Exhibit 33, Brief of Evidence at p. 106.

¹³⁴⁷ Family Statement provided to the Court on 7 March 2022.

¹³⁴⁸ Family Statement provided to the Court on 7 March 2022.

¹³⁴⁹ Family Statement provided to the Court on 7 March 2022.

¹³⁵⁰ Family Statement provided to the Court on 7 March 2022.

¹³⁵¹ Family Statement provided to the Court on 7 March 2022.

¹³⁵² Family Statement provided to the Court on 7 March 2022.

¹³⁵³ Exhibit 33, Brief of Evidence at p. 19-2.

13. Vivien's dreams didn't change after her surgery, so Aaron decided to live with her part-time, becoming her carer. He modified her dwelling to better suit her accessibility issues and would run errands for her to save her from long trips into town.¹³⁵⁴

Chronology of events

14. At about midday on 8 November 2019, Aaron and Dennis departed the Wyaliba property at 10847 Old Grafton Road to attend to errands and to visit Aaron's wife, Chrystal, who lived in Glen Innes. Vivien remained at the property.¹³⁵⁵
15. Shortly after 3:30pm, Aaron's friend, Matthew Smith, attended Vivien's property to access his machinery, which he kept there. While there, he noticed Vivien walking past one of the sheds. He called out "hello" and she waved back. Mr Smith had also noticed two vehicles on the property, Vivien's white Holden Captiva SUV and Aaron's white Toyota Hilux. He left soon after. As he approached the front gate of Wyaliba, he noticed embers and sensed smoke. He went to alert other residents of the Fire and then headed to one of the evacuation points in Wyaliba.¹³⁵⁶
16. At about 4:00pm, Mr Smith's partner, Tara Weatherill, alerted Aaron that Mr Smith had been trying to reach him about the approaching fire.¹³⁵⁷
17. Aaron and Dennis immediately headed towards the property in their truck. Chrystal informed Reuben, Vivien's other son, of the fire threat and Reuben called tripe-0 for assistance.¹³⁵⁸
18. Although they didn't have a formalised evacuation plan, Vivien and her family had discussed what they would do in the event of a bushfire. The plan was to secure the animals and buildings, assess the Fire and evacuate, if necessary, to Wyaliba School, which was the local community evacuation point.¹³⁵⁹
19. Returning to 8 November 2019, at around 5:00pm, Chrystal received a call from Vivien. Vivien told her that the property was on fire, and she needed "*the boys*" there now. Chrystal confirmed that Aaron and Dennis were on their way and then "*the phone went dead*". Chrystal tried to call Vivien back multiple times but couldn't get through.¹³⁶⁰ This was the last known contact with Vivien.
20. Aaron drove down Old Grafton Road towards Wyaliba. According to Aaron, the road "*was completely consumed by fire and there was nobody around, no fire truck or locals. We pulled back and watched the fire for a moment. We decided there was no chance we could get through the road.*"¹³⁶¹
21. Following that assessment, Aaron and Dennis travelled back to Glen Innes, arriving there around 5:30pm. Aaron called his friend, Mr Smith, to tell him that his mother was unaccounted for, and asked Mr Smith to try and find her.¹³⁶²
22. RFS fire progression mapping indicates that the Kangawalla, Diehard Fire impacted upon Vivien's property at some time between 5:05pm and 6:11pm.¹³⁶³
23. Sometime in the late afternoon or early evening, RFS volunteer firefighters, Michael Borgia, and Jesse Kirkman, attended Vivien's property and observed that the property was on fire. They were not tasked with searching for Vivien and did not know she was missing nor whether she was at the property at the time. They attended out of general concern and undertook a search around the property.¹³⁶⁴
24. Mr Borgia told the Court that when he and Mr Kirkman attended Vivien's property, they did not see any vehicles. Mr Borgia recalled thinking "*there's no car here. I don't think she's here*".¹³⁶⁵

¹³⁵⁴ Family Statement provided to the Court on 7 March 2022; Exhibit 33, Brief of Evidence at p. 19-1.

¹³⁵⁵ Exhibit 33, Brief of Evidence at p. 19-2.

¹³⁵⁶ Exhibit 33, Brief of Evidence at p. 101-1 – 101-2.

¹³⁵⁷ Exhibit 33, Brief of Evidence at p. 19-2.

¹³⁵⁸ Exhibit 33, Brief of Evidence at p. 19-2, 19-8.

¹³⁵⁹ Exhibit 33, Brief of Evidence at p. 19-2.

¹³⁶⁰ Exhibit 33, Brief of Evidence at p. 19-8.

¹³⁶¹ Exhibit 33, Brief of Evidence at p. 19-2 – 19-3.

¹³⁶² Exhibit 33, Brief of Evidence at p. 19-3, 101-2.

¹³⁶³ Exhibit 32A, Brief of Evidence at p. 391–392.

¹³⁶⁴ Exhibit 33, Brief of Evidence at p. 127, 132–133.

¹³⁶⁵ Transcript for 8 March 2022 T 753:34-41.

25. Mr Kirkman extended a hose down to the back of the house in an attempt to extinguish the fire, and Mr Borgia turned the water on from their truck. The house at that time was fully engulfed by fire. Mr Borgia looked inside the house and called out but received no response. Mr Borgia did not look around the car port or the shed. Shortly after, Mr Borgia observed that a gas bottle, located at the back of the house, was shooting flames. He decided that it was best to leave the property. Neither reported seeing or hearing Vivien while there. They remained on the property for a short time, estimated to be around 15 minutes.¹³⁶⁶
26. Mr Kirkman and Mr Borgia regrouped at the community centre. While there, Mr Kirkman spoke to Mr Smith who expressed concerns about Vivien. Mr Kirkman reassured him that he had attended Vivien's property and that she was not there and likely to have gone to a neighbour's house.¹³⁶⁷
27. At some point following that conversation, Mr Smith headed towards Vivien's property. En route, Mr Smith picked up two other residents and then encountered a RFS Toyota Hilux driving towards him. Mr Smith flashed his headlights at the vehicle and spoke to the driver about his intention to locate Vivien. The driver of the Toyota Hilux said in response: "You can't it's not safe" and "We didn't find anyone there".¹³⁶⁸
28. Showing incredible courage, Mr Smith proceeded. He located Vivien unconscious near the shed at the back of the property. He took urgent steps to retrieve her, transporting her towards the Wyalaliba bridge and then obtained critical medical treatment with the assistance of the RFS who were in the area at the time.¹³⁶⁹
29. In his evidence, Mr Smith indicated that he had seen both Aaron's and Vivien's vehicles parked on the property at the time that he located Vivien.¹³⁷⁰ Mr Borgia, however, gave evidence that he and Mr Kirkman did not notice any other vehicle on the property at the time they attended.¹³⁷¹ It is possible that Vivien departed the property at some point in an attempt to flee the area but was forced to return due to the intense fire conditions. However, the evidence does not allow for such a finding to be made as it remains unclear what Vivien's movements were after speaking with Chrystal whilst still at home and before being located by Mr Smith.
30. At 5:54pm, a NSW Ambulance was called for Vivien. By 5:59pm, that first unit was enroute and arrived on scene at 6:58pm. Vivien was treated by paramedics and taken to a designated landing site, namely the Wyalaliba School oval, for transportation by air to Concord Repatriation General Hospital. On arrival at the oval, Vivien went into cardiac arrest and cardiopulmonary resuscitation was commenced and Vivien was intubated.¹³⁷²
31. At 9:35pm, a medical retrieval team dispatched by helicopter from a base in Lismore took over Vivien's treatment. She was transported to Glen Innes Airport and from there she was transported in a fixed wing air ambulance to hospital.¹³⁷³
32. At 3:27am on 9 October 2019, Vivien arrived at the Emergency Department of Concord Repatriation General Hospital. Soon after admission, Vivien again entered cardiac arrest and was resuscitated. In the early hours of that morning, she was transferred to the Intensive Care Unit.¹³⁷⁴
33. At 10:35am, Vivien was pronounced deceased.¹³⁷⁵
34. On 13 November 2019, a limited autopsy was performed by Dr Alexandra Kullen, Pathologist. It was concluded that Vivien's cause of death was 'complications of thermal injuries'.¹³⁷⁶

¹³⁶⁶ Exhibit 33, Brief of Evidence at p. 127-128, 132-134.

¹³⁶⁷ Exhibit 33, Brief of Evidence at p. 135.

¹³⁶⁸ Exhibit 33, Brief of Evidence at p. 101-3.

¹³⁶⁹ Exhibit 33, Brief of Evidence at p. 101-5.

¹³⁷⁰ Transcript for 8 March 2022 T 773:32-40

¹³⁷¹ Transcript for 8 March 2022 T 753:34-41.

¹³⁷² Exhibit 33, Brief of Evidence at p. 58-4, 105.

¹³⁷³ Exhibit 33, Brief of Evidence at p. 58-4, 102.

¹³⁷⁴ Exhibit 33, Brief of Evidence at p. 58-4.

¹³⁷⁵ Exhibit 33, Brief of Evidence at p. 106.

¹³⁷⁶ Exhibit 33, Brief of Evidence at p. 10-11.

Expert evidence

35. Professor Ian Seppelt, specialist in intensive care medicine, was engaged to provide a retrospective assessment as to whether Vivien would have been in a clinically irreversible condition after she sustained her injuries, or whether there was a realistic prospect of survival if medical treatment had been provided sooner. On 18 February 2022, Professor Seppelt provided the Court with an expert report expressing his opinion based on a review of extracts of Vivien's medical records from her treatment at the Concord Repatriation General Hospital, NSW Ambulance records, and autopsy report.
36. Professor Seppelt considered that Vivien's burn injury was un-survivable such that even if Vivien had received earlier treatment, she would not have survived. In his view, Vivien had suffered a severe injury, with a predicted mortality of 90% (or more) based on predictive risk factors. This prognosis was not taking into account the factor of the prolonged cardiac arrest, with likely resulting ischaemic organ and brain injury. Further, Professor Seppelt was satisfied that Vivien received timely and professional medical care, particularly in the circumstances.¹³⁷⁷

Section 81 Findings

37. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Vivien Christine Chaplain.

Date of death

Vivien died on 9 November 2019 at 10:35am.

Place of death

Vivien died at the Concord Repatriation General Hospital.

Cause of death

The cause of Vivien's death was due to complications of thermal injuries.

Manner of death

Vivien died as a consequence of the Kangawalla, Diehard Fire impacting upon her home in Wyaliba at 10847 Old Grafton Road on 8 November 2019.

38. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of Findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS, and communication and warnings. These are detailed in Volume 2, Part 10, Section 3.
39. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Vivien's family and loved ones, friends, and community for their loss.
40. At the conclusion of the evidence in the inquest, Vivien's son, Aaron, provided the Court with a family statement and photographs of Vivien, which was read out by Counsel Assisting. It is reproduced in Part 7 – Testimonials.

¹³⁷⁷ Exhibit 33, Brief of Evidence at p. 58-5 – 58-6.

9. George Nole

Why was an inquest held?

1. In this inquest, the identity of George Nole is known, as is the date and place of his death. For this reason, the inquest into George's death focused on the manner and cause of his death.

Introduction

2. On 8 November 2019, under extreme fire weather conditions, the Kangawalla, Diehard Fire, which had previously been contained, swept through the remote community of Wyaliba, with little notice.¹³⁷⁸
3. At that time, George was at his home in Wyaliba at 11648B Old Grafton Road. George's home was surrounded by dense bushland and his house, which he had constructed himself, was a three-room timber frame structure with a corrugated iron roof. It was powered by solar energy and had a back-up generator but was not connected to the mains.¹³⁷⁹
4. George was 85 years old when he tragically died at his home on 8 November 2019 after the Kangawalla, Diehard Fire impacted upon and destroyed his home. George was located deceased on 9 November 2019 in the front driver's seat of his white Ford Falcon car.¹³⁸⁰
5. George Nole was born in Greece on 25 January 1934. He had a brother, Panagiotis Kokkinakis, and sister both of whom still reside in Greece, and a younger brother, Costa, who sadly passed away. Although they lived on opposite sides of the world, Panagiotis kept in regular contact with George by telephone and they were very close.¹³⁸¹
6. George spent some time living in South Africa where he worked for the National Aeronautics and Space Administration (**NASA**) before he migrated to Australia in 1983. George was an electrical technician and Panagiotis described George as tech savvy, and he was good at repairing radios and hard drives and then he went into other fields of electronics.¹³⁸²
7. According to his friend and fellow resident of Wyaliba, Philip Hine, George retired and in 1987, commenced living in Wyaliba at 11648B Old Grafton Road. Mr Hine had known George since 1987 and the two became close friends. Mr Hine lived about one kilometre from George, and he would visit George on a weekly basis and spoke to him on the telephone most days. Mr Hine described that when his own father had passed away in 2017, George became like a stepfather to him and filled that role. Mr Hine looked up to George.¹³⁸³
8. George lived by himself and didn't marry or have any children. He has been described as having lived a very solitary life but was well known to the Wyaliba community. George was a communications officer in the local Wyaliba Rural Fire Brigade.¹³⁸⁴
9. Although George had a lengthy medical history and a number of ailments, Mr Hine described George as fit and agile.¹³⁸⁵

¹³⁷⁸ Exhibit 34, Brief of Evidence at p. 19–21.

¹³⁷⁹ Exhibit 34, Brief of Evidence at p. 2, 98.

¹³⁸⁰ Exhibit 34, Brief of Evidence at p. 3, 16.

¹³⁸¹ Exhibit 34, Brief of Evidence at p. 2, 27, 94; Family Statement provided to the Court in March 2022.

¹³⁸² Exhibit 34, Brief of Evidence at p. 27–28, 94; Family Statement provided to the Court in March 2022.

¹³⁸³ Exhibit 34, Brief of Evidence at p. 14, 28, 94; Transcript for 8 March 2022 T 792:42-50; Transcript for 8 March 2022 T 793:1-7.

¹³⁸⁴ Exhibit 34, Brief of Evidence at p. 2, 94; Family Statement provided to the Court in March 2022.

¹³⁸⁵ Exhibit 34, Brief of Evidence at p. 9, 27–28, 96; Transcript for 8 March 2022 T 788:48-50; Transcript for 8 March 2022 T 789:1.

Chronology of events

10. On 8 November 2019 at about 2:30pm, George’s friend, Mr Hine, had learnt that there was a fire on the Old Grafton Road through information he had obtained online.¹³⁸⁶
11. Also, at about 2:30pm, George’s neighbour, Allan Bacon, had returned home concerned that the Fire was approaching his property after sighting a large smoke cloud that appeared to him like a “mushroom cloud”. When he returned to his property, Mr Bacon received a telephone message from the RFS to evacuate.¹³⁸⁷
12. At about 2:50pm, Mr Hine noticed smoke in the area. He turned on his UHF radio and heard warnings from the Wyaliba Rural Fire Brigade to evacuate. Mr Hine was ready to defend his home but had decided to leave as the Fire was spotting ahead. By the time he left his home, it was consumed by fire.¹³⁸⁸
13. In considering the evidence, Mr Hine’s and Mr Bacon’s observations were likely at a much later time. The evidence indicates that Kym Jerney, Captain of the Wyaliba Rural Fire Brigade, first contacted the Glenn Innes FCC at 3:53pm to report that the Kangawalla, Diehard Fire had broken out.¹³⁸⁹ It was not until 4:48pm that the RFS issued emergency alerts to residents warning of the Kangawalla, Diehard Fire.¹³⁹⁰
14. Further, the evidence indicates that at 4:19pm, as corroborated by George’s telephone records, George’s friend and fellow Wyaliba resident, David Costello, called George’s mobile and they had a short conversation about the approaching fire. According to Mr Costello, at that time, George said that he was not aware of approaching fire and whilst on the call, George walked outside and could then see it. This further suggests that Mr Hine’s and Mr Bacon’s observations were at a later time. Mr Costello told George that the Fire looked too big to fight and they both agreed it was too much and that they would meet down at the Wyaliba shop.¹³⁹¹
15. Mr Hine had evacuated to the Wyaliba Oval and there spoke with Mr Bacon’s partner who informed him that Mr Bacon had gone up to George’s house to assist him.¹³⁹²
16. Mr Bacon managed to get the spot fires near his home under control and then ran to George’s property to assist with putting out spot fires there. According to Mr Bacon, he had run back and forth from his house to George’s house a number of times.¹³⁹³
17. Mr Bacon recalled a conversation that he had with George regarding his intentions with respect to the Fire:

*“[He] said to [George], “What do you want to do? You should leave?” [George] said “No I’m staying, I want to stay, I’m staying in my own home”. I said to [George] “You should go”. [George] replied “This is my home, I’m not going”.”*¹³⁹⁴
18. At the time of that conversation, George was at the back of his home putting out small spot fires with a hose. It was then that Mr Bacon noticed his own shed on fire and ran back to put it out but was unable to as it was too big.¹³⁹⁵
19. Mr Bacon then fled to the nearby RFS fire shed about 200 metres from his home and, in doing so, ran past George who appeared to be in his yard with a hose, attempting to put out spot fires. Mr Bacon believed that at that stage, the fire front was approximately 20 metres from their homes.¹³⁹⁶

¹³⁸⁶ Exhibit 34, Brief of Evidence at p. 95.

¹³⁸⁷ Exhibit 34, Brief of Evidence at p. 98.

¹³⁸⁸ Exhibit 34, Brief of Evidence at p. 95.

¹³⁸⁹ Exhibit 32A, Brief of Evidence, Tab 60 (recording 15:53).

¹³⁹⁰ Exhibit 32A, Brief of Evidence at p. 295.

¹³⁹¹ Exhibit 34, Brief of Evidence at p. 57-3, 100-2, Tab 12.

¹³⁹² Exhibit 34, Brief of Evidence at p. 95.

¹³⁹³ Exhibit 34, Brief of Evidence at p. 99.

¹³⁹⁴ Exhibit 34, Brief of Evidence at p. 99.

¹³⁹⁵ Exhibit 34, Brief of Evidence at p. 99.

¹³⁹⁶ Exhibit 34, Brief of Evidence at p. 99.

20. Mr Bacon had then yelled out to George, “Get out George, it’s time to go”. George, who was about 50 metres away, looked at Mr Bacon but did not respond. Mr Bacon again yelled at him to get out. He then saw George shuffling quickly towards his car, which was parked in his driveway, about 5 metres away from where he was standing.¹³⁹⁷
21. Although Mr Bacon did not see George enter his car, he assumed that he did. Mr Bacon was aware that George kept the keys to his car under the vehicle’s seat.¹³⁹⁸
22. Once Mr Bacon had reached the RFS fire shed, he attempted to return to the Fire by quad bike and assist George. However, Mr Bacon collided with a four-wheel drive vehicle driven by RFS member Steven Waddington at the bottom of his driveway. At that time, Mr Bacon was advised by Mr Waddington that he couldn’t go further, and they needed to leave due to the poor conditions. Mr Bacon was then conveyed to hospital by NSW Ambulance to receive treatment for burns he sustained.¹³⁹⁹ The last person to see George alive was Mr Bacon.
23. At 4:52pm, telephone records indicate that George phoned an unconfirmed person. That call lasted 27 seconds. This was the last recorded phone call that George made.¹⁴⁰⁰
24. At this same time, at 4:52pm, four emergency alert voice calls were made to George’s phone. DS Timothy Atkins, the NSWPF OIC of the investigation who took over from DS Damian Loone, was unable to confirm whether George received those messages.¹⁴⁰¹
25. RFS fire progression mapping indicates that the Kangawalla, Diehard Fire impacted upon George’s property at some time between 5:05pm and 6:11pm.¹⁴⁰²
26. On 9 November 2019, the NSWPF attended George’s home and located the remains of George in his white Ford Falcon car, confirmed to be registered in George’s name, which had been parked in the driveway of his home where Mr Bacon had last seen him.¹⁴⁰³
27. On 27 November 2019, an external examination was conducted by Dr Hannah Elstub, Pathologist, following George’s death. It was concluded the direct cause of death was from the ‘effects of fire’ on a balance of probability identification.¹⁴⁰⁴
28. On 27 November 2019, Dr Phillip Kendall and Dr Emma James carried out a limited dental examination of the remains against available dental records for George. The examination confirmed ‘consistencies with each other’ resulting in a ‘does not exclude’ identification.¹⁴⁰⁵
29. In the months prior to the Kangawalla, Diehard Fire, in October 2019, Mr Bacon had a conversation with George about effective fire preparation and, due to the conditions at the time, they were both involved in preparing their properties by clearing their yards and ensuring they had hoses available and adequate water supply. Mr Bacon had provided George with assistance in preparing his property.¹⁴⁰⁶
30. Mr Hine had similar conversations with George in the weeks leading up to the Fire and had assisted George with inspecting his fire hose to ensure it was in working order.¹⁴⁰⁷
31. Mr Bacon gave evidence that he was not aware of George’s official fire plan¹⁴⁰⁸ but that on 8 November 2019 when he recommended George should leave as a result of the worsening conditions, George indicated that we wanted to stay and be at his home. He did not want to leave.¹⁴⁰⁹

¹³⁹⁷ Exhibit 34, Brief of Evidence at p. 99.

¹³⁹⁸ Exhibit 34, Brief of Evidence at p. 99.

¹³⁹⁹ Exhibit 34, Brief of Evidence at p. 99.

¹⁴⁰⁰ Exhibit 34, Brief of Evidence at p. 57-3, Tab 12.

¹⁴⁰¹ Exhibit 34, Brief of Evidence at p. 57-3 – 57-4, Tab 12.

¹⁴⁰² Exhibit 32A, Brief of Evidence at p. 391 – 392.

¹⁴⁰³ Exhibit 34, Brief of Evidence at p. 28, 100.

¹⁴⁰⁴ Exhibit 34, Brief of Evidence at p. 9.

¹⁴⁰⁵ Exhibit 34, Brief of Evidence at p. 101.

¹⁴⁰⁶ Exhibit 34, Brief of Evidence at p. 98.

¹⁴⁰⁷ Transcript for 8 March 2022 T 789:35-40.

¹⁴⁰⁸ Transcript for 8 March 2022 T 782:4-6.

¹⁴⁰⁹ Transcript for 8 March 2022 T 783:19-30.

32. Mr Hine also gave evidence that he understood George wanted to stay and protect his house in the event of fire but that if the Fire was to get beyond control, evacuation was on George's plan.¹⁴¹⁰
33. The evidence indicates that George may have attempted to flee or seek shelter in his car when the Kangawalla, Diehard Fire reached his property, by which time the Fire overwhelmed him as it was too intense.
34. George's brother, Panagiotis, expressed his view to Counsel Assisting, that George may not have fully appreciated the scale of the approaching fire and that in his later years George's home was his whole world. In these circumstances, Panagiotis believed that George may have chosen to stay at the property as the Fire progressed.¹⁴¹¹

Section 81 Findings

35. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was George Nole.

Date of death

George died in the afternoon of 8 November 2019.

Place of death

George died in his car, which was parked at his home in Wyaliba at 11648B Old Grafton Road.

Cause of death

The cause of George's death was due to the effects of fire.

Manner of death

George died in his car as the Kangawalla, Diehard Fire impacted upon his home.

36. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of Findings for the Stage 2 hearing into the fire prediction modelling methods used by the RFS, and communication and warnings. These are detailed in Volume 2, Part 10, Section 3.
37. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to George's family and loved ones, friends, and community for their loss.
38. At the conclusion of the evidence in the inquest, George's brother, Panagiotis Kokkinakis, provided the Court with information about George. It was read out by Counsel Assisting. It is reproduced in Part 7 – Testimonials.

¹⁴¹⁰ Transcript for 8 March 2022 T 789:45-58.

¹⁴¹¹ Family Statement provided to the Court in March 2022.

10. Bees Nest (Guy Fawkes National Park) Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Bees Nest (Guy Fawkes National Park) Fire.

Introduction

2. The Bees Nest Fire started on 30 August 2019 and burned for approximately two and a half months until it was declared 'Out' on 13 November. During that time, the Bees Nest Fire burned in the Armidale Regional Council LGA and crossed into the Clarence Valley and Bellingen LGA, encompassing the lands of the Gumbanynggirr people.¹⁴¹²
3. It burned approximately 113,706 hectares comprising of 63,070 hectares of National Park, 27,642 hectares of private land, 22,354 hectares of State Forest, and 640 hectares of other land. At least 9 residences were destroyed, several vehicles, various farming equipment, infrastructure and machinery were also lost along with an estimated 123 cattle. There was also an enormous impact on flora and fauna, including the destruction of a number of koala habitats on the Dorrigo Plateau.¹⁴¹³

Chronology of events

4. On the evening of 30 August 2019, a storm passed through the Guy Fawkes River National Park. From 7:43pm to 8:07pm, four lightning strikes were recorded within the vicinity of the Bees Nest Trail, located within the Guy Fawkes River National Park, where the Bees Nest Fire is believed to have originated and was initially mapped by the RFS.¹⁴¹⁴
5. On 31 August 2019 at 5:49pm, Steve Mepham, Manager of the RFS New England District, notified Hannah Birkenhead, Duty Officer at the Glen Innes FCC, of the Bees Nest Fire by text message. Mr Mepham surmised that the Fire was likely caused by lightning strike the day prior and advised that the NPWS would investigate the following morning.¹⁴¹⁵
6. On 1 September 2019 at 9:04am, the Bees Nest Fire was authorised as 'Going' by the NPWS. At that time, it was recorded that NPWS ground crews were in transit to the Fire to conduct reconnaissance and aircraft was to be deployed once fog lifted at Armidale Airport.¹⁴¹⁶
7. By 12:00pm, NPWS crews confirmed the Bees Nest Fire and the assistance of RFS brigades was requested. Crews and aircraft subsequently responded and early firefighting efforts, including aerial bucketing and ground mop-up, effectively contained the Fire, which was around 6 hectares in size at this time.¹⁴¹⁷

¹⁴¹² Exhibit 35A, Brief of Evidence at p. 39, 131.

¹⁴¹³ Exhibit 35A, Brief of Evidence at p. 131, 174–196.

¹⁴¹⁴ Exhibit 35A, Brief of Evidence at p. 3, 34, 161-5.

¹⁴¹⁵ Exhibit 35A, Brief of Evidence at p. 42.

¹⁴¹⁶ Exhibit 35A, Brief of Evidence at p. 105.

¹⁴¹⁷ Exhibit 35A, Brief of Evidence at p. 42, 143.

8. According to its time stamp, at 1:27pm, a fire detection camera positioned at Mount Hyland, broadly to the east of the Bees Nest Trail, captured a photograph (see image below) of the Bees Nest Fire, showing a plume of smoke emerging from bushland:¹⁴¹⁸

Mt Hyland - Fire Cam



9. By 5:00pm, RFS brigades were stood down by the NPWS as there was no activity.¹⁴¹⁹
10. Over the coming days the Bees Nest Fire was largely contained; however, on 3 September 2019, the Bees Nest Fire spread significantly.¹⁴²⁰
11. On 5 September 2019, then Commissioner Shane Fitzsimmons AO AFSM issued a declaration under section 44 of the RF Act in respect of several fires in the Armidale Regional Council LGA which gave the RFS control over the firefighting operations.¹⁴²¹
12. At 1:43pm, an RFS SITREP recorded that the Bees Nest Fire by that time was at 'Being Controlled' status with fallback lines, backburning, patrolling and mopping up operations underway.¹⁴²²
13. On 6 September 2019 at 9:57am, the Bees Nest Fire continued to hold and remained at 'Being Controlled' status with spot overs contained.¹⁴²³
14. However, an RFS SITREP at 2:38pm recorded that at 11:30am the Bees Nest Fire breached containment at Bough Yard Creek and rapidly spread to the east, spotting hundreds of metres ahead. Accordingly, the status of the Fire was updated to 'Going'. Crews and heavy equipment were evacuated, aircraft were grounded due to strong winds, and crews from Tamworth alongside two bulk water carriers and other supports were deployed to assist with property protection.¹⁴²⁴ It was noted that the Bees Nest Fire was close to the Guy Fawkes River, but with the deteriorating conditions it was unlikely to contain the Fire. It was estimated that once the Bees Nest Fire crossed the Guy Fawkes River, it would impact properties in the Marengo area, north of Ebor, within one hour.¹⁴²⁵

¹⁴¹⁸ Exhibit 35A, Brief of Evidence at p. 66.

¹⁴¹⁹ Exhibit 35A, Brief of Evidence at p. 42.

¹⁴²⁰ Exhibit 35A, Brief of Evidence at p. 134-135.

¹⁴²¹ Exhibit 35A, Brief of Evidence at p. 95.

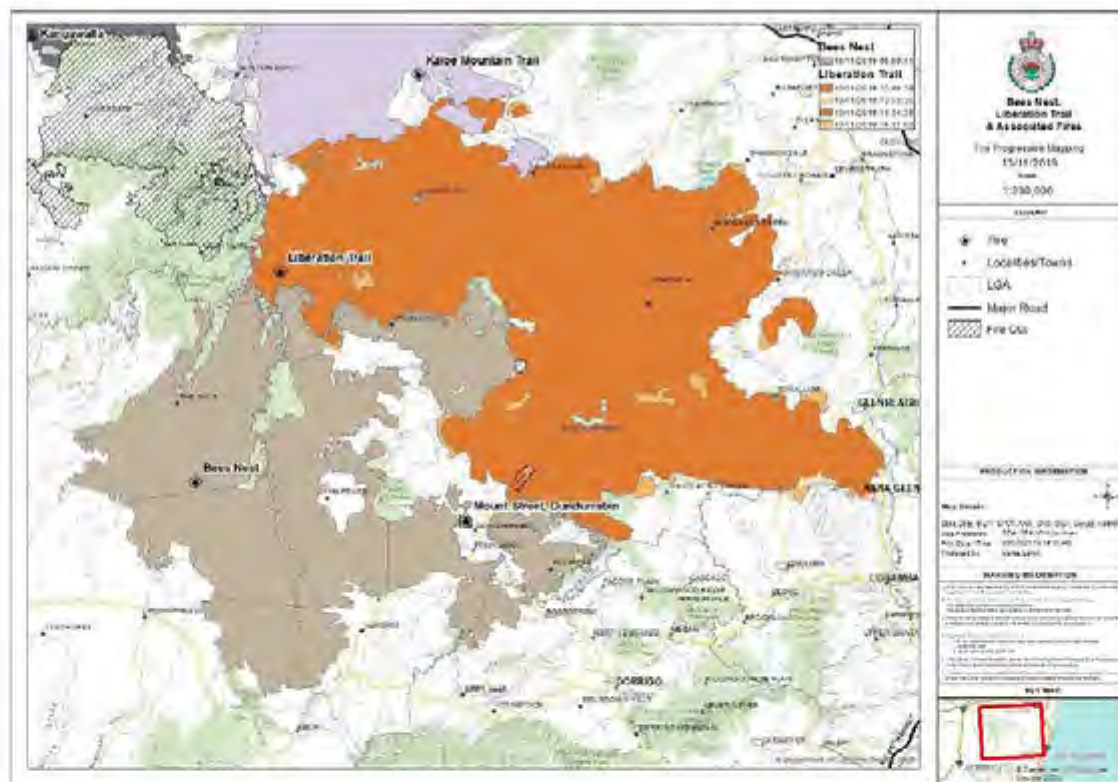
¹⁴²² Exhibit 35A, Brief of Evidence at p. 108.

¹⁴²³ Exhibit 35A, Brief of Evidence at p.112.

¹⁴²⁴ Exhibit 35A, Brief of Evidence at p. 116.

¹⁴²⁵ Exhibit 35A, Brief of Evidence at p. 116.

15. Several emergency alerts were issued residents, including those north of Ebor, at 3:00pm and 4:46pm.¹⁴²⁶
16. By 3:42pm, the Bees Nest Fire had breached the Guy Fawkes River and was spreading very rapidly towards Marengo.¹⁴²⁷ NSWPF officers in Armidale were alerted by the RFS of the imminent risk to life and property in the area. DSC Mark Symons and DSC Matthew Robertson were deployed to assist with roadblocks and evacuating trapped residents as the Fire progressed towards the towns of Marengo, Hernani, Tyringham, and Dundurrabin.¹⁴²⁸
17. Many residents in these small communities defended their properties but were eventually forced to shelter from the intense fire. While fortunately no lives were lost, many were deeply traumatised by their terrifying experiences, including the young students at Hernani Public School. Sadly, several properties in Marengo, Hernani, Tyringham, Dundurrabin, and other localities were damaged or destroyed by the Bees Nest Fire.¹⁴²⁹
18. By 12 September 2019 to 3 November 2019, the Bees Nest Fire was at 'Being Controlled' status with extensive firefighting efforts employed, aided by aerial support, including the construction and consolidation of containment lines, fallback containment lines, tactical backburns, mop up and patrol.¹⁴³⁰
19. From 4 November 2019 to 12 November 2019, the Bees Nest Fire was downgraded to 'Patrol' status as the Fire had remained within containment lines.¹⁴³¹
20. On 13 November 2019, an RFS SITREP recorded at 6:33pm that the Bees Nest Fire had remained within containment lines and had not progressed for several days. There were no hotspots located within the perimeter of the Fire for the last 3 days. As a result, the Bees Nest Fire was declared 'Out'.¹⁴³² The final extent of the Fire and associated fires on 13 November 2019, is demonstrated in the figure below:



¹⁴²⁶ Exhibit 35A, Brief of Evidence at p. 144–151.
¹⁴²⁷ Exhibit 35A, Brief of Evidence at p. 120.
¹⁴²⁸ Exhibit 35A, Brief of Evidence at p. 4–6.
¹⁴²⁹ Exhibit 35A, Brief of Evidence at p. 9–30.
¹⁴³⁰ Exhibit 36A, Brief of Evidence at Tab 11.
¹⁴³¹ Exhibit 36A, Brief of Evidence at Tab 11.
¹⁴³² Exhibit 35A, Brief of Evidence at p. 131.

Cause and origin

21. On 13 September 2019, Mark Fullagar, RFS AFI, conducted a cause and origin scene investigation in relation to the Bees Nest Fire, accompanied and assisted by Steve May, RFS AFI.¹⁴³³
22. Mr Fullagar's initial approach to the general area of origin was guided by where RFS crews first encountered the Fire,¹⁴³⁴ approximately 17 kilometres north of Guyra Road cross of Dyamberin Road, Wongwibinda intersection. Following Dyamberin Road, Mr Fullagar and Mr May turned onto the W Perimeter Offshoot Trail and they continued in a northerly direction. As they traversed the trail, they encountered burnt ground to the east and west which indicated the Fire was of high intensity. They continued along the trail and came to an intersection where the W Perimeter Offshoot Trail met with the Western Perimeter Trail. Here, they observed burnt ground to the east, west, and north.¹⁴³⁵
23. Mr Fullagar eventually identified a plateau with the least amount of fire damage compared to its surroundings, indicating that the Bees Nest Fire may have originated there. Mr Fullagar and Mr May split up and independently tracked the fire indicators from this plateau. They were approximately 50 meters apart but were unable to see one another due to the sloping terrain. Mr Fullagar and Mr May each separately and independently tracked the Fire to a likely point of origin, being a turpentine tree, which appeared to have scarring indicative of having been struck by lightning.¹⁴³⁶
24. The scarring revealed the raw timber of the tree which looked to be fresh and excluded the possibility that the tree had been struck months earlier. Mr Fullagar was not aware of any source, other than lightning, that could have caused such scarring.¹⁴³⁷
25. Mr Fullagar also identified the entry point of lightning from the tree to the earth. He was able to ascertain this by identifying rocks which had been disturbed and were sitting above ground around recently disturbed, lighter-coloured, fresh dirt, all of which suggested to him that the rocks had been recently displaced at the base of the lightning-struck tree. Sooting on rocks nearby also suggested the Fire had emanated away from that area.¹⁴³⁸
26. Mr Fullagar considered the lightning strike data available to him for the area, which revealed that on 30 August 2019, there were four lightning strikes in close proximity to the lightning-struck tree, albeit there was no precise match between those lightning strikes and location of the tree. Mr Fullagar attributed this discrepancy to the fact that lightning strike data is not 100% accurate. The data was largely corroborative of Mr Fullagar's opinion as to the cause and origin of the Bees Nest Fire based upon his physical investigation at the scene.¹⁴³⁹
27. Mr Fullagar was able to exclude other possible causes of the Bees Nest Fire noting that there was no other ignition source identified in the remote terrain at the point of origin.¹⁴⁴⁰
28. On 2 October 2020, Sergeant Nicole Hill of the FETS also conducted a scene investigation of the suspected area of origin. However, she was unable to form an opinion as to the cause and origin of the Bees Nest Fire due to the passage of time and the re-generation of bushland.¹⁴⁴¹
29. Finally, it is noted that Detective Acting Inspector James Crotty, the NSWPF OIC, had initially recorded the start date of the Bees Nest Fire as 16 August 2019 and he gave evidence to indicate that such date was likely entered in error.¹⁴⁴² It is therefore accepted that there is no evidence to suggest that the Bees Nest Fire started on that date, with all evidence pointing to the end of August 2019.

¹⁴³³ Exhibit 35A, Brief of Evidence at p. 39.

¹⁴³⁴ Transcript of 9 March 2022 T 812:44-50.

¹⁴³⁵ Exhibit 35A, Brief of Evidence at p. 39.

¹⁴³⁶ Exhibit 35A, Brief of Evidence at p. 39; Transcript of 9 March 2022 T 813:48-50; Transcript of 9 March 2022 T 814:1-8, 41-50; Transcript of 9 March 2022 T 815:1-23.

¹⁴³⁷ Exhibit 35A, Brief of Evidence at p. 39; Transcript of 9 March 2022 T 816:35-50; Transcript of 9 March 2022 T 817:1-21.

¹⁴³⁸ Exhibit 35A, Brief of Evidence at p. 39–40; Transcript of 9 March 2022 T 817:27-50; Transcript of 9 March 2022 T 818:1-50.

¹⁴³⁹ Exhibit 35A, Brief of Evidence at p. 40; Transcript of 9 March 2022 T 819:21-50; Transcript of 9 March 2022 T 820:1-8.

¹⁴⁴⁰ Exhibit 35A, Brief of Evidence at p. 40; Transcript of 9 March 2022 T 820:10-17.

¹⁴⁴¹ Exhibit 35A, Brief of Evidence at p. 72–73.

¹⁴⁴² Exhibit 35A, Brief of Evidence at p. 1; Transcript of 9 March 2022 T 806:39-50.

Section 81 Findings

30. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Bees Nest (Guy Fawkes National Park) Fire commenced on 30 August 2019 in a remote area of the Guy Fawkes River National Park on a plateau near the Bees Nest Trail.

The Bees Nest (Guy Fawkes National Park) Fire was caused by lightning strike to a tree on 30 August 2019.

31. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

11. Liberation Trail (Chaelundi) Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Liberation Trail (Chaelundi) Fire.

Introduction

2. The Liberation Trail Fire started on or before 27 October 2019. It burned for approximately 7 weeks until it was declared 'Out' on 24 December 2019. During that time, it burned primarily in the Clarence Valley LGA, but also extended into the Glen Innes and Coffs Harbour LGAs, encompassing the lands of the Gumbaynggirr people. It burned approximately 183,653 hectares, a large proportion of which was old growth forest within the Guy Fawkes River National Park.¹⁴⁴³
3. The Liberation Trail Fire impacted several towns, including Nymboida, Nana Glen, Glenreagh, Newton Boyd, Buccarumbi, Coutts Crossing, Kangaroo Creek, Glenugie, Lanitza, Wells Crossing, and Kremnos. It destroyed 124 residences, 251 outbuildings, and 6 facilities and damaged 36 residences, 107 outbuildings, and 4 facilities. At least 37 people were injured, but fortunately no lives were lost.¹⁴⁴⁴

Chronology of events

4. Between 11:00am on 24 October 2019 and 11:00am on 25 October 2019, lightning strike activity was recorded across the broader region, as well as at least one strike within the Chaelundi National Park, which is to the east of where the Liberation Trail Fire is believed to have commenced.¹⁴⁴⁵
5. On 25 October 2019, within the space of approximately four and a half hours, four different fires were authorised as 'Going':
 - a. at 9:18am, the Schultz Road Fire was authorised as 'Going'. It was located within the Ellis State Forest in the Armidale Regional Council LGA.¹⁴⁴⁶
 - b. only 10 minutes later, at 9:28am, the Muck Creek Fire was authorised as 'Going'. The Muck Creek Fire was located within the Clouds Creek State Forest in the Armidale Regional Council LGA.¹⁴⁴⁷
 - c. then 90 minutes later, at 10:58am, the Black Mountain Road Fire was authorised as 'Going'. This Fire was burning in the Kangaroo State Forest in the Clarence Valley LGA.¹⁴⁴⁸
 - d. then at 1:48pm, the Twelve Sixty Road Fire was authorised as 'Going'. The Twelve Sixty Road Fire was also within the Kangaroo River State Forest in the Clarence Valley LGA.¹⁴⁴⁹
6. Meanwhile, by this point in time, the Bees Nest Fire which had started on 30 August 2019 had already been burning for close to 2 months and had been divided into a number of sectors for the purpose of firefighting efforts. One of those sectors was called the Liberation Sector. It sat to the north-east of the suspected area of origin of the Bees Nest Fire and incorporated a section of the Liberation Trail.¹⁴⁵⁰
7. RFS crews were active within and along the Liberation Sector of the Bees Nest Fire in the days leading up to the Liberation Trail Fire being authorised as 'Going'. On 25 October 2019, there was a re-ignition of the Bees Nest Fire within the Liberation Sector, with NPWS crews re-deployed to respond along with air support.¹⁴⁵¹

¹⁴⁴³ Exhibit 36A, Brief of Evidence at pp. 1, 2, 5, 7, 60, 118.

¹⁴⁴⁴ Exhibit 36A, Brief of Evidence at p. 8–11, 116–117, Tab 19.

¹⁴⁴⁵ Exhibit 36A, Brief of Evidence at p. 330-1 – 330-2,

¹⁴⁴⁶ Exhibit 36A, Brief of Evidence at p. 270.

¹⁴⁴⁷ Exhibit 36A, Brief of Evidence at p. 277.

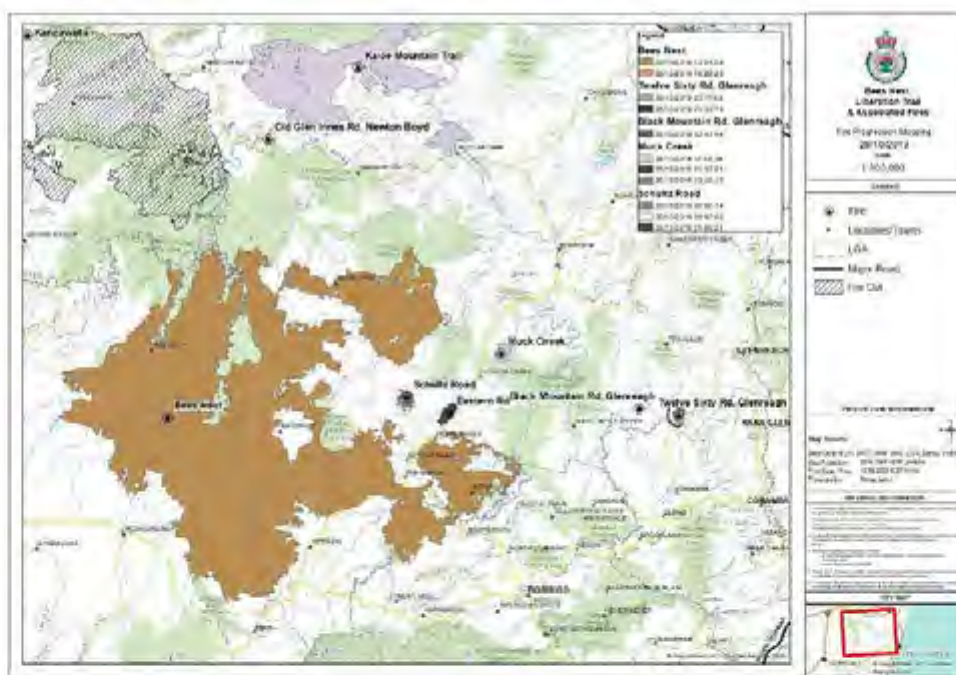
¹⁴⁴⁸ Exhibit 36A, Brief of Evidence at p. 285.

¹⁴⁴⁹ Exhibit 36A, Brief of Evidence at p. 290.

¹⁴⁵⁰ Exhibit 36A, Brief of Evidence at Tab 11.

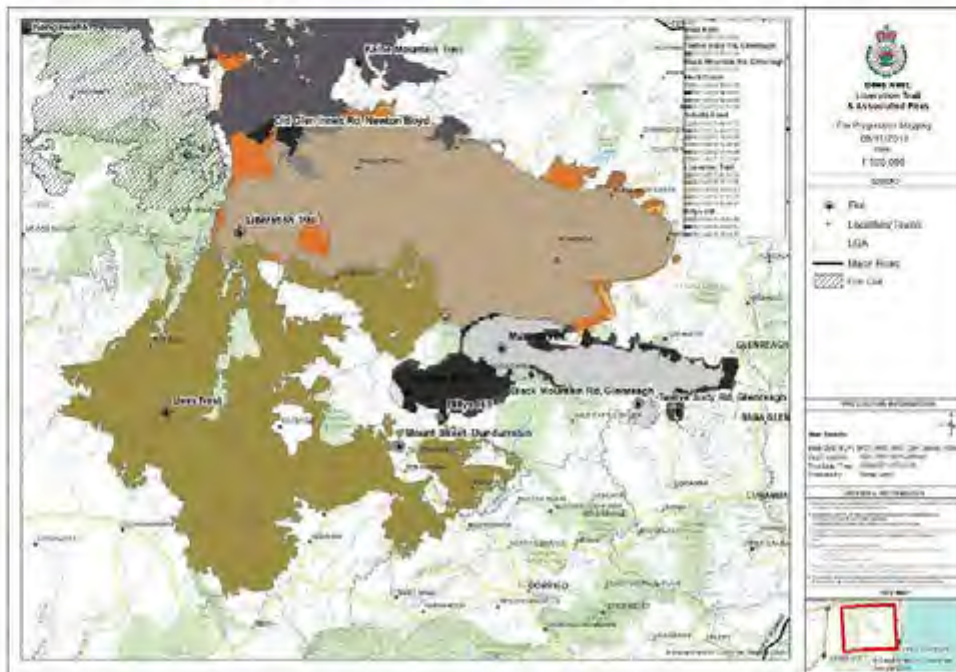
¹⁴⁵¹ Exhibit 36A, Brief of Evidence at Tab 11.

8. On 26 October 2019, firefighters were managing hotspots in the Liberation Sector of the Bees Nest Fire, including near the Broadmeadows Trail. Crews were mopping up and patrolling the sector later that day and putting in dozer lines.¹⁴⁵²
9. Between 11:00am on 26 October 2019 and 11:00am on 27 October 2019, there was further lightning activity across the region.¹⁴⁵³
10. At 5:37pm on 26 October 2019, a lightning strike was recorded to the east of the suspected area of origin of the Liberation Trail Fire.¹⁴⁵⁴
11. On 27 October 2019, the RFS reported hotspots along the Broadmeadows Trail and areas of concern within the Liberation Sector, which were targeted with air support. At 2:40pm, it was recorded by the RFS that there was: *“Slop over on Liberation Trail at GR 343870. Crews requesting air support. HT337 and HT297 in the vicinity and have been contacted to support ground crews. Crews confident they will knock it down at this stage.”*¹⁴⁵⁵ ‘Slop over’ is a term used by the RFS to refer to a fire that has broken its containment line or a spot from a fire.¹⁴⁵⁶
12. At 6:31pm, it was recorded by the RFS that: *“DivCom west working with crews on Liberation Trail have got around the spot over on the eastern side of Liberation Trail. There needs to be crews tomorrow to aggressively mop up and patrol. DivCom reports that there is active edge west of Liberation Trail.”*¹⁴⁵⁷
13. Therefore, 27 October 2019 represents the first date that fire near the Liberation Trail, north of the northern edge of the Bees Nest Fire, was first reported. Unfortunately, the evidence does not provide any more precise information as to where the slop over or spot over on the Liberation Trail occurred.
14. On 28 October 2019, a small fire on the Liberation Trail, which was then still categorised as part of the Bees Nest Fire, was mapped to the north of the northern edge of the Bees Nest Fire.¹⁴⁵⁸
15. On 30 October 2019, then Commissioner Shane Fitzsimmons AO AFSM issued a declaration under section 44 of the RF Act giving the RFS control of firefighting efforts for fires within parts of the Clarence Valley LGA.¹⁴⁵⁹



¹⁴⁵² Exhibit 36A, Brief of Evidence at Tab 11.
¹⁴⁵³ Exhibit 36A, Brief of Evidence at p. 330-3.
¹⁴⁵⁴ Exhibit 36A, Brief of Evidence at p. 330-5.
¹⁴⁵⁵ Exhibit 36A, Brief of Evidence at Tab 11.
¹⁴⁵⁶ Transcript of 9 March 2022 T 836:39-41.
¹⁴⁵⁷ Exhibit 36A, Brief of Evidence at Tab 11.
¹⁴⁵⁸ Exhibit 36A, Brief of Evidence at p. 247
¹⁴⁵⁹ Exhibit 36A, Brief of Evidence at p. 244.

16. On 4 November 2019 at 11:31am, the Liberation Trail Fire was initially recorded in an RFS SITREP at 'Being Controlled' status,¹⁴⁶⁰ despite evidence that the Liberation Trail Fire had been burning since at least 27 October 2019.
17. Between 6 and 9 November 2019, the Liberation Trail Fire was particularly fierce and spread rapidly. It impacted the town of Nymboida and surrounding areas, causing considerable property loss, and forcing some residents of Nymboida to shelter under the Nymboida Bridge for safety.¹⁴⁶¹
18. On 9 November 2019, the Schultz Road¹⁴⁶², Muck Creek¹⁴⁶³, Black Mountain Road¹⁴⁶⁴, and Twelve Sixty Road Fires¹⁴⁶⁵ merged with the Liberation Trail Fire and began being managed as part of the Liberation Trail Fire. By this point, the distance from the eastern point to the western point of the Liberation Trail Fire was approximately 70 kilometres and it had burnt approximately 122,457 hectares of land and had a perimeter of 463 kilometres (see fire progression map below).¹⁴⁶⁶



19. Between 10 and 12 November 2019, the Liberation Trail Fire threatened and impacted upon the towns of Nana Glen and Glenreagh.¹⁴⁶⁷
20. Between 13 and 17 November 2019, the Liberation Trail Fire continued to spread, and by 17 November 2019 it had burned approximately 168,184 hectares and had a perimeter of 717 kilometres.¹⁴⁶⁸
21. By 18 November 2019, the majority of the Liberation Trail Fire had become dormant with RFS patrolling the fireground and mopping up activities continued.¹⁴⁶⁹
22. On 20 and 21 November 2019, there were generally favourable weather conditions which allowed suppression activities to escalate.¹⁴⁷⁰ By 24 November 2019, approximately 85% of the Liberation Trail Fire was contained.¹⁴⁷¹

¹⁴⁶⁰ Exhibit 36A, Brief of Evidence at p. 260.

¹⁴⁶¹ Exhibit 36A, Brief of Evidence at p. 50, 227, 255–258.

¹⁴⁶² Exhibit 36A, Brief of Evidence at p. 273–274.

¹⁴⁶³ Exhibit 36A, Brief of Evidence at p. 280–281.

¹⁴⁶⁴ Exhibit 36A, Brief of Evidence at p. 288–289.

¹⁴⁶⁵ Exhibit 36A, Brief of Evidence at p. 293–294.

¹⁴⁶⁶ Exhibit 36A, Brief of Evidence at p. 50–51, 258.

¹⁴⁶⁷ Exhibit 36A, Brief of Evidence at p. 51.

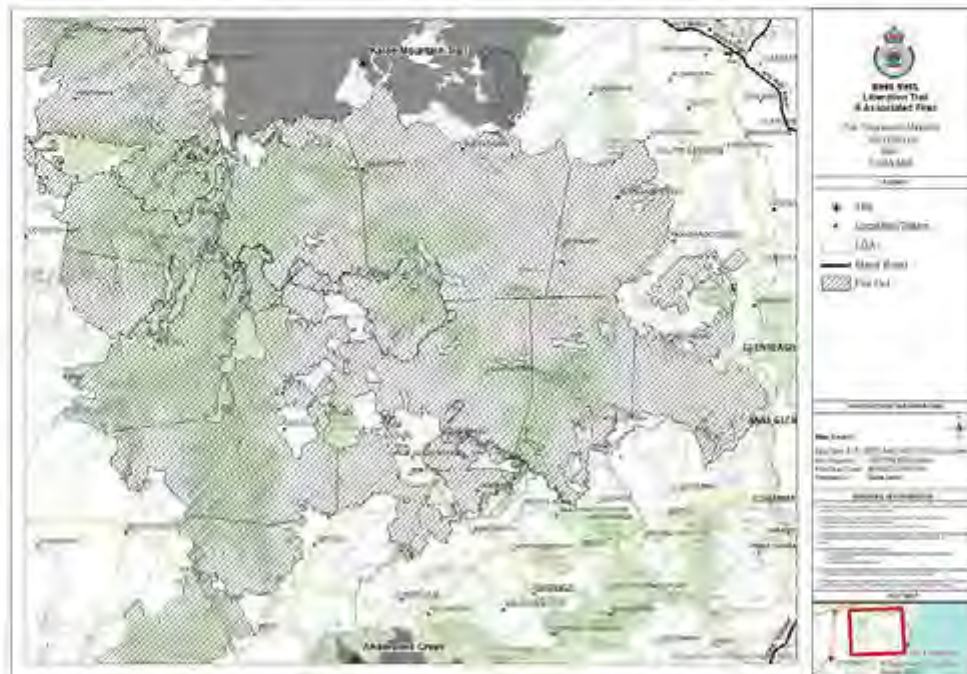
¹⁴⁶⁸ Exhibit 36A, Brief of Evidence at p. 52–54.

¹⁴⁶⁹ Exhibit 36A, Brief of Evidence at p. 54.

¹⁴⁷⁰ Exhibit 36A, Brief of Evidence at p. 229.

¹⁴⁷¹ Exhibit 36A, Brief of Evidence at p. 229.

23. Between 25 November 2019 and 4 December 2019, the Liberation Trail Fire, while largely contained, continued to spread.¹⁴⁷²
24. However, by 5 December 2019 the Liberation Trail Fire did not progress any further and no longer posed a threat.¹⁴⁷³
25. On 24 December 2019, after rainfall across the fireground, the Liberation Trail Fire was declared 'Out'.¹⁴⁷⁴ The final extent of the Fire and associated fires on 25 December 2019, is demonstrated in the figure below:



Cause and origin

26. In August 2020, some 10 months post-ignition, Mark Fullagar, RFS AFI, attended the scenes of the Liberation Trail, Muck Creek, and Schultz Creek Road Fires at the request of the NSWPF. Mr Fullagar did not perform a fire investigation on behalf of the RFS at the scenes of these fires.¹⁴⁷⁵ Mr Fullagar explained that a fire investigation would require consideration of data received from the fireground, previous fire histories, and should be conducted relatively proximate to the time of ignition.¹⁴⁷⁶
27. In August 2020, SC Justin Powell of the FETS attended the scenes of the Liberation Trail, Schultz Creek Road, and Muck Creek Fires¹⁴⁷⁷ and SSGT Scott Gane of the FETS undertook a cause and origin investigation for the Black Mountain Road and Twelve Sixty Road Fires.¹⁴⁷⁸

¹⁴⁷² Exhibit 36A, Brief of Evidence at p. 57–60.

¹⁴⁷³ Exhibit 36A, Brief of Evidence at p. 60.

¹⁴⁷⁴ Exhibit 36A, Brief of Evidence at p. 60.

¹⁴⁷⁵ Exhibit 36A, Brief of Evidence at p. 219-2; Transcript of 9 May 2022 T 833:17-23.

¹⁴⁷⁶ Transcript of 9 May 2022 T 833:25-43.

¹⁴⁷⁷ Exhibit 36A, Brief of Evidence at p. 134, 143, 149.

¹⁴⁷⁸ Exhibit 36A, Brief of Evidence at p. 157–158, 192–193.

Schultz Road Fire

28. On 12 August 2020, SC Powell attended the Schultz Road Fire scene with Mr Fullagar. SC Powell was tasked with conducting an examination to identify the cause and origin of the Schultz Road Fire within the Ellis State Forest. SC Powell described the area of the suspected ignition as being remote and located in dense bushland with steep terrain, making the closest vehicular access to the north-east of Shultz Road, Nymboida near the Benjibal Road intersection.¹⁴⁷⁹
29. By that time, the area had received considerable rainfall since the Fire had ignited causing high forest and ground cover vegetation regrowth, which resulted in the majority of fire indicators relied on to track the origin and cause of the Fire being lost. The only indicator which remained was the angle of char. The angle of char identified was consistent with the Fire moving upslope crossing Schultz Road from the west to the east, with which Mr Fullagar concurred. SC Powell noted that this was consistent with the area of origin as indicated on RFS mapping to the west of Shultz Road where it intersected Benjibal Road.¹⁴⁸⁰
30. There was no lightning strike data available for the area on the date of ignition. Further, there was no infrastructure; powerlines, buildings, or rail lines in the area of origin that would indicate the Schultz Road Fire had been caused by these sources.¹⁴⁸¹
31. Whilst SC Powell was satisfied that it did not appear that the Schultz Road Fire was caused by a deliberate or accidental ignition given the remote area, ultimately the cause could not be determined at that time.¹⁴⁸²
32. Lightning strike data later obtained showed lightning strike activity broadly in the vicinity of the Schultz Road Fire but no direct overlap with the general area of origin. However, even with the lightning strike data available, it was not possible, given the passage of time, to identify a point of origin. Mr Fullagar explained that a full scene examination due to the regrowth was unable to occur and any lightning struck trees or ground were unable to be identified. Accordingly, Mr Fullagar believed that the cause of the Schultz Road Fire should remain as undetermined as they were unable to identify a point of origin which would assist in determining the cause.¹⁴⁸³

Muck Creek Fire

33. On 12 August 2020, SC Powell and Mr Fullagar also attended the scene of the Muck Creek Fire in the Clouds Creek State Forest. The area was also described as remote and located in dense bushland with steep terrain, making the closest vehicle access to the east on Muck Creek Road.¹⁴⁸⁴
34. By that time, the area had also received considerable rainfall since the Fire ignited causing high forest and ground cover vegetation regrowth, which resulted in the majority of fire indicators relied on to track the origin and cause of the fire being lost. The only indicator which remained was the angle of char. The angle of char indicated that the main fire front had crossed the Muck Creek Road from the west. This was consistent with the area of origin as indicated on RFS mapping in a valley area to the west of Muck Creek Road.¹⁴⁸⁵
35. There was no lightning strike data available for the area on the date of ignition. Further, there was no infrastructure; powerlines, buildings, or rail lines in the area of origin that would indicate the Muck Creek Fire had been caused by these sources.¹⁴⁸⁶
36. Whilst SC Powell was satisfied that it did not appear that the Muck Creek Fire was caused by a deliberate or accidental ignition given the remote area, the cause could not be determined at that time, with which Mr Fullagar agreed.¹⁴⁸⁷

¹⁴⁷⁹ Exhibit 36A, Brief of Evidence at p. 143.

¹⁴⁸⁰ Exhibit 36A, Brief of Evidence at p. 144; Transcript of 9 March 2022 T 835:7-10.

¹⁴⁸¹ Exhibit 36A, Brief of Evidence at p. 145.

¹⁴⁸² Exhibit 36A, Brief of Evidence at p. 145.

¹⁴⁸³ Transcript of 9 March 2022 T 835:12-31.

¹⁴⁸⁴ Exhibit 36A, Brief of Evidence at p. 149.

¹⁴⁸⁵ Exhibit 36A, Brief of Evidence at p. 150.

¹⁴⁸⁶ Exhibit 36A, Brief of Evidence at p. 151.

¹⁴⁸⁷ Exhibit 36A, Brief of Evidence at p. 151; Transcript of 9 March 2022 T 835:33-44.

Black Mountain Road Fire

37. On 21 August 2020, SSGT Scott Gane conducted a cause and origin investigation into the Black Mountain Road Fire. He accessed the area where the Fire was initially reported within the Kangaroo River State Forest via Black Mountain Road. The area of origin consisted of dense eucalyptus forest and underlying vegetation.¹⁴⁸⁸
38. As with other fires, given the passage of time between the Fire igniting and the cause and origin investigation and significant rainfall resulting in substantial regrowth in the area, all fire indicators that would have typically been used to track the spread of fire and determine a possible area of origin, had been lost with the exception of angle of char.¹⁴⁸⁹ The angle of char indicated that the Black Mountain Road Fire travelled towards the south and was tracked to an area at the western side of the P-two Trail.¹⁴⁹⁰
39. During his examination, SSGT Gane noticed a dry creek bed approximately 100 metres west of the P-two trail, and on the bank of this dry creek bed was a tree that had been ringbarked with an axe. Charring to this tree indicated that this was caused before the Fire. SSGT Gane included reference to the ringbarked tree in his statement as it showed human activity in an extremely remote area which contradicted the assumption the area was only accessed by forest workers.¹⁴⁹¹
40. SSGT Gane found evidence of heavy machinery use in trees which had been pushed over and dirt mounted up, possibly as a consequence of the maintenance of the fire trail. Trees in these piles had subsequently been impacted by fire. There were no overhead powerlines in the area.¹⁴⁹²
41. SSGT Gane also noticed a large dead eucalypt tree with splintered upper limbs and trunk, consistent with damage which may have been caused by a lightning strike. There was also scattered and splintered upper limbs and parts of the trunk found at the base of the tree. However, SSGT Gane was not able to positively conclude that the tree had been struck by lightning. He did not see any evidence of rock or soil disturbance at the base of the tree consistent with lightning strike. Another possible cause for the damage to the tree could be that it was a very old, dead tree that was damaged by strong winds.¹⁴⁹³
42. Furthermore, SSGT Gane emphasised that this was not an investigation in which he had been able to track fire indicators to a point of origin and there discovered a tree with the hallmarks of lightning damage. Rather, he could do no more than establish a rather large general area of origin which included the damaged tree.¹⁴⁹⁴
43. At the time of the fire scene investigation, SSGT Gane did not have access to lightning strike data, but such data became available after he had concluded his investigation. After reviewing that data, SSGT Gane was unable to identify any specific lightning strike in the vicinity of the Black Mountain Road Fire that may have caused the Fire.¹⁴⁹⁵
44. Ultimately, SSGT Gane concluded that the cause of the Black Mountain Road Fire was undetermined.¹⁴⁹⁶

¹⁴⁸⁸ Exhibit 36A, Brief of Evidence at p. 157.

¹⁴⁸⁹ Exhibit 36A, Brief of Evidence at p. 158.

¹⁴⁹⁰ Exhibit 36A, Brief of Evidence at p. 158.

¹⁴⁹¹ Exhibit 36A, Brief of Evidence at p. 158; Transcript of 9 March 2022 T 844:35-50; Transcript of 9 March 2022 T 845:1-14.

¹⁴⁹² Exhibit 36A, Brief of Evidence at p. 158, 161.

¹⁴⁹³ Exhibit 36A, Brief of Evidence at p. 158; Transcript of 9 March 2022 T 845:28-50; Transcript of 9 March 2022 T 846:1-29.

¹⁴⁹⁴ Transcript of 9 March 2022 T 845:37-41.

¹⁴⁹⁵ Transcript of 9 March 2022 T 846:31-50.

¹⁴⁹⁶ Exhibit 36A, Brief of Evidence at p. 160-161; Transcript of 9 March 2022 T 847:12-18.

Twelve Sixty Road Fire

45. On 21 August 2020, SSGT Gane also attended and conducted a scene investigation at the scene of the Twelve Sixty Road Fire.¹⁴⁹⁷ He accessed the area where the Fire was initially reported within the Kangaroo River State Forest via Twelve Sixty Road and conducted his examination in the vicinity of the Muri Trail and Kyema Trail. The area was described as steep and rocky consisting of dense eucalypt forest with underlying vegetation, and with fire trails only accessible by four-wheel-drive vehicles, albeit the area he examined was easily accessible by foot, no more than 50 metres off the fire trails. It was nonetheless a very remote location.¹⁴⁹⁸
46. Throughout the general area of origin, SSGT Gane saw numerous fallen trees, along with trees that had damage to the upper limbs with shattered and splintered limbs on the ground beneath consistent with lightning strike damage. SSGT Gane gave evidence that, as with the Black Mountain Road Fire, he was unable to discount the fact that the identified tree was a dead tree which had been damaged and blown over by strong winds but noted that this particular tree was splintered from the top which made it more likely than it had been struck by lightning.¹⁴⁹⁹
47. At the time of the investigation, SSGT Gane did not have lightning strike data available to him; however, such data was later obtained.¹⁵⁰⁰ The lightning strike data showed that between 11:00am on 24 October 2019 and 11:00am on 25 October 2019, there was a lightning strike activity recorded in the vicinity of the area of origin of the Twelve Sixty Road Fire.¹⁵⁰¹ This data, as well as SSGT Gane's observations at the scene, caused SSGT Gane to have a greater degree of confidence in determining that the cause of the Twelve Sixty Road Fire was caused by lightning strike.¹⁵⁰²
48. However, even with this greater degree of confidence, SSGT Gane was unable to determine the cause and origin of the Twelve Sixty Road Fire. Although SSGT Gane was able to determine a general area of origin, the absence of micro indicators prevented him from fixing upon a point of origin which hampered his ability to then reach a conclusion as to the cause of the Fire. Taking into account the lightning strike data that later became available, SSGT Gane maintained that the cause of the Twelve Sixty Road Fire should be recorded as undetermined with a cause of fire by lightning not being able to be eliminated.¹⁵⁰³

Liberation Trail Fire

49. On 13 August 2020, SC Powell attended the Liberation Trail Fire scene with Mr Fullagar. SC Powell was tasked with conducting an investigation to identify the cause and origin of the Liberation Trail Fire. The area was remote and located in dense bushland with steep terrain, making the closest vehicle access to the area on Liberation Trail, south-west of Nymboida in the Guy Fawkes River National Park.¹⁵⁰⁴
50. Mr Fullagar described the Liberation Trail as a ridgetop trail in steep and hilly country, making a scene examination difficult. They were only able to safely veer 20 to 40 metres off the trail because of the nature of the terrain making it too dangerous on foot.¹⁵⁰⁵
51. As with other fires, given the passage of time between the Fire igniting and the cause and origin investigation and significant rainfall resulting in substantial regrowth in the area, all fire indicators that would have typically been used to track the spread of fire and determine a possible area of origin, had been lost with the exception of angle of char. The angle of char directional indicator on the majority of eucalyptus trees along the Liberation Trail showed that the Fire had travelled in an easterly direction across Liberation Trail from the west.¹⁵⁰⁶

¹⁴⁹⁷ Exhibit 36A, Brief of Evidence at p. 192.

¹⁴⁹⁸ Exhibit 36A, Brief of Evidence at p. 192-193; Transcript of 9 March 2022 T 849:15-27.

¹⁴⁹⁹ Exhibit 36A, Brief of Evidence at p. 193, 195; Transcript of 9 March 2022 T 847:44-50; Transcript of 9 March 2022 T 848:1-715.

¹⁵⁰⁰ Exhibit 36A, Brief of Evidence at p. 195; Transcript of 9 March 2022 T 848:47-50; Transcript of 9 March 2022 T 849:1-4.

¹⁵⁰¹ Exhibit 36A, Brief of Evidence at p. 330-332.

¹⁵⁰² Transcript of 9 March 2022 T 849:5-13.

¹⁵⁰³ Transcript of 9 March 2022 T 849:29-50; Transcript of 9 March 2022 T 850:1-7.

¹⁵⁰⁴ Exhibit 36A, Brief of Evidence at p. 133-134, 219-2.

¹⁵⁰⁵ Transcript of 9 March 2022 T 836:11-21.

¹⁵⁰⁶ Exhibit 36A, Brief of Evidence at p. 135, 219-2.

52. SC Powell found that some of smaller trees and shrubs along the western side of the Liberation Trail were still standing and not heavily fire affected indicating a possible lower intensity fire and possible origin in this area. This was consistent with the Fire origin as depicted on RFS mapping (see below) approximately 400 metres along the western side of Liberation Trail. However, a specific point of origin could not be identified. There was no infrastructure, powerlines, buildings, rail lines in the Fire origin area that would indicate the Fire had started by a fault from these sources.¹⁵⁰⁷



53. At the time of SC Powell's scene investigation, there was no lightning strike data available, however such data become available after he had concluded his investigation and it was provided to Mr Fullagar. The data indicated that there were a number of lightning strikes in the broad vicinity of the Liberation Trail Fire between 26 October to 4 November 2019; however, due to the limitations of the scene examination, Mr Fullagar was unable to discount a deliberate ignition or human intervention as the cause of the Fire.¹⁵⁰⁸
54. Mr Fullagar considered the RFS records including the chronology for the Liberation Trail Fire, fire progression mapping, and the lightning strike data. From his review of those records, Mr Fullagar was aware that there was a sloop over from the Bees Nest Fire on the Liberation Trail on 27 October 2019 and RFS crews attended in an attempt to control it. However, it was not clear to Mr Fullagar if this reported sloop over was the initial area of origin of the Liberation Trail Fire.¹⁵⁰⁹
55. Mr Fullagar estimated that the distance between the northern edge of the Bees Nest Fire and the suspected area of origin of the Liberation Trail Fire as approximately 1.2 kilometres. The RFS Predictive Services Unit estimated that the distance was approximately 1.05 kilometres. In either case, Mr Fullagar gave evidence that it is possible for a fire to spot up to 1.2 kilometres and in some cases, it is possible for a fire to spot even further.¹⁵¹⁰

¹⁵⁰⁷ Exhibit 36A, Brief of Evidence at p. 136, 139; Transcript of 9 March 2022 T 836:23-26.

¹⁵⁰⁸ Exhibit 36A, Brief of Evidence at p. 139, 219-2; Transcript of 9 March 2022 T 840:50; Transcript of 9 March 2022 T 841:1-7.

¹⁵⁰⁹ Exhibit 36A, Brief of Evidence at p. 219-2; Transcript of 9 March 2022 T 836:28-50; Transcript of 9 March 2022 T 837:1-3.

¹⁵¹⁰ Transcript of 9 March 2022 T 839:11-27.

56. Whilst conducting their scene investigation, Mr Fullagar and SC Powell discovered drooped torch burn marks and raking around vegetation on the eastern side of the Liberation Trail. Mr Fullagar gave evidence that these were indicators of a planned backburning operation. He agreed that the presence of these indicators was on the eastern side of the Liberation Trail noting that RFS fire progression mapping for the Liberation Trail Fire showed that the Fire was confined to the western side of the Liberation Trail. Mr Fullagar agreed that this might suggest that backburning efforts took place to the east after the Fire had ignited to the west. He agreed that the evidence of these backburning efforts to the east of the Liberation Trail Fire were not in any way implicated in the commencement of the Liberation Trail Fire.¹⁵¹¹
57. Ultimately, even after reviewing RFS records including the lightning strike data, Mr Fullagar agreed with SC Powell's conclusion that the cause of the Liberation Trail Fire was undetermined.¹⁵¹²

Section 81 Findings

58. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

Schultz Road Fire

The Schultz Road Fire commenced on 25 October 2019 in bushland off Schultz Road, Nymboida within the Ellis State Forest.

The cause and point of origin of the Schultz Road Fire are undetermined due to the loss of fire indicators and the steep terrain in which the Fire was located.

Muck Creek Fire

The Muck Creek Fire commenced on 25 October 2019 in the Clouds Creek State Forest.

The cause and point of origin of the Muck Creek Fire are undetermined due to the loss of fire indicators and the steep terrain in which the Fire was located.

Black Mountain Road Fire

The Black Mountain Road Fire commenced on 25 October 2019 in the Kangaroo River State Forest.

The cause and point of origin of the Black Mountain Road Fire are undetermined due to the loss of fire indicators and the steep terrain in which the Fire was located.

Twelve Sixty Road Fire

The Twelve Sixty Road Fire commenced on 25 October 2019 in the Kangaroo River State Forest.

The cause and point of origin of the Twelve Sixty Road Fire are undetermined due to the loss of fire indicators and the steep terrain in which the Fire was located.

Liberation Trail (Chaelundi) Fire

The Liberation Trail (Chaelundi) Fire commenced sometime on or before 27 October 2019 to the west of the Liberation Trail in the Guy Fawkes River National Park.

The cause and point of origin of the Liberation Trail (Chaelundi) Fire are undetermined due to the loss of fire indicators and the steep terrain in which the Fire was located.

59. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹⁵¹¹ Exhibit 36A, Brief of Evidence at p. 137; Transcript of 9 March 2022 T 839:29-50; Transcript of 9 March 2022 T 840:1-48.

¹⁵¹² Exhibit 36A, Brief of Evidence at p. 139, 219-3; Transcript of 9 March 2022 T 841:4-14.

12. Kian Road, South Arm Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Kian Road, South Arm Fire.

Introduction

2. The Kian Road, South Arm Fire started on 16 October 2019. It burned for approximately two and a half months until 27 December 2019, when it was formally merged with the Carrai East Fire and was officially declared 'Out' on that date.¹⁵¹³
3. The Kian Road, South Arm Fire burned in the Nambucca LGA encompassed within the lands of the Gumbaynggirr People. It burned approximately 31,575 hectares comprising of 14,033 hectares of private land, 9,353 hectares of National Park, 8,045 hectares of State Forest, and 144 hectares of other land.¹⁵¹⁴
4. Sixty-four homes were destroyed, and 19 others were damaged. The Kian Road, South Arm Fire destroyed or damaged another 162 outbuildings and countless other structures, vehicles, machinery, plant, timber, equipment, fencing and crops.¹⁵¹⁵
5. While these findings are limited to the cause and origin of the Kian Road, South Arm Fire, it should be noted that on 8 November 2019, Christopher Savva died in connection with this Fire. The circumstances of Christopher's death is considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of Christopher's death are located in Section 13 following.¹⁵¹⁶
6. On 10 November 2019, FRNSW firefighters Darryl Aldridge and Irene Pachos were also seriously injured as a result of a falling tree impacting their appliance whilst they were fighting the Kian Road, South Arm Fire.¹⁵¹⁷

Chronology of events

7. On 16 October 2019, several lightning strikes were recorded in the area around Kian Road, South Arm, Buckra Bendinni State Forest, and Dunggir National Park. Lightning data provided by the RFS showed the sheer degree of lightning activity in the area on that date.¹⁵¹⁸

¹⁵¹³ Exhibit 37A, Brief of Evidence at p. 312.

¹⁵¹⁴ Exhibit 37A, Brief of Evidence at p. 312.

¹⁵¹⁵ Exhibit 37A, Brief of Evidence at p. 281, 293.

¹⁵¹⁶ Exhibit 38, Brief of Evidence at p. 2–3.

¹⁵¹⁷ Exhibit 37A, Brief of Evidence at p. 372–373.

¹⁵¹⁸ Exhibit 37A, Brief of Evidence at p. 174, 274–279.

8. On 17 October 2019 at around 8:30am, Air Observer Andrew Pitzen of the NPWS departed from Dorrigo in a helicopter in search of new fires given the lightning activity the day prior. He detected three new fires including the Kosekai Road Fire, the Jacobs Spur Fire (later becoming the Carrai East Fire with which the Kian Road, South Arm Fire would ultimately be merged) and the Kian Road, South Arm Fire.¹⁵¹⁹ Mr Pitzen captured a photograph (see below) which showed the initial stages of the Kian Road, South Arm Fire, burning on private property south of Upper Buckrabendinni Road and east of Kosekai Road in a heavily forested, semi-remote area with steep terrain.¹⁵²⁰



9. Steep terrain, forested environments and underlying dry conditions made initial containment difficult. Opportunities to contain the Fire in semi-remote areas using soft containment strategies, including gullies and moist forest types, were limited. Instead, hard containment options were required such as constructed lines.¹⁵²¹
10. On 18 October 2019, the Kian Road, South Arm Fire spread towards Dunggir National Park and Hanging Rock Road, as well as private property along Upper Buckrabendinni Road. Firefighters turned their attention to asset protection. Firefighters on the ground were supported by aircraft, and machinery was brought in to construct hard containment lines to the east, south, and west of the Kian Road, South Arm Fire.¹⁵²²
11. On 18 October 2019, the Kian Road, South Arm Fire and the Kosekai Road Fire to the south-west were amalgamated and managed together as the Kian Road, South Arm Fire.¹⁵²³
12. On 20 October 2019, tactical burns continued with the aim to contain the Kian Road, South Arm Fire within containment lines. Firefighters attempted to create a small perimeter to reduce the risk to the community. At this stage, firefighters were working around the clock in an attempt to execute the strategy.¹⁵²⁴

¹⁵¹⁹ Exhibit 37A, Brief of Evidence at p. 11.

¹⁵²⁰ Exhibit 37A, Brief of Evidence at p. 172.

¹⁵²¹ Exhibit 37A, Brief of Evidence at p. 282.

¹⁵²² Exhibit 37A, Brief of Evidence at p. 318.

¹⁵²³ Exhibit 37A, Brief of Evidence at p. 240.

¹⁵²⁴ Exhibit 37A, Brief of Evidence at p. 20.

13. From 21 to 23 October 2019, the Kian Road, South Arm Fire extended laterally along Hanging Rock Road and spread short distances (less than 1 kilometre per day) in all directions.¹⁵²⁵
14. On 24 October 2019, another fire approximately 6.5 kilometres south-east of the Kian Road, South Arm Fire was authorised as 'Going'. This was the Fortescue Creek Fire, and it too was spreading short distances (less than 1 kilometre) in all directions. It was thought that the Fortescue Creek Fire also started on or around 16 October 2019.¹⁵²⁶
15. Between 3 November and 7 November 2019, the Kian Road, South Arm Fire and the Fortescue Creek Fire were mapped as spreading small distances and considered relatively stationary.¹⁵²⁷
16. On 8 November 2019, treacherous weather conditions in the Nambucca Valley caused extreme and anomalous fire spread. Temperatures soared to 35.6 degrees Celsius with 7% humidity, and gale force winds reached gusts of up to 69 kilometres per hour.¹⁵²⁸ The Kian Road, South Arm Fire and the Fortescue Creek Fire spread around 13 kilometres to the east in a single day. On this date, the Kian Road, South Arm Fire and the Fortescue Creek Fire were amalgamated and managed together as the Kian Road, South Arm Fire.¹⁵²⁹
17. Over the next two weeks, firefighters attempted to limit the spread of the Kian Road, South Arm Fire, and focused on asset protection by employing a broad containment strategy through a combination of direct ground and aerial attack.¹⁵³⁰
18. By 21 November 2019, the Kian Road, South Arm Fire appears to have merged with the north-east portion of the Carrai East Fire burning in the Nambucca Valley LGA.¹⁵³¹
19. On 12 December 2019, the extent of the Fire and associated fires is demonstrated in the figure below:

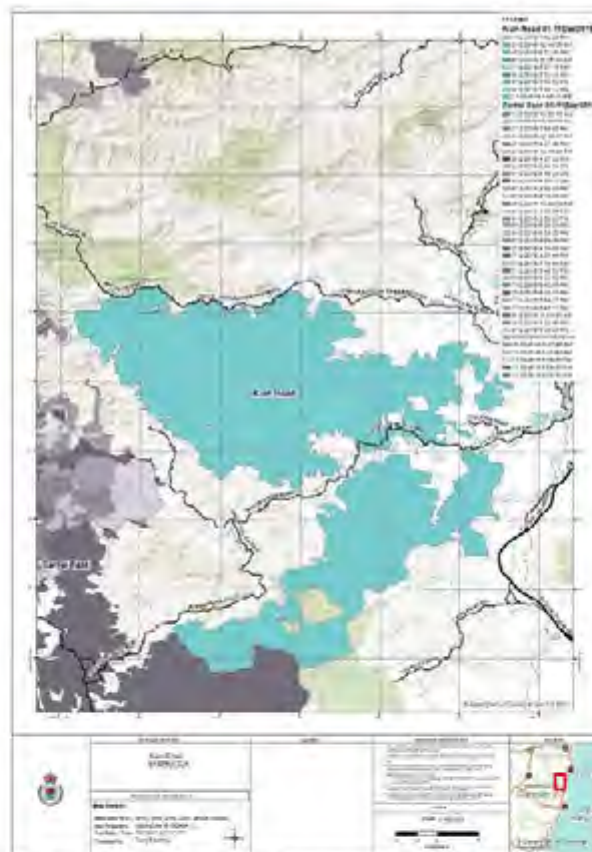


Figure 87 Fire Progression Mapping 0000, 01/12/2019 to 0000, 12/12/2019 (1:150,000 scale)

¹⁵²⁵ Exhibit 37A, Brief of Evidence at p. 248.

¹⁵²⁶ Exhibit 37A, Brief of Evidence at p. 250.

¹⁵²⁷ Exhibit 37A, Brief of Evidence at p. 253.

¹⁵²⁸ Exhibit 37A, Brief of Evidence at p. 334.

¹⁵²⁹ Exhibit 37A, Brief of Evidence at p. 256.

¹⁵³⁰ Exhibit 37A, Brief of Evidence at p. 43–44, 47–50, 59–68.

¹⁵³¹ Exhibit 37A, Brief of Evidence at p. 272.

20. On 27 December 2019, the Kian Road, South Arm Fire was amalgamated with the Carrai East Fire and was declared officially 'Out' on that date.¹⁵³²

Cause and origin

21. On 17 November 2019, RFS Fire Investigators Ian Cook and Mark Fullagar attended the private property where Mr Pitzen had captured the initial stages of the Kian Road, South Arm Fire. The property is located south of Upper Buckrabendinni Road and east of Kosekai Road.¹⁵³³
22. Upon arriving at the property, Mr Cook and Mr Fullagar were directed by landowner Nicholas Graham to a track that would lead them to an area where he suspected the Kian Road, South Arm Fire had started. However, Mr Cook and Mr Fullagar were unable to reach the precise area of origin due to the inaccessible terrain. Mr Cook and Mr Fullagar followed the track to an area where they observed what was described as a fresh burn area. Mr Cook took photographs of evidence of fire indicators including leaf freeze, angel of char, staining and evidence of the path the Fire took.¹⁵³⁴
23. Mr Cook attached a map (see below) to his Fire Investigation Report, which indicates the location of the fire investigation that took place in relation to the Kian Road, South Arm Fire.¹⁵³⁵



24. Following his investigation, including review of lightning data, linescans, fire mapping, photographs, and conversations with local residents, Mr Cook concluded that the Kian Road, South Arm Fire was likely caused by lightning strike on 16 October 2019. Although Mr Cook could not reach the precise point of origin due to the steepness of the terrain, he observed from his ground-based investigation that the remote, steep, and isolated location restricted any public access, therefore eliminating other potential causes.¹⁵³⁶

¹⁵³² Exhibit 37A, Brief of Evidence at p. 312.

¹⁵³³ Exhibit 37A, Brief of Evidence at p. 185.

¹⁵³⁴ Exhibit 37A, Brief of Evidence at p. 185, 193–197.

¹⁵³⁵ Exhibit 37A, Brief of Evidence at p. 186, 191.

¹⁵³⁶ Exhibit 37A, Brief of Evidence, p. 185–186.

25. On 10 March 2022, DSC Priest gave oral evidence outlining the steps he took to investigate the cause and origin of the Kian Road, South Arm Fire. This included obtaining lightning data, evidence from the RFS and information provided by Mr Pitzen.¹⁵³⁷
26. DSC Priest tasked SC Justin Powell, a member of the NSWPF FETS, to investigate the cause and origin of the Kian Road, South Arm Fire and the Kosekai Road Fire.¹⁵³⁸
27. SC Powell concluded that the Kian Road, South Arm Fire and the Kosekai Road Fire were caused by lightning strike. This was also following his review of the lightning strike data and the information provided by Mr Pitzen.¹⁵³⁹
28. In relation to the area of origin of the Kian Road, South Arm Fire, DSC Priest confirmed that a general area of origin for the ignition could be discerned by SC Powell but not a specific point of origin.¹⁵⁴⁰
29. SSGT Gane also gave oral evidence on 10 March 2022. SSGT Gane was involved in coordinating assistance for forensic resources in relation to requests that came in from several Police districts. Part of this work included arranging for forensic staff to undertake building impacts assessments on affected properties.¹⁵⁴¹
30. SSGT Gane did not undertake any site inspections in relation to the Kian Road, South Arm Fire. However, he liaised with SC Powell throughout his investigation into its cause and origin and reviewed his statement at the conclusion of the investigation.¹⁵⁴²
31. SSGT Gane agreed that the exact cause of the Kian Road, South Arm Fire, as well as the Kosekai Road Fire, was unable to be determined but the evidence indicated that the ignition was likely to have been caused by a lightning strike.¹⁵⁴³
32. SSGT Gane also agreed that only a general area of origin could be discerned as opposed to a specific point of origin due to the rugged and remote terrain in relation to both fires.¹⁵⁴⁴

Section 81 Findings

33. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Kian Road, South Arm Fire commenced on 16 October 2019 on private property located in a heavily forested semi-remote area with steep terrain south of Upper Buckrabendinni Road and east of Kosekai Road.

The Kian Road, South Arm Fire was caused by lightning strike on 16 October 2019.
34. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearing into the design and safety of firefighting vehicles. This is detailed in Volume 2, Part 10, Section 4.

¹⁵³⁷ Transcript for 10 March 2022 T 860:15-17.

¹⁵³⁸ Transcript for 10 March 2022 T 860:19-48.

¹⁵³⁹ Transcript for 10 March 2022 T 860:50; Transcript for 10 March 2022 T 861: 1-16; Exhibit 37A, Brief of Evidence, p. 211, 215.

¹⁵⁴⁰ Transcript for 10 March 2022 T 861:37-40; Exhibit 37A, Brief of Evidence, p. 212.

¹⁵⁴¹ Transcript for 10 March 2022 T 868:20-30.

¹⁵⁴² Transcript for 10 March 2022 T 868:49-50; Transcript for 10 March 2022 T 869:1-2, 21-28.

¹⁵⁴³ Transcript for 10 March 2022 T 869:33-37, 47-50; Transcript for 10 March 2022 T 870:5.

¹⁵⁴⁴ Transcript for 10 March 2022 T 869:39-45, Transcript for 10 March 2022 T 870:5-9.

13. Christopher Savva

Why was an inquest held?

1. In this inquest, Christopher (Chris) Savva's identity is known, as is the date and place of his death. For this reason, the inquest into Chris' death focused on the manner and cause of his death.

Introduction

2. On 8 November 2019, under extreme weather conditions, the Kian Road, South Arm Fire impacted the community of South Arm which lies within the Nambucca Valley LGA.¹⁵⁴⁵
3. At the time of the Kian Road, South Arm Fire, Chris lived at 1820 South Arm Road, South Arm with his partner, Amanda (Mandy) Brady.¹⁵⁴⁶
4. Chris was 63 years old when he tragically died on 8 November 2019 when his car rolled off a steep embankment near his home, in the vicinity of 1678 South Arm Road, South Arm. Chris was discovered deceased in his car the following day, on 9 November 2019.¹⁵⁴⁷
5. It is clear from the family statements prepared by Chris' loved ones that Chris was a family man, described as a loving and caring father, stepfather, and grandfather and is very much missed by all. He was known for his happy disposition, caring nature, and the kindness he showed to others.
6. Chris was born on 17 November 1955 and was the son of Nikos (who sadly passed away in December 2021) and Zena Savva. Chris had an older sister, Kryia, who he adored and looked up to. Chris was a very proud Greek man.
7. Chris grew up in Randwick and when he finished school, he completed a boilermaker apprenticeship at Garden Island, Sydney.
8. In 1976, Chris met Karen Griggs, and they had three children, Nikolas, Amanda, and Bianca. In 1986, Chris and Karen's relationship ended however they remained good friends. Chris was regarded as a stepfather to Karen's other three children, Scott, Elisha, and Joshua. He was a grandfather to Jacob, Braiden, Riley, Cooper, and Lilly (who Chris sadly never had the opportunity to meet). He was also considered a grandfather to his stepchildren's kids, Lucas, Jordan, Tamika, Harper and Roman.
9. In 1986, Chris moved from the Central Coast to South Arm where he lived until his tragic death in 2019. He was very proud of his home in South Arm, and he was loved by all in the South Arm and Bowraville communities. At various points in time, Nikolas and Bianca lived with Chris in South Arm so too did Scott and some of his grandchildren including Lucas and Jordan.
10. Chris lived for the school holidays when his children and grandchildren would visit him in South Arm and they would ride motor bikes, drive cars in the paddock and swim in the creek.
11. Chris would regularly travel to the Central Coast to visit family for birthdays, Christmas, and other special occasions. Although he lived about 400 kilometres away, Chris was still very much involved in their lives.
12. Chris shared a 16-year relationship with Ms Brady, and they lived together in South Arm for two years prior to Chris' death.¹⁵⁴⁸ Ms Brady described Chris as a wonderful partner who loved life on the farm.
13. Chris had no significant medical history.¹⁵⁴⁹

¹⁵⁴⁵ Exhibit 37A, Brief of Evidence at p. 256, 261–262.

¹⁵⁴⁶ Exhibit 38, Brief of Evidence at p. 19.

¹⁵⁴⁷ Exhibit 38, Brief of Evidence at p. 37–40.

¹⁵⁴⁸ Exhibit 38, Brief of Evidence at p. 19.

¹⁵⁴⁹ Exhibit 38, Brief of Evidence at p. 37.

Chronology of events

14. On 8 November 2019, treacherous weather conditions in the Nambucca Valley caused extreme and anomalous fire spread. The Kian Road, South Arm Fire was burning out of control and moved quickly under unfavourable weather conditions. It travelled 13 kilometres eastwards within a single day.¹⁵⁵⁰
15. On 8 November 2019 at around lunchtime, Chris and Ms Brady were at their home. According to Ms Brady, Chris was at the back of the property attending to preparations in the event the Kian Road, South Arm Fire approached their home.¹⁵⁵¹
16. At that time, Ms Brady heard what she described as a “loud wind roar”. She turned around and noticed that the sky was black. She yelled out to Chris, who came to the front of the house, where he said to Ms Brady, “well, it’s here”. A helicopter had flown over the house at that time, indicating that they should evacuate.¹⁵⁵²
17. Ms Brady had observed large flames in the bushland and trees directly across the road from their house. As the Kian Road, South Arm Fire appeared to be fast approaching, they made the decision to evacuate and got into their car and drove to check on their neighbour, Alfred Tesser. Ms Brady recalled seeing spot fires everywhere in the paddocks and in the bush around them.¹⁵⁵³
18. On reaching Mr Tesser’s property, Chris told Ms Brady that he wanted to return to his property to attempt to save the house. Ms Brady did not want Chris to stay and defend the property. Mr Tesser had also decided to stay to defend his home.¹⁵⁵⁴
19. Mr Tesser and Chris remained at their respective properties to defend them, while their partners, Ms Brady and Maria Lucas, left the area together by car and travelled to Mr Tesser’s son’s house in Missabotti.¹⁵⁵⁵ This was the last time that Ms Brady saw Chris alive.
20. Chris then visited another neighbour, John Pettit, out of concern for his safety. Mr Pettit left his property with Chris due to the approaching fire.¹⁵⁵⁶
21. By 2:35pm on 8 November 2019, the Kian Road, South Arm Fire had impacted upon and progressed approximately 5 kilometres east of Chris’ location at his home. As indicated in linescan imagery provided by the RFS, the Kian Road, South Arm Fire at that time was intense.¹⁵⁵⁷
22. Chris and Mr Pettit worked together to put out spot fires and managed to save Chris’ home. Mr Pettit travelled back to his own property to find it destroyed and after spending about 30 minutes there, he returned to Chris’ house. Mr Pettit and Chris then travelled to check on their neighbour, Anton Pfluger. Mr Pfluger lived on the same parcel of land as Chris and Ms Brady. Mr Pettit stayed there for about 15 minutes and then at about 4:00pm, he left Mr Pfluger and Chris to drive to Mullumbimby to stay with his son.¹⁵⁵⁸
23. At some point in the late afternoon, Chris went inside Mr Pfluger’s house to recuperate once the fire front had passed through. Mr Pfluger then drove Chris back to his house as he was without a vehicle. Mr Pfluger recalled that on the way, they witnessed a small bridge, known as Murrays Bridge, on fire. This bridge was located near Chris’ property. Mr Pfluger had suggested that they save the bridge, but Chris did not appear to have the energy to do so given the events of the day.¹⁵⁵⁹
24. At Chris’ request, Mr Pfluger dropped Chris in the front paddock of his property. Mr Pfluger recalled that Chris said he wanted to leave his property to find Ms Brady and because there was no water and no power at his house.¹⁵⁶⁰ This was the last time Mr Pfluger saw Chris.

¹⁵⁵⁰ Exhibit 37A, Brief of Evidence at p. 256.

¹⁵⁵¹ Exhibit 38, Brief of Evidence at p. 19.

¹⁵⁵² Exhibit 38, Brief of Evidence at p. 20.

¹⁵⁵³ Exhibit 38, Brief of Evidence at p. 20.

¹⁵⁵⁴ Exhibit 38, Brief of Evidence at p. 20.

¹⁵⁵⁵ Exhibit 38, Brief of Evidence at p. 90.

¹⁵⁵⁶ Exhibit 38, Brief of Evidence at p. 80.

¹⁵⁵⁷ Exhibit 37A, Brief of Evidence, at p. 261–262, 263–267.

¹⁵⁵⁸ Exhibit 38, Brief of Evidence at p. 80–81.

¹⁵⁵⁹ Exhibit 38, Brief of Evidence at p. 83–84.

¹⁵⁶⁰ Exhibit 38, Brief of Evidence at p. 84, 85–3; Transcript for 10 March 2022 T891:45-48.

25. At approximately 4:00pm or 4:30pm¹⁵⁶¹, Mr Pfluger left Chris' property and drove down South Arm Road towards Jaspers Creek Road with the intention to check on his ex-partner's property. Along the way, Mr Pfluger saw that a small fallen tree branch was blocking the roadway leading to Murrays Bridge. He stopped and moved the tree as much as he could with his hands. He was able to manoeuvre his vehicle around the tree by driving about a metre down an embankment and returning to the road. Mr Pfluger believes this to be the location where Chris' vehicle was later found. Mr Pfluger continued down and over Murrays Bridge, which was still burning but able to be crossed, and visited his ex-partner's property.¹⁵⁶²
26. Approximately 5 to 10 minutes later, Mr Pfluger returned back towards his property. Murrays Bridge at that point was still burning. On the return journey, Mr Pfluger saw that a whole tree had fallen across the road at the same location where the small tree had fallen. He stopped and used a rope to tow the tree to the side of the road.¹⁵⁶³ In oral evidence, Mr Pfluger stated that he did not see Chris' vehicle on the road at that time. Having later been informed by investigating police of the location of Chris' vehicle after it had rolled down the embankment, Mr Pfluger believed that the vehicle's location was approximately 3 metres from where the tree had fallen.¹⁵⁶⁴
27. After removing the large tree, Mr Pfluger drove back to Chris' house. He found that Chris was no longer at his property and his vehicle was gone.¹⁵⁶⁵ The evidence is not clear as to Chris' movements from the time that Mr Pfluger dropped Chris off at his home and when Mr Pfluger returned. However, it is clear that at some point Chris left in his vehicle and drove down South Arm Road.
28. Throughout that evening, and the following morning on 9 November 2019, Ms Brady called Chris several times but could not get through to him due to telecommunication issues.¹⁵⁶⁶
29. Mobile telephone records show that 22 calls were placed to Chris' mobile phone from 3:57pm on 8 November 2019 to 9:01pm on 9 November 2019 that appear to have gone to his voicemail. Shortly after each telephone call was placed, an SMS was transmitted to Chris' phone resulting in 22 SMS' sent to his mobile telephone in the same timeframe. Each of the SMS' however were not successfully transmitted until 1:31pm on 10 November 2019 when telecommunication services are likely to have been restored.¹⁵⁶⁷
30. On 9 November 2019, Chris was found in his vehicle. He was first located by Darren Dutton and his colleagues from the Nambucca Shire Council. While clearing the trees from the roadway, they found Chris' car at the bottom of an embankment and, on inspection of the vehicle, found Chris deceased. They immediately contacted emergency services.¹⁵⁶⁸
31. At around 8:30am to 9:00am on 9 November 2019, Ms Brady returned to Mr Tesser's house with his partner, Ms Lucas. They had heard that Chris had saved his house and expected to see him at Mr Tesser's home, but he was not there. Mr Tesser told them that Murrays Bridge had burned out and that may be the reason he could not get there.¹⁵⁶⁹
32. In oral evidence, Mr Tesser stated that he and Ms Brady drove towards Murrays Bridge but were unable to cross it and so walked along a bush track on the other side of South Arm Road and noticed Chris' vehicle through the scrub. When they approached the vehicle, they were confronted with the same scene as the Nambucca Shire Council officers.¹⁵⁷⁰ This would have been an extremely traumatic and confronting experience for the both of them.

¹⁵⁶¹ Transcript for 10 March 2022 T892:44-46.

¹⁵⁶² Exhibit 38, Brief of Evidence at p. 84, 85-3.

¹⁵⁶³ Exhibit 38, Brief of Evidence at p. 84.

¹⁵⁶⁴ Exhibit 38, Brief of Evidence at p. 84.

¹⁵⁶⁵ Exhibit 38, Brief of Evidence at p. 85.

¹⁵⁶⁶ Exhibit 38, Brief of Evidence at p. 20.

¹⁵⁶⁷ Exhibit 38, Brief of Evidence at p. 49-52, 58-59.

¹⁵⁶⁸ Exhibit 38, Brief of Evidence at p. 87.

¹⁵⁶⁹ Exhibit 38, Brief of Evidence at p. 21.

¹⁵⁷⁰ Transcript for 10 March 2022 T885:11-20.

33. By 9:40am, the OIC of the investigation, DSC Justin Simpson, received a broadcast message requesting assistance at the scene. He travelled to the area, with Constable Lilly Borg, where they were stopped on the eastern side of Murrays Bridge by Max Duncan, FRNSW Officer and Captain of the Bowraville Fire Station. They discussed how best to access the scene.¹⁵⁷¹
34. In oral evidence, DSC Simpson described that the bushland surrounding the area was completely burnt out and there was quite a lot of smoke in the area, including spot fires and fallen trees. He observed Murrays Bridge to be completely burnt out, with the exception of its supporting pylons which were still on fire at that time.¹⁵⁷²
35. DSC Simpson drove through a dry creek bed about 500 metres past Murrays Bridge. He observed a vehicle, a Hyundai Tucson with New South Wales registration AV6-3ZW, at the base of a steep embankment about 5 metres below the roadway. A check of the vehicle's registration confirmed that it was registered to Chris.¹⁵⁷³ Max had known Chris for many years and assisted DSC Simpson in determining the identity of Chris.¹⁵⁷⁴
36. Later that morning at about 11:00am, DSC Justin Welsh also attended the scene to conduct further investigations. DSC Welsh concluded that it appeared Chris had saved his property and drove to Murrays Bridge to find that it had been destroyed by fire. It appeared that the vehicle was travelling westward at a slow speed through thick smoke and had failed to negotiate a bend in the road and had driven straight off the embankment. Due to the slow speed of the vehicle, the weight of the engine at the front of the vehicle, the shape and location of gouge marks at the scene, and the height and slope of the embankment, the front of the vehicle likely dropped over the embankment and rolled down it.¹⁵⁷⁵
37. DSC Welsh did not observe any fire damage to the vehicle which to him suggested that the vehicle rolled after the Fire had passed through the area. Further, DSC Welsh did not see any damage to the vehicle to suggest that it had collided with any object.¹⁵⁷⁶
38. In oral evidence, DSC Simpson agreed with the conclusion reached by DSC Welsh, being the most logical hypotheses.¹⁵⁷⁷
39. At about 12:30pm, Crime Scene Officer Luke Atkinson of the NSWPF FETS also attended the scene. On close inspection of the vehicle, he saw that the windows were wound down and the ignition was on. The manual transmission was in the neutral position. The tyres were deflated and were no longer on their wheel rims.¹⁵⁷⁸ He took several photographs of the vehicle at the scene.
40. SC Anthony Pellicane from the NSWPF Engineering Investigation Section provided an expert report following a forensic mechanical examination of Chris' vehicle to determine if a mechanical failure may have been a contributing factor toward the collision. That examination was conducted on 25 November 2019 at the NSWPF holding yard located in Macksville.¹⁵⁷⁹
41. In SC Pellicane's opinion, the examination revealed that prior to the impact damage sustained, there were no mechanical defects or faults in the vehicle which may have been a contributing factor toward the collision.¹⁵⁸⁰
42. An external visual examination was conducted by Dr Allan Cala at the Department of Forensic Medicine, Newcastle on 18 November 2019 which concluded that Chris' cause of death was 'multiple injuries.'¹⁵⁸¹ A post-mortem toxicology analysis performed on 28 November 2019 also revealed no alcohol or illicit drugs in Chris' blood.¹⁵⁸²

¹⁵⁷¹ Exhibit 38, Brief of Evidence at p. 24; Transcript for 10 March 2022 T877: 31-37.

¹⁵⁷² Transcript for 10 March 2022 T877:10-14.

¹⁵⁷³ Exhibit 38, Brief of Evidence at p. 24-25.

¹⁵⁷⁴ Transcript for 10 March 2022 T877:31-37.

¹⁵⁷⁵ Exhibit 38, Brief of Evidence at p. 65-67, 69.

¹⁵⁷⁶ Exhibit 38, Brief of Evidence at p. 65-67.

¹⁵⁷⁷ Transcript for 10 March 2022 T879:4-20.

¹⁵⁷⁸ Exhibit 38, Brief of Evidence at p. 71.

¹⁵⁷⁹ Exhibit 38, Brief of Evidence at p. 95.

¹⁵⁸⁰ Exhibit 38, Brief of Evidence at p. 95.

¹⁵⁸¹ Exhibit 38, Brief of Evidence at p. 14-15.

¹⁵⁸² Exhibit 38, Brief of Evidence at p. 10-11.

Section 81 Findings

43. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Christopher Savva.

Date of death

Christopher died on 8 November 2019.

Place of death

Christopher died near his home, in the vicinity of 1678 South Arm Road, South Arm.

Cause of death

The cause of Christopher's death was 'multiple injuries' sustained in a car accident.

Manner of death

Christopher died when his car rolled off a steep embankment near his home in the late afternoon or early evening on 8 November 2019 after the Kian Road, South Arm Fire had impacted the South Arm area.

44. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearing into the design and safety of firefighting vehicles. This is detailed in Volume 2, Part 10, Section 4.
45. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Chris' family and loved ones, friends, and community for their loss.
46. At the conclusion of the evidence in the inquest, Chris' daughter, Amanda Griggs, and Chris' partner, Mandy, prepared family statements detailing their treasured memories of Chris which were read out by Counsel Assisting. They are reproduced in Part 7 – Testimonials.

14. Mount Mackenzie Road, Tenterfield Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Mount Mackenzie Road, Tenterfield Fire.

Introduction

2. The Mount Mackenzie Road, Tenterfield Fire started on 6 September 2019. It burned for 12 days until it was declared 'Out' on 18 September 2019.¹⁵⁸³ It burned in the Tenterfield LGA, encompassed within the lands of the Jukembal, Bundjalung, and Kamilaroi People. It burned approximately 2,772 hectares comprising of 2,595 hectares of private land, 132 hectares of National Park and 45 hectares of other land.¹⁵⁸⁴
3. One residential property was destroyed, and two others were damaged. A further 18 outbuildings and three commercial properties were also damaged or destroyed.¹⁵⁸⁵
4. On 6 September 2019, RFS firefighter Neville Smith was seriously injured and suffered significant burns as a result of fighting the Mount Mackenzie Road, Tenterfield Fire.¹⁵⁸⁶
5. Shortly before 1:35pm on 6 September 2019, the Mount Mackenzie Road, Tenterfield Fire started on the verge outside 43 Mount Mackenzie Road, Tenterfield, across the road from a cemetery.¹⁵⁸⁷ Although eyewitnesses did not witness the ignition, they did witness the Mount Mackenzie Road, Tenterfield Fire very early in its infancy.

Chronology of events

6. Ellen Mossman, her partner, Glen Brown, and her brother, David Mossman, drove to the property at 43 Mount Mackenzie Road where Neil Cutmore lived with his partner, Kylie. Upon arrival at 43 Mount Mackenzie Road, Ms Mossman parked her car outside of the house and at that time did not see a fire or any smoke on the side of the road. At the time, Ms Mossman was driving an older model Holden Commodore.¹⁵⁸⁸
7. Ms Mossman stayed in the car with Ms Mossman whilst Mr Brown went to the house to speak to Kylie. Whilst Ms Mossman was waiting in the car, she noticed a number of cars driving past along Mount Mackenzie Road, but she was not paying close attention to them. She didn't recall seeing anyone throw anything out of the passing cars. She said that although they are smokers, no-one in her car was smoking at the time.¹⁵⁸⁹
8. According to Mr Cutmore, he answered the door and informed the visitors that Kylie was not home. On his version of events, it was as these visitors were leaving that one of them saw the Fire and called out about it. Mr Cutmore raced to get a garden hose and attempted to put out the flames, including by trying to bat the fire down his wet t-shirt. Although the fire was small when he first saw it, it spread quickly.¹⁵⁹⁰
9. Ms Mossman had a slightly different recollection of events to Mr Cutmore. According to her account, after leaving Mr Cutmore and Kylie's property, she drove off with her brother and partner in the car in an easterly direction along the road heading back towards Tenterfield. It was at this point Ms Mossman noticed a fire about an inch high on the nature strip about 15 metres from the house. Ms Mossman stopped her car and on her version of events, Mr Brown ran out to alert Mr Cutmore of the Fire.¹⁵⁹¹

¹⁵⁸³ Exhibit 39A, Brief of Evidence at p. 1, 186, 215-105.

¹⁵⁸⁴ Exhibit 39A, Brief of Evidence at p. 39.

¹⁵⁸⁵ Exhibit 39A, Brief of Evidence at p. 243.

¹⁵⁸⁶ Exhibit 39A, Brief of Evidence at p. 2, 157.

¹⁵⁸⁷ Exhibit 39A, Brief of Evidence at p. 7, 11, 26, Tab 12.

¹⁵⁸⁸ Exhibit 39A, Brief of Evidence at p. 6, Tab 12.

¹⁵⁸⁹ Exhibit 39A, Brief of Evidence at p. 6-7, Tab 12.

¹⁵⁹⁰ Exhibit 39A, Brief of Evidence at p. 5-6, Tab 11.

¹⁵⁹¹ Exhibit 39A, Brief of Evidence at p. 6, Tab 12.

10. Ms Mossman turned her car around again and parked in front of the house and at 1:35pm, she called 000. This was the first recorded report of the Mount Mackenzie Road, Tenterfield Fire to emergency services.¹⁵⁹²
11. Ms Mossman saw the Fire travel along the grass and the fence posts caught alight. The fire was about one metre high at that point and was advancing south-east towards the paddock on the property. Ms Mossman said at that point the Fire started to rage with a number of spot fires. Everyone was trying to put it out with hoses and buckets of water.¹⁵⁹³
12. At around the same time Ms Mossman called 000 at 1:35pm, NSWPF officers from the Tenterfield Police Station observed smoke coming from Mount Mackenzie Road. SC Jason Frith arrived and found the Fire travelling at speed.¹⁵⁹⁴
13. By 1:36pm, the Mount Mackenzie Road, Tenterfield Fire was authorised as 'Going'.¹⁵⁹⁵
14. At about 1:44pm, SC Frith advised over NSWPF radio that there was a fire at Mount Mackenzie Road and that a house on Western Street was in the line of fire. SC Frith evacuated numerous residents along Western Street, Douglas Street and Laird Street as the Fire continued in an easterly direction towards the New England Highway. Additional NSWPF resources were directed to the area including from the Glen Innes Police Station.¹⁵⁹⁶
15. At about 1:47pm, a FRNSW appliance arrived at 43 Mount Mackenzie Road.¹⁵⁹⁷
16. The Mount Mackenzie Road, Tenterfield Fire moved towards St Joseph's Catholic School and the NSWPF contacted the principal to evacuate the school, which followed.¹⁵⁹⁸
17. At 2:16pm, the New England Highway was closed at the southern end of Tenterfield. The Mount Mackenzie Road, Tenterfield Fire was spreading towards the Saddlers Housing Estate and the NSWPF began evacuating residents in each house.¹⁵⁹⁹
18. In a demonstration of how fast the Fire was moving at this time, Clifton Street resident Penelope Stanbridge was at home and thought she smelt smoke. She went outside and saw two puffs of smoke across the New England Highway. Ms Stanbridge went back inside and finished her cup of tea but in a matter of minutes, at about 2:23pm, her home was threatened by fire.¹⁶⁰⁰
19. At about 2:25pm, Ms Stanbridge rang 000 at which point SC Frith fortuitously arrived to evacuate her. As they drove up the driveway to leave, her front fence paddock and letterbox were already on fire. Within five minutes of Ms Stanbridge calling 000, FRNSW was on the scene but sadly Ms Stanbridge lost her home of 23 years, including a number of vintage cars.¹⁶⁰¹
20. Emergency alerts were issued by the RFS at 2:30pm, 3:11pm, 3:55pm, and 8:04pm warning Tenterfield residents of the Mount Mackenzie Road, Tenterfield Fire burning in the southern Tenterfield area.¹⁶⁰²
21. On 7 September 2019, the Mount Mackenzie Road, Tenterfield Fire continued to burn, with firefighters on property protection, aided by aerial support. By 3:01pm, firefighters were starting to gain control of the Fire and by 5:59pm, backburning had commenced.¹⁶⁰³
22. By 9 September 2019 at about 11:55pm, firefighters had left the fireground after aggressively blacking out a spot over and mopping up operations and patrols were completed.¹⁶⁰⁴

¹⁵⁹² Exhibit 39A, Brief of Evidence at p. 7, 192 Tab 12.

¹⁵⁹³ Exhibit 39A, Brief of Evidence at p. 7, Tab 12.

¹⁵⁹⁴ Exhibit 39A, Brief of Evidence at p. 8, 159.

¹⁵⁹⁵ Exhibit 39A, Brief of Evidence at p. 215-105.

¹⁵⁹⁶ Exhibit 39A, Brief of Evidence at p. 8, 159.

¹⁵⁹⁷ Exhibit 39A, Brief of Evidence at p. 215-93, 215-107.

¹⁵⁹⁸ Exhibit 39A, Brief of Evidence at p. 8.

¹⁵⁹⁹ Exhibit 39A, Brief of Evidence at p. 8.

¹⁶⁰⁰ Exhibit 39A, Brief of Evidence at p. 8-9, 160.

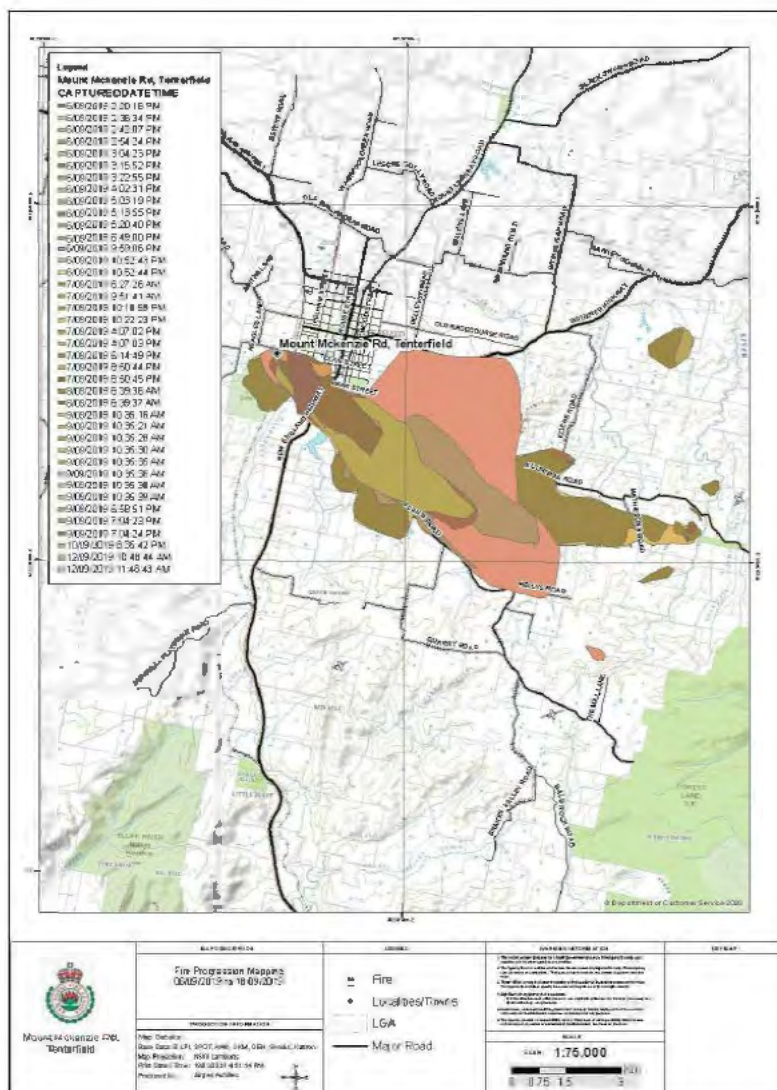
¹⁶⁰¹ Exhibit 39A, Brief of Evidence at p. 8-9, 160.

¹⁶⁰² Exhibit 39A, Brief of Evidence at p. 206-215.

¹⁶⁰³ Exhibit 39A, Brief of Evidence at p. 12.

¹⁶⁰⁴ Exhibit 39A, Brief of Evidence at p. 12.

23. On 18 September 2019, the Mount Mackenzie Road, Tenterfield Fire was declared 'Out'.¹⁶⁰⁵ The Full extent of the Fire and associated fires is demonstrated in the figure below:



Cause and origin

24. Whilst a general area of origin for the Mount Mackenzie Road, Tenterfield Fire was sufficiently disclosed on the evidence, the cause of the Fire was initially in dispute as between the NSWPF Crime Scene Investigator and the RFS AFI who each attended the scene as part of their respective investigations. By the close of the evidence in the cause and origin proceedings, there was agreement between the investigators as to the cause of the Mount Mackenzie Road, Tenterfield Fire.
25. On 6 September 2019 at about 5:48pm, the OIC of the investigation, DSC Ramsay, attended 43 Mount Mackenzie Road, Tenterfield. At that time, Mr Cutmore showed her to the area where he first saw the Fire earlier in the day, 15 metres east of his house and two metres off the roadway.¹⁶⁰⁶
26. DSC Ramsay searched the area around the house and the powerlines and located a discarded cigarette butt, which she removed from the scene in order to send it for DNA testing. DNA testing of the cigarette butt ultimately did not yield any relevant information.¹⁶⁰⁷

¹⁶⁰⁵ Exhibit 39A, Brief of Evidence at p. 1, 169.

¹⁶⁰⁶ Exhibit 39A, Brief of Evidence at p. 13.

¹⁶⁰⁷ Exhibit 39A, Brief of Evidence at p. 13.

27. The NSWPF canvassed properties in the vicinity of 43 Mount Mackenzie Road and were able to secure CCTV footage of the Mount Mackenzie Road, Tenterfield Fire, but it was of low resolution and taken from a distance of around 300 metres from the area of origin. It showed the windy conditions and the Fire growing in intensity and running hard towards the south-east.¹⁶⁰⁸
28. On 7 September 2019 at about 1:35pm, the day after the Mount Mackenzie Road, Tenterfield Fire commenced, DSC Chetham of the NSWPF FETS attended 43 Mount Mackenzie Road. By that time the Fire was burning out of control to the east.¹⁶⁰⁹
29. During his investigation, DSC Chetham identified indicators as to the area of origin of the Fire toward the fence line on the southern side of the road, despite micro indicators having been destroyed by vehicle tracks and ashen debris. However, he did not locate anything that could permit him to determine a precise cause. While he concluded that the cause was undetermined, he considered it possible the Mount Mackenzie Road, Tenterfield Fire may have been the result of a discarded cigarette or an accidental ember from a vehicle or cigarette on the verge on the side of the road.¹⁶¹⁰
30. It is acknowledged that the demand for RFS AFI exceeded supply during the 2019/2020 bushfire season and decisions needed to be made by those who volunteered their time relatively quickly. Some RFS AFIs, including Steven May, also travelled long distances to conduct cause and origin investigations.
31. Mr May was assigned to investigate the cause and origin of the Mount Mackenzie Road, Tenterfield Fire and on 10 September 2019, he spoke with DSC Ramsay. At that time, she provided him with the CCTV footage of the incident obtained on 6 September 2019 as well as copies of 11 photographs she had taken when she inspected the scene on 6 September 2019. Mr May was also able to access other information from the RFS such as SITREPs, incident logs, maps, first responder details and weather data.¹⁶¹¹
32. Mr May examined the scene of ignition at 43 Mount Mackenzie Road across four visits from 11 to 13 September 2019. The scene had been contaminated by vehicles and foot traffic by the time of his investigation, including from those involved in attempts to fight the Mount Mackenzie Road, Tenterfield Fire.¹⁶¹²
33. However, Mr May said he was able to observe macro and micro indicators which led him to several points of interest giving the appearance of small blowholes and charring on the ground which he said are *'normally observed under transmission lines that have arced.'*¹⁶¹³
34. Mr May photographed some of the points of interest¹⁶¹⁴ however, it was difficult to follow the conclusions expressed within his report, and his oral evidence, as to which points of interest were located where, relative to each other, and which points of interest were ultimately discounted as points of origin.
35. As well as the blow holes or char marks identified at the scene, Mr May also relied upon his observations that fire indicators radiated in all directions from one particular char mark underneath the powerlines.¹⁶¹⁵
36. Mr May ultimately identified the general area of origin 14 metres from the house at an angle of 93 degrees from the letterbox at the front of 43 Mount Mackenzie Road; roughly the same area as identified by DSC Ramsay and reported to her by Mr Cutmore.¹⁶¹⁶
37. As to potential causes of the Fire, Mr May observed cigarette butts in the general area of origin but did not identify any evidence that they caused the Mount Mackenzie Road, Tenterfield Fire.¹⁶¹⁷

¹⁶⁰⁸ Exhibit 39A, Brief of Evidence at p. 7–8.

¹⁶⁰⁹ Exhibit 39A, Brief of Evidence at p. 118.

¹⁶¹⁰ Exhibit 39A, Brief of Evidence at p. 115, 120.

¹⁶¹¹ Exhibit 39A, Brief of Evidence at p. 17, 33.

¹⁶¹² Exhibit 39A, Brief of Evidence at p. 33.

¹⁶¹³ Exhibit 39A, Brief of Evidence at p. 34.

¹⁶¹⁴ Exhibit 39A, Brief of Evidence at p. 78–84.

¹⁶¹⁵ Exhibit 39A, Brief of Evidence at p. 35, 37.

¹⁶¹⁶ Exhibit 39A, Brief of Evidence at p. 35.

¹⁶¹⁷ Exhibit 39A, Brief of Evidence at p. 34.

38. As noted, DSC Ramsay had previously removed a discarded cigarette butt from the scene in order to send it for DNA testing, so it was not in situ at the time of Mr May's examination. Mr May nonetheless had DSC Ramsay's photographs and having also considered them, he was prepared to exclude the possibility that the Fire was caused by a discarded cigarette butt.
39. Mr May relied in part upon his conclusion as to the likely point of origin to further inform his initial opinion that the most probable cause of the Mount Mackenzie Road, Tenterfield Fire was accidental, by transmission and power lines causing arc flash.¹⁶¹⁸
40. Whilst Mr May used binoculars, a rifle scope and drone footage to inspect the powerlines at the scene on 12 September 2019, he did not observe evidence of any direct arcing fault of the powerlines or any of the other infrastructure associated with the network assets.¹⁶¹⁹
41. Mr May had also received intelligence from Essential Energy workers present at the scene on 12 September 2019 to the effect that no network fault had been picked up. However, this information was not recorded in Mr May's fire investigation report and in his oral evidence he agreed, in hindsight, that such information should have been included.¹⁶²⁰
42. This was also acknowledged by Mark Fullagar, RFS Training Coordinator, FICU when he gave oral evidence. Mr Fullagar assisted the Court both in relation to the wider topic of the recruitment and training of RFS AFI, and more specifically, around his brief involvement with the investigation into the Mount Mackenzie Road, Tenterfield Fire when he accompanied Mr May on scene on one occasion.¹⁶²¹
43. Mr Fullagar agreed that ideally, intelligence from an energy worker at the scene should have been included within the fire investigation report as being one factor that might support or detract from the hypothesis as to fire causation.¹⁶²²
44. In any event, on 8 October 2019, DSC Ramsay returned to 43 Mount Mackenzie Road with a number of Essential Energy employees, including Joseph Cullen. As the Essential Energy employees were replacing the power poles which had been damaged as a result of the Fire, DSC Ramsay seized as exhibits some of the electrical conductors in situ at the scene together with a joiner on one of the conductors and three high voltage pin insulators. In relation to the joiner in particular, Mr May had informed DSC Ramsay that he believed it may have caused the arc flash.¹⁶²³
45. Further, due to the conclusion reached by Mr May in his investigation report regarding the cause of the Mount Mackenzie Road, Tenterfield Fire, DSC Ramsay made further contact with Essential Energy and requested to be put in contact with an employee familiar with the issues raised by Mr May. This resulted in DSC Ramsay having a conversation with Peter Wilson, Network Maintenance Manager at Essential Energy, and she provided him with Mr May's fire investigation report, photographs of the scene, the wires and insulators and CCTV footage.¹⁶²⁴
46. As a result, the Court had the benefit of a statement from Mr Wilson, dated 26 February 2020, who confirmed that upon his review of the protection event files, the network was experiencing normal load currents and voltages both before and after the Mount Mackenzie Road, Tenterfield Fire start time as reported by the RFS, being 1:36pm. He went on to say that *'The logs do not indicate any electricity current readings that would be consistent with conductor clashing or arc flash'*.¹⁶²⁵
47. Returning to Mr May's cause and origin investigation, Mr May had also used a magnet and found some fragments of metal from different points of interest at the scene which he photographed with the caption: *'Fragments of metal recovered from different points of interest, using a magnet. Note: Police have these fragments that were recovered from the scene'*.¹⁶²⁶

¹⁶¹⁸ Exhibit 39A, Brief of Evidence at p. 34–35.

¹⁶¹⁹ Exhibit 39A, Brief of Evidence at p. 111-1 – 111-2.

¹⁶²⁰ Transcript for 11 March 2022 T 947:18-50; Transcript for 11 March 2022 T 948:1-9.

¹⁶²¹ Transcript for 20 September 2022 T 743:11-32.

¹⁶²² Transcript for 20 September 2022 T 743:34-50; Transcript for 20 September 2022 T 744:1-11.

¹⁶²³ Exhibit 39A, Brief of Evidence at p. 20.

¹⁶²⁴ Exhibit 39A, Brief of Evidence at p. 21.

¹⁶²⁵ Exhibit 39A, Brief of Evidence at p. 163-164.

¹⁶²⁶ Exhibit 39A, Brief of Evidence at p. 37, 93.

48. The potential relevance of this investigatory step was not further explained in Mr May's report but ideally should have been, particularly if they were thought to be significant enough that the NSWPF should be asked to secure them as an exhibit. Mr Fullagar likewise agreed with this proposition in his oral evidence.¹⁶²⁷
49. In any event, the relevance of the metal fragments was discounted by virtue of the fact the conductor and joint of the overhead powerline were made of copper, which is not magnetic.¹⁶²⁸ Mr May accepted this in his oral evidence.¹⁶²⁹
50. In a supplementary statement dated 10 February 2022, Mr May cited the fact that no soil analysis was completed by the NSWPF when explaining why he was unable to say what initiated the arcing/lightning type flash which he had thought was the cause of the Mount Mackenzie Road, Tenterfield Fire.¹⁶³⁰
51. Had Mr May believed there would be benefit in soil samples being taken, this is something he could have discussed with the NSWPF. Mr Fullagar agreed with this proposition.¹⁶³¹
52. This is noted in circumstances where the OIC of the investigation could not necessarily be expected to know that this was a possible investigatory step to determine the cause and origin of a fire. Further, DSC Chetham of the NSWPF FETS did not think electricity assets were implicated in the cause of the Mount Mackenzie Road, Tenterfield Fire and so it is not surprising he did not obtain soil samples for testing. To this end, DSC Chetham discounted the possibility that electrical assets caused or contributed to the Fire, having had regard to the information provided by Essential Energy, the absence of arc damage at the scene, and the fact that none of the witnesses closest to the Fire in its earliest stages reported hearing or seeing any electrical events.¹⁶³²
53. In the course of a comprehensive investigation, a RFS AFI should ideally be briefed with other potentially relevant information going to cause and origin of a fire. In this case, the presence of Ms Mossman's older model Holden Commodore parked on the side of the road near 43 Mount Mackenzie Road raised the possibility that the car's exhaust or a mechanical issue might have caused the Mount Mackenzie Road, Tenterfield Fire. Mr Fullagar agreed that this was information which ideally should have been shared with Mr May.¹⁶³³
54. Similarly, the fact that several eyewitnesses present at the fire scene in its incipient stages near 43 Mount Mackenzie Road did not report seeing any flash of light or noise associated with arcing was of potential significance. Those observations would have been relevant to Mr May's consideration of arc flash as a potential cause of the Mount Mackenzie Road, Tenterfield Fire. Mr Fullagar agreed that this information ideally should have been shared between the NSWPF and Mr May.¹⁶³⁴
55. Given the different conclusions reached by the NSWPF and Essential Energy on the one hand and Mr May on the other, Associate Professor Trevor Blackburn from the School of Electrical Engineering at the University of New South Wales was engaged to provide an expert report. His report considered the possibility the Mount Mackenzie Road, Tenterfield Fire was caused by arc flash or that electricity assets were otherwise somehow implicated in the Fire.
56. On 29 October 2021, Associate Professor Blackburn examined the exhibits that had been seized by DSC Ramsay. This included a portion of the conductors, a joiner on one of the conductors and three high voltage pin insulators and the metal fragments located by Mr May. He also attended the scene of the Fire.¹⁶³⁵

¹⁶²⁷ Transcript for 20 September 2022 T 744:49-50; Transcript for 20 September 2022 T 745:1-6.

¹⁶²⁸ Exhibit 39A, Brief of Evidence at p. 156-22.

¹⁶²⁹ Transcript for 11 March 2022 T 934:7-22.

¹⁶³⁰ Exhibit 39A, Brief of Evidence at p. 111-2.

¹⁶³¹ Transcript for 20 September 2022 T 746:41-46.

¹⁶³² Exhibit 39A, Brief of Evidence at p. 120.

¹⁶³³ Transcript for 20 September 2022 T 746:32-39.

¹⁶³⁴ Transcript for 20 September 2022 T 745:8-25

¹⁶³⁵ Exhibit 39A, Brief of Evidence at p. 156-4.

57. In his report dated 8 December 2021, Associate Professor Blackburn concluded that arcing could not have caused the Mount Mackenzie Road, Tenterfield Fire. Associate Professor Blackburn drew this conclusion based on several factors including the following. If an arc did occur, it would be expected to make a loud humming noise as the arc moved along the two clashing lines. Moreover, in Associate Professor Blackburn's opinion, witnesses would have seen an extremely intense light emission. However, neither of these events were reported by those witnesses closest to the scene, nor were they captured by the CCTV footage obtained by the NSWPF on Associate Professor Blackburn's review of that footage.¹⁶³⁶
58. Associate Professor Blackburn pointed to an absence of any arc fusion damage to, or evidence of arcing on, the conductors. He also pointed to the fact that the conductors were made of copper not aluminium, with copper being much less likely to ignite grass and vegetation in the event of arcing. This does not mean it is impossible for copper to ignite a fire, but it is not efficient at igniting vegetation. He also relied on an absence of evidence of the joint in situ at the time of the Fire, having overheated, reinforced by the test performed by Essential Energy at the scene showing quite normal electrical resistance.¹⁶³⁷
59. Associate Professor Blackburn said no evidence of insulator failure or surface discharge over insulator to the wooden poles was observed. He noted the absence of any evidence within Essential Energy logs of any electrical faults on the 11,000-volt feeder at the relevant time. Associate Professor Blackburn said that given that any clashing or arcing between conductors on the line would certainly have been recorded by the Supervisory Control and Data Acquisition (**SCADA**) system of the recloser, he could conclude that there was no involvement of the electrical system in the fire ignition¹⁶³⁸, evidence which the Court accepts.
60. Mr May was provided with a copy of Associate Professor Blackburn's expert report and he provided a further statement in response dated 10 February 2022. Mr May agreed there was no evidence of arc flash on the conductors. However, he reiterated the presence of small blow holes with dark charring on the ground which in his experience are indicative of an electrical-type flash. Mr May also placed some weight upon his own review of the CCTV footage obtained by the NSWPF.¹⁶³⁹
61. Mr May ultimately, however, agreed the cause of the Mount Mackenzie Road, Tenterfield Fire was best described as undetermined.¹⁶⁴⁰ He affirmed this conclusion in his oral evidence.¹⁶⁴¹
62. After Associate Professor Blackburn prepared his report to the Court dated 8 December 2021, a new witness emerged, Janelle Edwards. Although not a resident of Tenterfield, Ms Edwards was at the cemetery across from 43 Mount Mackenzie Road on 6 September 2019 with her husband visiting the graves of family members.¹⁶⁴²

¹⁶³⁶ Exhibit 39A, Brief of Evidence at p. 156-9.

¹⁶³⁷ Exhibit 39A, Brief of Evidence at p. 156-10 – 156-12, 156-15.

¹⁶³⁸ Exhibit 39A, Brief of Evidence at p. 156-15 – 156-23.

¹⁶³⁹ Exhibit 39A, Brief of Evidence at p. 111-1 – 111-2.

¹⁶⁴⁰ Exhibit 39A, Brief of Evidence at p. 111-2.

¹⁶⁴¹ Transcript for 11 March 2022 T 948:35-38.

¹⁶⁴² Exhibit 39A, Brief of Evidence at p. 165-1.

63. An aerial image was provided with Ms Edward's statement, showing the cemetery entrance on Western Street running perpendicular to Mount Mackenzie Road and with "X" marking the approximate point where her parent's burial site lies, and "Y" marking the general area she was walking towards in order to lay a flower on her uncle's grave. In the events that followed Janelle did not reach the point marked "Y" during her visit on 6 September 2019.¹⁶⁴³



64. Ms Edwards stated that as she walked in a westerly direction the wind was blowing from the north-west and was strong. It wasn't a constant wind, but really gusting and full of dirt and leaves. As she walked from the spot marked "X" towards the spot marked "Y" Ms Edwards saw a single sharp flash to her left out of the corner of her eye. She was lowering her head to avoid the dust from the wind gust at this time.¹⁶⁴⁴
65. The flash came from the direction of Mount Mackenzie Road. Ms Edwards said she did not hear any sound with the flash as it was so windy but stated that moments later, she heard a 'whoosh' and suddenly the fire had fully ignited, and the flames took off.¹⁶⁴⁵
66. Ms Edwards stated that the flash and the flames came from the same location. She hurried back to her husband and told him they would have to get to their car and leave the area. As they drove off, she saw a fire engine come past them. Ms Edwards said they had got such a fright that they didn't think to ring 000 themselves and thought that someone else must have done so.¹⁶⁴⁶
67. This evidence was important in potentially supporting Mr May's opinion that the Mount Mackenzie Road, Tenterfield Fire was caused by arc flash and that this may have been recorded in the CCTV footage obtained by the NSWPF.
68. It is acknowledged that Ms Edwards did her best to assist the Court in her evidence and provided her genuine recollection of how events unfolded. However, for the reasons specified below, not all of her evidence is accepted.

¹⁶⁴³ Exhibit 39A, Brief of Evidence at p. 165-1, 165-4.

¹⁶⁴⁴ Exhibit 39A, Brief of Evidence at p. 165-1.

¹⁶⁴⁵ Exhibit 39A, Brief of Evidence at p. 165-1 – 165-2.

¹⁶⁴⁶ Exhibit 39A, Brief of Evidence at p. 165-2.

69. The Mount Mackenzie Road, Tenterfield Fire ignited on 6 September 2019. Ms Edwards' statement was given on 10 August 2021, almost two years later. In her statement, Ms Edwards said she arrived at the cemetery 'around noon' and was there with her husband for 'about half an hour' in total.¹⁶⁴⁷ She agreed in her evidence that this was an approximate measurement of time between arriving at the cemetery and driving away.¹⁶⁴⁸ She added that the "X" and "Y" overlays on the map attached to her statement were only approximate, especially given it was her first time visiting the cemetery and she never in fact found her uncle's unmarked grave, which she had marked with the letter "Y".¹⁶⁴⁹
70. Ms Edwards agreed that she did not have a clear view all the way over to ground level to the vicinity of the 'single sharp flash', given she was looking across the cemetery and there were gravestones of varying heights.¹⁶⁵⁰
71. Ms Edwards rejected the contention that the single sharp flash got her attention, and she then looked up and saw a fire that had already been burning there for a while without her noticing. Her rejection turned on her view that it was so dry and windy that it would not have been possible for a little fire to be smouldering away with little flames 'just licking around'.¹⁶⁵¹
72. When asked about the house at 43 Mount Mackenzie Road, Ms Edwards said she saw a house 'probably 200, 300 metres, from memory' away from the single sharp flash when she first saw it.¹⁶⁵² It is noted that Ms Edwards was obviously not as close to the area of ignition as the witnesses at 43 Mount Mackenzie Road. Further, Ms Edwards said she did not remember seeing anyone trying to put out the fire or anyone walking or running down Mount Mackenzie Road.¹⁶⁵³
73. This points to Ms Edwards being both some distance away from the scene of ignition near 43 Mount Mackenzie Road, consistent with her being closer to Western Street and heading in the direction of the spot marked "Y" and becoming aware of the Fire only sometime after the witnesses at 43 Mount Mackenzie Road were involved in initial attempts to fight it.
74. Having been told that the first 000 call reporting the Fire in its incipient stages was not made until around 1:35pm, Ms Edwards agreed it was quite possible that she was at the cemetery later than 12:00-12:30pm as suggested in her statement. She also agreed that she might have left the cemetery closer to 1:45pm to 1:47pm, given that she believed she passed a fire engine on Douglas Street on the way out of the cemetery.¹⁶⁵⁴
75. This raised the possibility that Janelle observed a single sharp flash caused *after* the Mount Mackenzie Road, Tenterfield Fire had already ignited and *not at the time* the Fire ignited.
76. Meanwhile, in Mr May's additional statement dated 10 February 2022, he said that during his scene examinations in September 2019, he saw a recently fractured limb from a gum tree lying parallel to the fence line approximately 180 metres east of the general area of origin.¹⁶⁵⁵ Mr May theorised that if the tree limb fell on the powerlines, it could have caused a whipping action along the lines which may have contributed to the cause of the Mount Mackenzie Road, Tenterfield Fire but was unable to say with any certainty that this is what occurred.¹⁶⁵⁶
77. Associate Professor Blackburn considered this further evidence from Ms Edwards and Mr May in another report dated 15 February 2022. It did not cause him to change his opinion as to the lack of involvement of powerlines in the fire ignition. Associate Professor Blackburn considered the possibility that there may have been a fire already burning under the powerlines when Ms Edwards saw what she described as a flash which was only moments later followed by a fire fully ignited and burning.¹⁶⁵⁷

¹⁶⁴⁷ Exhibit 39A, Brief of Evidence at p. 165-1.

¹⁶⁴⁸ Transcript for 11 March 2022 T 952:27-50.

¹⁶⁴⁹ Transcript for 11 March 2022 T 953:10-42.

¹⁶⁵⁰ Transcript for 11 March 2022 T 954:26-33.

¹⁶⁵¹ Transcript for 11 March 2022 T 955:5-16.

¹⁶⁵² Transcript for 11 March 2022 T 956:11-15.

¹⁶⁵³ Transcript for 11 March 2022 T 956:17-33.

¹⁶⁵⁴ Transcript for 11 March 2022 T 956:35-50; Transcript for 11 March 2022 T 957:1-14.

¹⁶⁵⁵ Exhibit 39A, Brief of Evidence at p. 111-2 – 111-3.

¹⁶⁵⁶ Exhibit 39A, Brief of Evidence at p. 111-2.

¹⁶⁵⁷ Exhibit 39A, Brief of Evidence at p. 156-66 – 156-70.

78. This reported timeline raised for Associate Professor Blackburn the possibility, having regard to Paschen's Law for gas discharge breakdown, of a spark breakdown between the conductors without the conductors touching together. This would explain, in Associate Professor Blackburn's opinion, the lack of arc fusion damage on the conductors and to the joiner. A spark breakdown would, however, have caused a light flash similar to that described by Ms Edwards.¹⁶⁵⁸
79. That is, Ms Edwards might have seen a bright flash that occurred in part due to a fire that was *already burning* beneath the conductors.¹⁶⁵⁹
80. With regard to the fallen limb from a gum tree observed by Mr May, Associate Professor Blackburn stated that if it had fallen onto the powerlines and caused a mechanical disturbance wave to transit along the conductors this may have caused the phase conductors above an existing fire to oscillate and move closer together, ultimately producing a spark breakdown witnessed by Ms Edwards. He said that a tree branch falling on the powerlines would make a spark breakdown much more likely.¹⁶⁶⁰
81. In his oral evidence to the Court, Associate Professor Blackburn adhered to the opinions expressed in both of his reports.¹⁶⁶¹

Section 81 Findings

82. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Mount Mackenzie Road, Tenterfield Fire commenced shortly before 1:35pm on 6 September 2019 on the verge about 14-15 metres south-east of 43 Mount Mackenzie Road, Tenterfield.

The cause of the Mount Mackenzie Road, Tenterfield Fire is undetermined.

83. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearing into the investigation of fires by the RFS. This is detailed in Volume 2, Part 10, Section 1.

¹⁶⁵⁸ Exhibit 39A, Brief of Evidence at p. 156-68.

¹⁶⁵⁹ Exhibit 39A, Brief of Evidence at p. 156-68.

¹⁶⁶⁰ Exhibit 39A, Brief of Evidence at p. 156-69.

¹⁶⁶¹ Transcript for 11 March 2022 T 911:19-29.

15. Carrai Creek Fire and Carrai East (Jacobs Spur, Willawarrin) Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Carrai Creek Fire and Carrai East (Jacobs Spur, Willawarrin) Fire.

Introduction

2. The Carrai Creek Fire started on 16 October 2019 and burned in the Armidale LGA encompassed within the lands of the Anaiwan People. It burned for thirteen weeks until it was declared 'Out' on 15 January 2020. The Carrai Creek Fire burned approximately 238,602 hectares comprising of 160,110 hectares of National Park, 61,250 hectares of private land, 15,392 hectares of State Forest, and 1,850 hectares of other land.¹⁶⁶²
3. The separate Carrai East Fire also started on 16 October 2019 and was made up of several fires. It is known to many as the Jacobs Spur Fire or Toorumbbee Complex Fire. It burned in the Kempsey LGA, encompassed within the lands of the Dunghutti people, for approximately thirteen and a half weeks until it was declared 'Out' on 19 January 2020. It burned approximately 150,755 hectares comprising of private land, State Forest, and National Park.¹⁶⁶³
4. Together both fires damaged or destroyed at least 90 homes, 240 outbuildings and 10 facilities.¹⁶⁶⁴
5. While these findings are limited to the cause and origin of the Carrai East Fire and Carrai Creek / Jacobs Spur Fire, it should be noted that on 8 November 2019, Barry Parsons died in connection with this Fire. The circumstances of Barry's death is considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of Barry's death are located in Section 16 following.¹⁶⁶⁵

Chronology of events

The Carrai Creek Fire

6. On 16 October 2019, two lightning strikes were recorded in different locations within the vicinity of Carrai Creek, south of an area known as East Kunderang and west of Mary's View which lies west of the Carrai Plateau and east of the Macleay River.¹⁶⁶⁶
7. On 17 October 2019 at 11:38am, the Carrai Creek Fire was authorised as 'Going' with investigations underway in relation to the new ignition. It fell within the Glen Innes Armidale section 44 declaration.¹⁶⁶⁷
8. A SITREP dated 17 October 2019 at 3:21pm recorded that there were two separate fire areas detected and confirmed by air operations in the Carrai Creek area. It was noted that air operations had been severely inhibited by weather conditions and impacted the ability to collect intelligence. It was estimated that travel times by road to the fire area would have taken 3-5 hours and as a result, no fire crews were on site and available to provide further intelligence. At this time, one of the Fires had burned approximately 36 hectares and the other, 28 hectares.¹⁶⁶⁸

¹⁶⁶² Exhibit 40A, Brief of Evidence at p. 4-5, 177.

¹⁶⁶³ Exhibit 41A, Brief of Evidence at p. 97, 94, 135, 206-1.

¹⁶⁶⁴ Exhibit 41A, Brief of Evidence at p. 23, 82, Tab 19.

¹⁶⁶⁵ Exhibit 40A, Brief of Evidence at p. 187-189; Exhibit 41A, Brief of Evidence at p. 4-5.

¹⁶⁶⁶ Exhibit 40A, Brief of Evidence at p. 4, 88-89, 92, 104-109.

¹⁶⁶⁷ Exhibit 40A, Brief of Evidence at p. 91, 105, 202-1.

¹⁶⁶⁸ Exhibit 40A, Brief of Evidence at p. 93.

9. On 17 October 2019, the two separate areas of fire were mapped as part of the Carrai Creek Fire. The northern area of fire was mapped as spreading short distances of less than 1 kilometre in various directions. The southern area of fire was mapped as spreading approximately 4 kilometres east with multiple separate areas of fire being mapped more than 1.5 kilometres east of the main fire shape.¹⁶⁶⁹
10. On 18 October 2019, the extent of the very south-west part of the Carrai Creek Fire was clarified to be slightly further east than was mapped the day prior. The northern part of the Fire was mapped spreading 3-4 kilometres to the east/south-east and coalesced with the southern area of fire. The southern area of fire was mapped as spreading approximately 2 kilometres east and north-west.¹⁶⁷⁰
11. As the Carrai Creek Fire continued to burn, the portion that remained on the western side of Stockyard Creek remained under the control of the Glen Innes Armidale section 44 declaration and remained known as the Carrai Creek Fire.¹⁶⁷¹

The Carrai East Fire

12. On 16 October 2019, lightning was recorded to the west of Kempsey, believed to have caused another fire south-east of the Carrai Creek Fire and at that stage became known as the Jacobs Spur Fire.¹⁶⁷²
13. On 17 October 2019 at 1:48pm, the Jacobs Spur Fire was authorised as 'Going'. It was mapped as spreading short distances of less than 1 kilometre in various directions as demonstrated in the map below.¹⁶⁷³



Figure 4 Fire Progression Mapping 0000, 17/10/2019 to 0000, 18/10/2019 (1:400,000 scale)

¹⁶⁶⁹ Exhibit 40A, Brief of Evidence at p. 105.

¹⁶⁷⁰ Exhibit 40A, Brief of Evidence at p. 110.

¹⁶⁷¹ Exhibit 40A, Brief of Evidence at p. 202-1.

¹⁶⁷² Exhibit 41A, Brief of Evidence at p. 99.

¹⁶⁷³ Exhibit 41A, Brief of Evidence at p. 97-98.

14. The Jacobs Spur Fire was managed as a class 2 fire until 26 October 2019 when it came within the Kempsey Nambucca section 44 declaration.¹⁶⁷⁴
15. There is some ambiguity and confusion relating to the naming conventions used for the fires, as different names were given by the OIC of the investigation into the cause and origin, the IC, and the former OIC. For clarity, it can be said that the following fires came to form part of the complex later known as the Carrai East Fire:
 - a. on 8 November 2019, the Jacobs Spur Fire merged with another fire known as the Armidale Road Fire and together they became known as the Toorumbbee Complex Fire, which was managed within the Kempsey Nambucca section 44 declaration.¹⁶⁷⁵
 - b. on 8 November 2019, areas of the Carrai Creek Fire that had spread east, crossed Stockyard Creek, and entered the Kempsey LGA on 7 and 8 November 2019 commenced being managed and mapped as part of the Toorumbbee Complex Fire.¹⁶⁷⁶
 - c. on 9 November 2019 another fire, known as the Anderson Road Fire, had merged with the Toorumbbee Complex Fire.¹⁶⁷⁷
 - d. on 11 November 2019, the Toorumbbee Complex Fire was renamed the Carrai East Fire. That same day another fire, known as the Five Day Creek Fire, had also merged with the Carrai East Fire.¹⁶⁷⁸
16. Collectively, these fires made up the Carrai East Fire.

Progression and impact of both fires

17. From 16 October 2019 to 2 November 2019, both the Carrai Creek and the Jacobs Spur Fires were burning at a steady pace and were mapped as spreading short distances in various directions. Steep terrain and dry conditions made initial containment difficult as the Fires started in semi-remote, heavily forested areas.¹⁶⁷⁹
18. At this time, resources were stretched across the entire north-east of the State. Aerial support was limited, and crews from the RFS and the NPWS worked to contain the Fires, along with private landowners. Opportunities to hold the Fires using soft containment strategies, including gullies and moist forest types, were limited instead needing to fall back to trails, constructed lines and other hard containment options.¹⁶⁸⁰
19. By 1 November 2019, the Carrai Creek Fire had covered most of the Carrai Plateau and had moved outward in all directions crossing the Macleay River to the north, travelling east towards Bellbrook and Willi Willi, and south towards Yarrowitch. On that date, the Carrai Creek Fire was mapped as spreading up to 2 kilometres in various directions and the Jacobs Spur Fire was mapped as spreading shorter distances of up to 1 kilometre.¹⁶⁸¹
20. On 7 and 8 November 2019, firefighters and locals were confronted by treacherous fire weather conditions, with high temperatures and strong winds.¹⁶⁸² Daily weather observations at Kempsey showed the maximum temperature on 7 November 2019 reached 35.2 degrees Celsius with north-west and westerly winds gusting up to 43 kilometres per hour. On 8 November 2019, temperatures peaked at 35.6 degrees Celsius at Kempsey with north-westerly winds gusting up to 69 kilometres per hour.¹⁶⁸³
21. It was on 8 November 2019 that the Carrai Creek / Jacobs Spur Fires tragically claimed the life of Barry Parsons.

¹⁶⁷⁴ Exhibit 41A, Brief of Evidence at p. 206-1.

¹⁶⁷⁵ Exhibit 41A, Brief of Evidence at p. 206-1.

¹⁶⁷⁶ Exhibit 41A, Brief of Evidence at p. 206-1.

¹⁶⁷⁷ Exhibit 41A, Brief of Evidence at p. 206-1.

¹⁶⁷⁸ Exhibit 41A, Brief of Evidence at p. 206-1.

¹⁶⁷⁹ Exhibit 40A, Brief of Evidence at p. 105-115; Exhibit 41A, Brief of Evidence at p. 81.

¹⁶⁸⁰ Exhibit 40A, Brief of Evidence at p. 2; Exhibit 41A, Brief of Evidence at p. 81.

¹⁶⁸¹ Exhibit 40A, Brief of Evidence at p. 10, 117.

¹⁶⁸² Exhibit 40A, Brief of Evidence at p. 11.

¹⁶⁸³ Exhibit 41A, Brief of Evidence at p. 201.

22. On 8 November 2019, three separate parts of the Carrai Creek Fire had commenced significant runs. The north-east part of the Carrai Creek Fire was mapped as spreading a distance of 33.5 kilometres to the east/south-east. The central part of the Fire was mapped as spreading approximately 22.5 kilometres to the east/south-east and spread into the south-western edge of the Jacobs Spur Fire. The southern part of the Carrai Creek Fire was mapped as spreading over 32 kilometres to the east, at which time it coalesced with the Stockyard Flat Fire and subsequently spread into the western edge of the Anderson Road Fire. It was considered extraordinarily extreme and anomalous for three separate head fires to emanate from a single fire and spread such distances in a single day.¹⁶⁸⁴
23. Areas of the Carrai Creek Fire that had spread east and entered into the Kempsey LGA began being managed as part of the Toorumbee Complex Fire, which included the Jacobs Spur Fire.¹⁶⁸⁵
24. Several emergency alerts were issued to residents including those in Carrai Creek / Lower Creek at 1:02pm and 1:04pm and to residents of Moparrabah at 12:17pm, warning them to take shelter as the Fires approached.¹⁶⁸⁶
25. RFS crews, the NPWS and locals worked through the night to try and control the Fires and save properties and the NSWPF officers aided with the evacuation of residents, including those in Bellbrook and Willawarrin.¹⁶⁸⁷
26. In the town of Bellbrook, residents were evacuated to the local school, community hall and pub. The Jacobs Spur Fire eventually surrounded the town, which trapped locals overnight and cut off power and phone service for eight days. Sadly, dozens of properties and outbuildings were damaged or destroyed.¹⁶⁸⁸
27. On 9 November 2019, the Carrai Creek Fire was mapped as spreading distances of up to 1.5 kilometres in various directions. Eastern parts of the Toorumbee Complex Fire were mapped as spreading up to 6.8 kilometres east and merged with the Anderson Road Fire.¹⁶⁸⁹
28. On 11 November 2019, the Toorumbee Complex Fire was renamed the Carrai East Fire. That same day another fire, known as the Five Day Creek Fire, had also merged with the Carrai East Fire. The Carrai East Fire was mapped as spreading short distances of less than 1 kilometre in various directions.¹⁶⁹⁰
29. On 12 November 2019, the northern extent of the Carrai Creek Fire was mapped as spreading 8.5 kilometres to the east, a portion of the north-west part of the Fire was mapped as spreading 4 kilometres to the south and other parts of the Fire were mapped as spreading up to 2 kilometres in various directions. The Carrai East Fire was mapped as spreading up to 3.5 kilometres to the south-east and east.¹⁶⁹¹
30. The Carrai Creek and Carrai East Fires continued to burn at a steady pace. By 12 January 2020 to 15 January 2020, the Carrai Creek Fire was not mapped as spreading and from 12 January 2020 to 19 January 2020, unburnt areas within the broader area of and on the perimeter of the Carrai East Fire was mapped as burning out.¹⁶⁹²

¹⁶⁸⁴ Exhibit 40A, Brief of Evidence at p. 11, 106.

¹⁶⁸⁵ Exhibit 41A, Brief of Evidence at p. 106.

¹⁶⁸⁶ Exhibit 40A, Brief of Evidence at p. 196–199; Exhibit 41A, Brief of Evidence at p. 203-206.

¹⁶⁸⁷ Exhibit 44, Brief of Evidence at p. 58–60, 81–84, 87–91.

¹⁶⁸⁸ Exhibit 44, Brief of Evidence at p. 58–60, 81–84, 87–91.

¹⁶⁸⁹ Exhibit 41A, Brief of Evidence at p. 125.

¹⁶⁹⁰ Exhibit 41A, Brief of Evidence at p. 206-1.

¹⁶⁹¹ Exhibit 40A, Brief of Evidence at p. 126.

¹⁶⁹² Exhibit 41A Brief of Evidence at p. 135.

31. On 15 January 2020, the Carrai Creek Fire was declared 'Out' and on 19 January 2020, the Carrai East Fire was declared 'Out'.¹⁶⁹³ On 20 January 2020, the extent of the Fire and associated fires is demonstrated in the figure below:

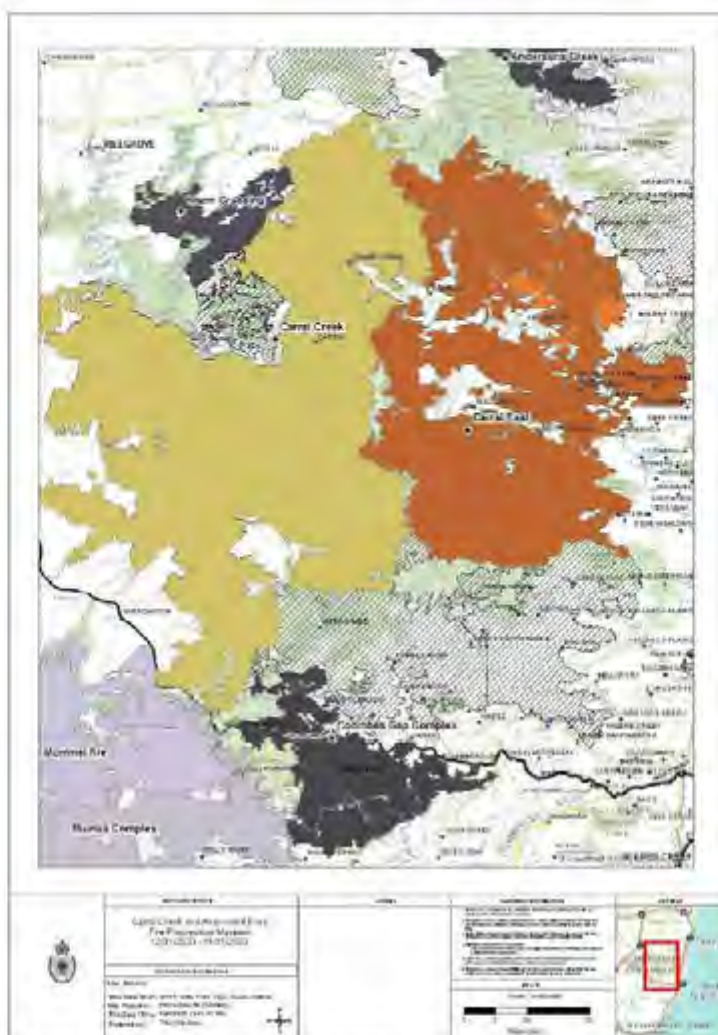


Figure 83 Fire Progression Mapping 0000, 12/01/2020 to 0000, 20/01/2020 (1:400,000 scale)

Cause and origin

32. Cause and origin investigations were undertaken by Ian Cook, RFS AFI, in relation to both the Carrai Creek and the Carrai East (Jacobs Spur, Willawarrin) Fires.¹⁶⁹⁴
33. In relation to the Carrai Creek Fire, Mr Cook was unable to conduct a physical investigation at the time of the Fire due to the remote and inaccessible location, the Fire affected roads, and active fire activity making it unsafe. Attempts to conduct a physical investigation after the Carrai Creek Fire was declared 'Out' were also unsuccessful due to various reasons, including the inability to secure a suitable aircraft, extreme weather events, and conflicting operational work-related requirements.¹⁶⁹⁵
34. Mr Cook noted in his fire investigation report that the cause and origin of the Carrai Creek Fire cannot be definitively determined without attending the site. However, using the data researched and extracted from ICON, Mr Cook concluded that there is evidence to support the theory that a lightning strike is the suspected cause of the Carrai Creek Fire, with the origin being on the eastern side of the Macleay River, at or near Grid Reference 190880 (Map Sheet 93363N 1:25,000 Carrai).¹⁶⁹⁶

¹⁶⁹³ Exhibit 40A, Brief of Evidence at p. 177; Exhibit 41A Brief of Evidence at p. 135.

¹⁶⁹⁴ Exhibit 40A, Brief of Evidence at p. 87; Exhibit 41A Brief of Evidence at p. 59.

¹⁶⁹⁵ Exhibit 40A, Brief of Evidence at p. 88.

¹⁶⁹⁶ Exhibit 40A, Brief of Evidence at p. 87–89, 92.

35. In relation to the Carrai East Fire, Mr Cook was also unable to conduct a physical investigation because it was ruled to be too dangerous due to the remote and inaccessible location, along with the need to traverse rural roads through fire affected areas at the time.¹⁶⁹⁷
36. However, with the information provided to Mr Cook through conversations with the IC, Operation and Planning IMT staff, together with lightning imagery data, the remote isolated location and extensive data interrogation, Mr Cook determined that the suspected cause of the Jacobs Spur and Anderson Road Fires, which in addition to the spread of the Carrai Creek Fire into the Kempsey LGA, formed part of the complex known as the Carrai East Fire, was lightning.¹⁶⁹⁸
37. DSC Mark Symons was also tasked to investigate the cause and origin of the Carrai Creek Fire.¹⁶⁹⁹ As part of his investigation, DSC Symons obtained from the RFS linescans showing the evolution of the two areas of fire, aerial photographs, and fire progression maps. Although he too could not perform a physical investigation, DSC Symons came to form the opinion that the most likely cause of the Carrai Creek Fire was two lightning strikes on the evening of 16 October 2019 at around 5:00pm to 6:00pm. One strike was in the locality of Mary's View, near Carrai Plateau, and the other was south-east to the first strike.¹⁷⁰⁰

Section 81 Findings

38. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

Carrai Creek Fire

The Carrai Creek Fire commenced on 16 October 2019 south of an area known as East Kunderang and west of Mary's View which lies west of the Carrai Plateau and east of the Macleay River.

The Carrai Creek Fire was caused by a lightning strike on 16 October 2019.

Carrai East (Jacobs Spur, Willawarrin) Fire

The Jacobs Spur, Willawarrin Fire (which merged with several fires that made up the Carrai East Fire) commenced on 16 October 2019 in remote terrain south-east of the Carrai Creek Fire and west of Kempsey.

The Jacobs Spur, Willawarrin Fire was caused by a lightning strike on 16 October 2019.

39. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹⁶⁹⁷ Exhibit 41A Brief of Evidence at p. 59–60.

¹⁶⁹⁸ Exhibit 41A Brief of Evidence at p. 60–61.

¹⁶⁹⁹ Transcript for 14 March 2022 T 9:14-16.

¹⁷⁰⁰ Transcript for 14 March 2022 T 12:9-44; Exhibit 40A, Brief of Evidence at p. 45, 48, 107-108.

16. Barry Parsons

Why was an inquest held?

1. In this inquest, the identity of Barry Parsons is known, as is the date and place of his death. For this reason, the inquest into Barry's death focused on the manner and cause of his death.

Introduction

2. On 8 November 2019, under extreme fire weather conditions, the Carrai Creek / Jacobs Spur Fires spread to the small township of Willawarrin, impacting properties including a remote rural property at 42 Kyuna Track where Barry lived.¹⁷⁰¹
3. Kyuna Track is described as a dirt road which runs south off Armidale Road, Willawarrin in an area described as a mix of grazing paddocks to heavily timbered country. The property on which Barry lived was about 20 acres in size and borders the Macleay River, with a fire trail from the property that leads south to the Macleay River. Barry's home on the property was a small relocatable structure with a shed at the back.¹⁷⁰²
4. Barry was 58 years old when he died sometime after 5:15pm on 8 November 2019 while attempting to flee the Carrai Creek / Jacobs Spur Fires in his Holden Astra car and subsequently on foot.¹⁷⁰³
5. After the Carrai Creek / Jacobs Spur Fires impacted upon and destroyed Barry's home, he was discovered by his neighbour and friend, Tim Eather, on 13 November 2019 at around 11:00pm or 11:30pm. Mr Eather located Barry approximately 200 to 300 metres from his car on a fire trail in bushland 500 metres south of his home, near the Macleay River.¹⁷⁰⁴
6. Barry Parsons was born on 16 December 1960 and grew up in Western Australia however he had moved to NSW about a year prior to his death. Barry had a son, Lewis Parsons, who still resides in Western Australia, although Barry appears to have had little contact with his family.¹⁷⁰⁵
7. Barry has been described as a very smart and educated man. He had a strong network of friends from his childhood and school years in Western Australia, with whom he would keep in regular contact with. Barry had a significant social media presence and a strong personal connection with likeminded friends online.¹⁷⁰⁶
8. Barry moved to the Mungay Creek area in October 2018 and in around January 2019, he moved to 42 Kyuna Track, Willawarrin owned by Tim Trenowden. Hannah, Mr Trenowden's daughter, stated that she and her family fixed up the house on the property to make it more liveable for Barry. Barry formed a good relationship with Mr Trenowden and Hannah both of whom lived in Sydney at the time, keeping in regular contact with them. Barry lived at the house by himself along with a number of cats.¹⁷⁰⁷
9. By all accounts, Barry seemed to have been a good neighbour; described as a quiet and friendly bloke by his various neighbours.¹⁷⁰⁸
10. Barry suffered from a number of health issues, including epilepsy and asthma, in relation to which he was receiving treatment. Given Barry's health issues and being a heavy smoker, Hannah believed that he may have been overcome by smoke at the time of his death.¹⁷⁰⁹

¹⁷⁰¹ Exhibit 44, Brief of Evidence at p. 1–2.

¹⁷⁰² Exhibit 44, Brief of Evidence at p. 1–2, 23, 102, 115–116.

¹⁷⁰³ Exhibit 44, Brief of Evidence at p. 1, 116, 118.

¹⁷⁰⁴ Exhibit 44, Brief of Evidence at p. 65, 104.

¹⁷⁰⁵ Exhibit 44, Brief of Evidence at p. 1, 26, 101.

¹⁷⁰⁶ Exhibit 44, Brief of Evidence at p. 26, 32, 36, 117.

¹⁷⁰⁷ Exhibit 44, Brief of Evidence at p. 101, 116–117, Tab 18.

¹⁷⁰⁸ Exhibit 44, Brief of Evidence at p. 36–37, 106, 116.

¹⁷⁰⁹ Exhibit 44, Brief of Evidence at p. 38, 118.

Chronology of events

11. On 7 November 2019 at about 8:20pm, Barry spoke on the telephone with Kathleen Vale, a long-time friend in Western Australia. During the telephone conversation, Ms Vale recalled that the Fires were discussed, however, Barry did not seem too concerned at that time.¹⁷¹⁰
12. By 7:42pm on 7 November 2019, the Carrai Creek / Jacobs Spur Fires had made a significant run towards the townships of Bellbrook and Willawarrin.¹⁷¹¹
13. On 8 November 2019 between 1:14pm and 1:30pm, the Carrai Creek / Jacobs Spur Fires were approaching Barry's home.¹⁷¹²
14. At about 2:20pm, Edmund Manning, a friend Barry had previously lived with in Mungay Creek, witnessed smoke whilst in the Kempsey area. He sent Barry a message to tell him to pack what he needed and to get out.¹⁷¹³
15. At 2:22pm, Barry posted a message to his Facebook account: *"Hot and windy day on mid north coast. Smoke everywhere. Like dusk at 2pm."* In response to his post, Barry received advice and messages of support and he replied to some of those messages. In one exchange, Barry stated that he had not been listening to the radio and that he had not *"seen a kick of flame yet but this is about to get as terrifying as it gets without it. Wind has really blown up, smoke and ash filling the sky."*¹⁷¹⁴
16. At around 3:30pm to 4:00pm Luke Harman, resident of Armidale Road, Willawarrin near the intersection of Kyuna Track, recalled that the weather conditions had deteriorated. At about 4:30pm, NSWPF officers attended Mr Harman's home and advised him and his family to evacuate the area immediately. Mr Harman was asked by the NSWPF officers to assist in ensuring that everyone on Kyuna Track left the area.¹⁷¹⁵
17. At about 5:00pm, Mr Harman recalled that the paddocks to the north-west of his property were on fire, about 800 metres away. While in his kitchen looking out the window towards Kyuna Track, Mr Harman saw Barry, who lived about 700 metres down from Mr Harman's property, pull up in his car at the gate. Mr Harman saw Barry's car stop and Barry got out of his car to open the gate which exited the driveway. Barry was then seen to open the gate, get into his car and drive out of his property towards Armidale Road, along Kyuna Track. Mr Harman did not see Barry's car again, until the following day when it was found burnt-out.¹⁷¹⁶
18. While packing, Mr Harman saw other neighbours in the area leave including Terry and Julie Flynn. Mr Harman telephoned Mr Eather who said he was in Port Macquarie, but his mother was at his property, and she would be staying to fight the Fire. After that, Mr Harman was satisfied that everyone in the area at the time, apart from Mr Eather's mother, had left Kyuna Track. Mr Harman and his family then evacuated to Willawarrin Hotel, the nearby evacuation site.¹⁷¹⁷
19. The NSWPF obtained in-car video footage from SC Michael Duxbury of the Kempsey Highway Patrol who was assisting with roadblocks and evacuating residents in Willawarrin and about 100 metres east of Kyuna Track on 8 November 2019. From 4:33pm to 6:24pm, there was no sighting of Barry's car at or near the Willawarrin Hotel or near Kyuna Track captured by the in-car video footage. At that time, fire was burning on both sides of Armidale Road with intense wind from the north-east and SC Duxbury used the public address system in his car to broadcast a message to residents, informing them to leave the town immediately.¹⁷¹⁸
20. At about 5:10pm, Mr Eather had returned home to Willawarrin from Port Macquarie for the purpose of protecting his property. On returning, he noticed *"everything was just red, it was really hot. Everything was burning."*¹⁷¹⁹

¹⁷¹⁰ Exhibit 44, Brief of Evidence at p. 32–33.

¹⁷¹¹ Exhibit 41A, Brief of Evidence at p. 115.

¹⁷¹² Exhibit 41A, Brief of Evidence at p. 119.

¹⁷¹³ Exhibit 44, Brief of Evidence at p. 118-1.

¹⁷¹⁴ Exhibit 44, Brief of Evidence at p. 154–158.

¹⁷¹⁵ Exhibit 44, Brief of Evidence at p. 107.

¹⁷¹⁶ Exhibit 44, Brief of Evidence at p. 35, 107; Transcript for 17 March 2022 T 18:14-41.

¹⁷¹⁷ Exhibit 44, Brief of Evidence at p. 35, 107.

¹⁷¹⁸ Exhibit 44, Brief of Evidence at p. 37, 96–97, Tab 25.

¹⁷¹⁹ Exhibit 44, Brief of Evidence at p. 102.

21. At 5:15pm, Barry posted another message to his Facebook account: “*Seriously looks and sounds like apocalypse out there...*”. This was the last communication known to be made by Barry. His friends responded to this Facebook message; however, Barry did not reply to any of them.¹⁷²⁰
22. At 6:37pm, Hannah sent Barry a message as she was concerned that he had not responded to messages, which was out of character for Barry. Friends, locals, and many of Barry’s Facebook network also became worried and posted messages online during that evening and the following day.¹⁷²¹
23. At some time between 6:41pm and 6:59pm, RFS linescan imagery shows that the Carrai Creek / Jacobs Spur Fires had passed through Barry’s home.¹⁷²²
24. In the following days, several searches were undertaken by locals and friends in an effort to locate Barry as telephone calls to his mobile phone were going straight to voicemail. Barry’s burnt-out car was eventually found on 9 November 2019; however, Barry was not in it.¹⁷²³
25. On 13 November 2019 at around 11:00pm or 11:30pm, Mr Eather, having persisted in his searches, located Barry’s body near his car. Mr Eather subsequently contacted the authorities.¹⁷²⁴
26. Barry’s car was found approximately 500 metres south of his home on a fire trail towards the Macleay River and Barry was located 200-300 metres from his car. Barry’s car was facing a south-westerly direction, that is, in the opposite direction of the route that would be taken to reach Kyuna Track and the opposite direction from the known evacuation point, being the Willawarrin Hotel. The car was discovered in dense bush, partially elevated, with a fallen log visible underneath the front wheels. The bonnet was propped open with a large log.¹⁷²⁵
27. Investigating police were unable to confirm as to why and how the bonnet of Barry’s car came to be propped open with a large log.¹⁷²⁶
28. DSC Simon Cass was the initial OIC of the investigation into Barry’s death. He formed the view that Barry had attempted to escape the Fire in his car as it approached his home however, Kyuna Track was likely obstructed by fire, forcing Barry to take another route. DSC Cass formed the view that a tree had fallen in Barry’s path, or he had simply driven over the tree due to low visibility from smoke and fire at which time Barry’s car became stuck. DSC Cass thought that Barry then fled on foot towards Macleay River but had become overcome by smoke and fire.¹⁷²⁷
29. DSC Priest took over the investigation into Barry’s death from DSC Cass. He proffered an explanation as to why Barry was located where he was, at some distance from his car and home; that he may have attempted to leave his home by car and may have returned.¹⁷²⁸ However, the evidence does not allow for such a finding to be made or in relation to any of Barry’s movements prior to his death.
30. There is no evidence to suggest that Kyuna Track, between Barry’s home and Armidale Road, was blocked in the late afternoon and early evening of 8 November 2019, preventing Barry from exiting the area.¹⁷²⁹ Mr Harman told the Court that a power pole was on Kyuna Track when he returned to his home on 9 November 2019, but it is unclear when that pole fell between 5:00pm when Mr Harman left his home and still had power and when he returned the following day.¹⁷³⁰
31. On 20 November 2019, the NSWPF utilised fingerprint analysis to confirm Barry’s identity.¹⁷³¹

¹⁷²⁰ Exhibit 44, Brief of Evidence at p. 26, 152.

¹⁷²¹ Exhibit 44, Brief of Evidence at p. 118, 128, 152–161.

¹⁷²² Exhibit 41A, Brief of Evidence at p. 120.

¹⁷²³ Exhibit 41A, Brief of Evidence at p. 102–104, 107.

¹⁷²⁴ Exhibit 44, Brief of Evidence at p. 104.

¹⁷²⁵ Transcript for 17 March 2022 T 11:19-24; Transcript for 17 March 2022 T 12:45-48; Exhibit 44, Brief of Evidence at p. 37, 65, 104.

¹⁷²⁶ Exhibit 44, Brief of Evidence at p. 35–36.

¹⁷²⁷ Exhibit 44, Brief of Evidence at p. 35–36.

¹⁷²⁸ Transcript for 17 March 2022 T 12:31-36.

¹⁷²⁹ Transcript for 17 March 2022 T 12:26-29.

¹⁷³⁰ Transcript for 17 March 2022 T 19:35-44.

¹⁷³¹ Exhibit 44, Brief of Evidence at p. 99–100.

32. On 2 December 2019, an autopsy was conducted following Barry's death by Dr Donovan Loots. It was found that Barry died between 8 and 9 November 2019 and his cause of death was 'unascertained'. In the autopsy report, Dr Loots noted that the toxicological analysis of specimens that were obtained should be interpreted with caution. In particular, the alcohol level detected should be interpreted with caution as it may be attributable to other biological processes that may occur post-death. Dr Loots ultimately formed the opinion that the blood alcohol level did not, importantly, contribute to Barry's cause of death.¹⁷³²

Section 81 Findings

33. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Barry Parsons.

Date of death

Barry died sometime after 5:15pm on 8 November 2019.

Place of death

Barry died approximately 200 to 300 metres from his car on a fire trail in bushland 500 metres south of his home in Willawarrin at 42 Kyuna Track, near the Macleay River.

Cause of death

The cause of Barry's death is unascertained.

Manner of death

Barry died after leaving his home when it was impacted, or about to be impacted, by the Carrai Creek / Jacobs Spur Fires.

34. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.
35. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Barry's family and loved ones, friends, and community for their loss.

¹⁷³² Exhibit 44, Brief of Evidence at p. 12-15.

17. Stockyard Flat, Yarrowitch Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Stockyard Flat, Yarrowitch Fire.

Introduction

2. The Stockyard Flat, Yarrowitch Fire is believed to have started on 26 October 2019.¹⁷³³ It burned for approximately two and a half weeks until it was declared 'Out' on 11 November 2019, when it was formally merged with the Carrai Creek Fire, which burned until 15 January 2020.¹⁷³⁴
3. The Stockyard Flat, Yarrowitch Fire burned in the Walcha LGA, encompassed within the lands of the Dughutti People. It burned approximately 72,248 hectares comprising of 30,944 hectares of National Park, 18,060 hectares of State Forest, 22,927 hectares of private land, and 317 hectares of other land.¹⁷³⁵ It destroyed at least 24 residential homes and 22 outbuildings, and damaged at least one residential home and one outbuilding. Cattle and goats were also lost to the Fire.¹⁷³⁶
4. While these findings are limited to the cause and origin of the Stockyard Flat, Yarrowitch Fire, it should be noted that on 29 December 2019, Russell Bratby died in connection with this Fire. The circumstances of Russell's death is considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of Russell's death are located in Section 18 following.¹⁷³⁷

Chronology of events

5. On 26 October 2019, a significant dry storm cell passed through the Yarrowitch Valley in the vicinity of the hamlet of Stockyard Flat.¹⁷³⁸ At 3:51pm, four lightning strikes were recorded within the same second. These lightning strikes occurred approximately 380 metres to 675 metres north-west, south-west and south-east from where the Stockyard Flat, Yarrowitch Fire was initially mapped the following day.¹⁷³⁹
6. On 27 October 2019 at approximately 3:00pm, the Stockyard Flat, Yarrowitch Fire was reported to authorities.¹⁷⁴⁰ The evidence, unfortunately, does not permit a finding as to who made that first report of the Stockyard Flat, Yarrowitch Fire. By 3:40pm, the Stockyard Flat, Yarrowitch Fire was authorised as 'Going'.¹⁷⁴¹
7. At about 5:11pm, Chris Lute, Captain of the Yarrowitch RFS Brigade, was notified of the Stockyard Flat, Yarrowitch Fire. He, along with James Goodwin, RFS New England Zone Deputy Group Officer, and other members of the Yarrowitch and Bergen RFS Brigades, travelled to a property on Blomfield Road, Yarrowitch owned by David Baumer as it offered a good vantage point to locate the Fire.¹⁷⁴²
8. Due to the smoke haze from other fires to the north-east of Yarrowitch, locating the Stockyard Flat, Yarrowitch Fire took approximately four hours.¹⁷⁴³ The fire was located to the north-west of Blomfields Road on Stockyard Flat in inaccessible terrain in the Yarrowitch Gorge.¹⁷⁴⁴

¹⁷³³ Exhibit 42A, Brief of Evidence at p. 5, 45–47.

¹⁷³⁴ Exhibit 42A, Brief of Evidence at p. 29, 142.

¹⁷³⁵ Exhibit 42A, Brief of Evidence at p. 142.

¹⁷³⁶ Exhibit 42A, Brief of Evidence at p. 17–18, Tab 19.

¹⁷³⁷ Exhibit 42A, Brief of Evidence at p. 7–13.

¹⁷³⁸ Exhibit 42A, Brief of Evidence at p. 5.

¹⁷³⁹ Exhibit 42A, Brief of Evidence at p. 52–53.

¹⁷⁴⁰ Exhibit 42A, Brief of Evidence at p. 26, 95.

¹⁷⁴¹ Exhibit 42A, Brief of Evidence at p. 115.

¹⁷⁴² Exhibit 42A, Brief of Evidence at p. 95, 99.

¹⁷⁴³ Exhibit 42A, Brief of Evidence at p. 99.

¹⁷⁴⁴ Exhibit 42A, Brief of Evidence at p. 5, 95.

9. Once the location of the Stockyard Flat, Yarrowitch Fire was identified, heavy plant was organised to attend and put in containment lines as firefighters were unable to access the location due to the terrain.¹⁷⁴⁵
10. On 28 October 2019, the Stockyard Flat, Yarrowitch Fire was first mapped by the RFS as demonstrated in the image below:¹⁷⁴⁶



11. Between 28 October 2019 and 6 November 2019, the Stockyard Flat, Yarrowitch Fire was largely contained within a gorge in the Oxley Wild Rivers National Park, spreading approximately 500 metres to 1.5 kilometres each day in various directions.¹⁷⁴⁷
12. On 7 November 2019, the prevailing conditions in the Yarrowitch Valley worsened, with an increase in temperatures, a decrease in humidity and wind speeds forecast of up to 45 kilometres per hour, gusting at 65 kilometres per hour from the north-west.¹⁷⁴⁸ Wind speeds of up to 100 kilometres per hour were reported on the ground that day, far exceeding the predicted conditions.¹⁷⁴⁹
13. At 11:02am, a RFS SITREP recorded that the Stockyard Flat, Yarrowitch Fire had breached its containment on the Yarrobindi Trail. It was recorded that the Fire had the potential to impact private properties along Blomfield Road, Yarrowitch within two to six hours under the influence of strong westerly winds.¹⁷⁵⁰
14. By 12:51pm, a RFS emergency alert was disseminated to residents warning that a fire was burning east and heading towards Blomfield Road. Residents were advised to take shelter when the Fire arrived.¹⁷⁵¹
15. By 2:08pm, a RFS SITREP recorded that the Stockyard Flat, Yarrowitch Fire was impacting the Blomfield Road area.¹⁷⁵² Tragically, Russell Bratby's property on Blomfield Road fell within the path of the Stockyard Flat, Yarrowitch Fire and he sustained his ultimately fatal injuries.¹⁷⁵³

¹⁷⁴⁵ Exhibit 42A, Brief of Evidence at p. 96.

¹⁷⁴⁶ Exhibit 42A, Brief of Evidence at p. 41.

¹⁷⁴⁷ Exhibit 42A, Brief of Evidence at p. 54–62, 96.

¹⁷⁴⁸ Exhibit 42A, Brief of Evidence at p. 200–201.

¹⁷⁴⁹ Exhibit 42A, Brief of Evidence at p. 10, 96.

¹⁷⁵⁰ Exhibit 42A, Brief of Evidence at p. 118–120.

¹⁷⁵¹ Exhibit 42A, Brief of Evidence at p. 159–161.

¹⁷⁵² Exhibit 42A, Brief of Evidence at p. 122.

¹⁷⁵³ Exhibit 42A, Brief of Evidence at p. 10–11.

16. After breaching containment, the Stockyard Flat, Yarrawitch Fire had made a significant run to the east-southeast and merged with the Doyles River Fire, which was subsequently authorised as 'Out' after having amalgamated with the Stockyard Flat, Yarrawitch Fire. Together, those fires spread approximately 15.5 kilometres on 7 November 2019; considered to be extreme and anomalous fire behaviour.¹⁷⁵⁴
17. On 8 November 2019, the Stockyard Flat, Yarrawitch Fire further spread approximately 35.8 kilometres east-southeast. During 7 November 2019 and 8 November 2019, the Stockyard Flat, Yarrawitch Fire spread approximately 51.3 kilometres in total. This was considered highly extreme and anomalous for a fire to spread over 50 kilometres over two consecutive days.¹⁷⁵⁵
18. Between 9 November 2019 and 11 November 2019, the Stockyard Flat, Yarrawitch Fire was mapped as having spread relatively short distances of less than one kilometre and no more than 4 kilometres per day in various directions.¹⁷⁵⁶
19. On 11 November 2019 at approximately 9:50pm, the Stockyard Flat, Yarrawitch Fire merged with the larger Carrai Creek Fire to the north and was authorised 'Out' as demonstrated in the image below. However, the Carrai Creek Fire continued to burn until 15 January 2020.¹⁷⁵⁷

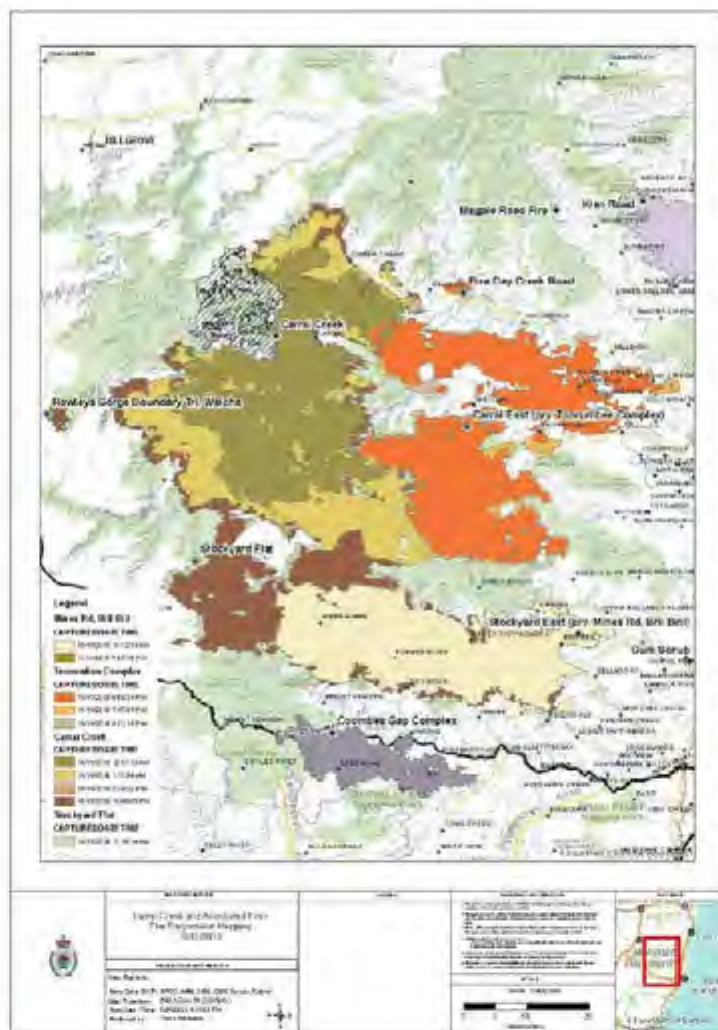


Figure 123 Fire Progression Mapping 0000, 11/11/2019 to 0000, 12/11/2019 (1:400,000 scale)

¹⁷⁵⁴ Exhibit 42A, Brief of Evidence at p. 63–65.

¹⁷⁵⁵ Exhibit 42A, Brief of Evidence at p. 81–82.

¹⁷⁵⁶ Exhibit 42A, Brief of Evidence at p. 89–92.

¹⁷⁵⁷ Exhibit 42A, Brief of Evidence at p. 29, 92–94.

Cause and origin

20. A request for a cause and origin investigation in relation to the Stockyard Flat, Yarrowitch Fire was not made until May 2020. The delay between the Stockyard Flat, Yarrowitch Fire and the cause and origin investigation was due to the sheer number of fires across the 2019/2020 bushfire season and the time taken to determine which of those fires required investigation.¹⁷⁵⁸
21. It was not until 7 July 2020 that a cause and origin scene investigation in relation to the Stockyard Flat, Yarrowitch Fire was carried out by Detective (Technical) Inspector Michelle Hepburn. Accompanying her was SC Michael McDonnell, the OIC of the investigation, Sergeant Freeman, Mr Goodwin and Sheree Lute, wife of Captain Lute. Mr Goodwin's attendance was considered important as he had been present in the early stages of the Stockyard Flat, Yarrowitch Fire and Mrs Lute provided Inspector Hepburn access to her property on Oaklands Road, Yarrowitch, being the closest to the suspected area of origin.¹⁷⁵⁹
22. Mrs Lute guided them by vehicle along an access track at the rear of her property through to Oxley Wild Rivers National Park. At the end of the access track, they proceeded by foot to a steep gorge that was inaccessible by vehicle and difficult to navigate by foot due to the steep incline. From this vantage point, Inspector Hepburn observed the bushland which included considerable re-growth and Mr Goodwin indicated to Inspector Hepburn the general area within the gorge where he believed he first saw the Stockyard Flat, Yarrowitch Fire. The terrain made it too unsafe for Inspector Hepburn to access the suspected area of origin.¹⁷⁶⁰
23. Even if Inspector Hepburn had been able to access the area of origin by foot, given the period of time that had passed between the Stockyard Flat, Yarrowitch Fire and the cause and origin investigation, the vegetation regrowth would have inhibited Inspector Hepburn's ability to identify the point of origin.¹⁷⁶¹
24. Concerning the cause of the Stockyard Flat, Yarrowitch Fire, Inspector Hepburn acknowledged that four simultaneous lightning strikes recorded on 26 October 2019 fell within the general vicinity of the area of origin.¹⁷⁶² However, in the absence of a direct, physical scene examination, Inspector Hepburn was not prepared to conclude that lightning strike was the cause of the Stockyard Flat, Yarrowitch Fire noting the possibility that spontaneous combustion could have also caused the Fire.¹⁷⁶³
25. Although unable to positively conclude that lightning strike or spontaneous combustion was the cause of the Stockyard Flat, Yarrowitch Fire, Inspector Hepburn was satisfied that deliberate human action did not cause the Fire due to the inaccessible terrain.¹⁷⁶⁴

Section 81 Findings

26. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Stockyard Flat, Yarrowitch Fire commenced on the afternoon of 26 October 2019 in the Oxley Wild Rivers National Park to the western side of the Yarrowitch River within a very steep, inaccessible gorge.

On the balance of probabilities and noting the presence of lightning in the general area of origin on 26 October 2019, the Stockyard Flat, Yarrowitch Fire was likely caused by lightning strike.
27. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹⁷⁵⁸ Transcript for 16 March 2022 T 30:3-11.

¹⁷⁵⁹ Exhibit 42A, Brief of Evidence at p. 29; Transcript for 16 March 2022 T 30:26-42.

¹⁷⁶⁰ Exhibit 42A, Brief of Evidence at p. 29; Transcript for 16 March 2022 T 31:31-50; Transcript for 16 March 2022 T 32:1-6.

¹⁷⁶¹ Transcript for 16 March 2022 T 32:8-11.

¹⁷⁶² Transcript for 16 March 2022 T 32:21-50; Transcript for 16 March 2022 T 33:1-8.

¹⁷⁶³ Transcript for 16 March 2022 T 33:26-40.

¹⁷⁶⁴ Exhibit 42A, Brief of Evidence at p. 30-33; Transcript for 16 March 2022 T 34:1-4.

18. Russell Bratby

Why was an inquest held?

1. In this inquest, Russell Bratby's identity is known, as is the date and place of his death. For this reason, the inquest into Russell's death focused on the manner and cause of his death.

Introduction

2. On 7 November 2019, under extreme fire weather conditions, the Stockyard Flat, Yarrowitch Fire impacted upon several properties along Blomfield Road, Yarrowitch, including 478 Blomfield Road (Lot 32).¹⁷⁶⁵
3. Russell Bratby and his wife, Tracey Bratby, owned the property at 478 Blomfield Road which they had purchased some 18 years prior to Russell's death. They purchased the property as a holiday bush block and they would normally visit the property at least once a year in the months of March to May, September, or October, avoiding the summer and winter months. Russell often travelled to the property by himself but had not been there for a couple of years prior to 2019.¹⁷⁶⁶
4. The property was around 53 hectares in size and was described as very basic. It housed a caravan, log cabin, a large open shed, water tanks and various car wrecks. There was no electricity at the property, but there were solar panels and a battery set up which allowed Russell to charge his mobile phone and stay in contact with Ms Bratby when visiting the property on his own.¹⁷⁶⁷
5. Russell was 59 years old when he died at 2:09am on 29 December 2019 at Royal North Shore Hospital in Sydney as a result of serious injuries he sustained on 7 November 2019 in connection with the Stockyard Flat, Yarrowitch Fire.¹⁷⁶⁸
6. Russell Andrew Bratby was born on 12 October 1960. Russell had been married to Ms Bratby for 31 years. Russell was father to Shauna and Murray, and he lived with his family in Summerland Point. He was previously employed as a qualified auto-electrician and had worked in the mining sector.¹⁷⁶⁹
7. Russell was deeply loved by his family and friends, which is evident in the support that friends offered to Ms Bratby, Shauna, and Murray during Russell's admission at Royal North Shore Hospital which allowed them to be close to him at that time. He is very much missed by his family and friends.
8. There was a lot the Bratby family wished to say about Russell; however, knowing that he was a private man who did not like a fuss and would not wish for his family to speak publicly about him in an open forum, they respectfully chose not make a family statement at the conclusion of the proceedings.

Chronology of events

9. Although he had not visited the property at 478 Blomfield Road for a couple of years, Russell travelled there in October 2019 to investigate reports that people had been trespassing on the property. Russell decided to go take a look and also took the opportunity to take up some roofing sheets for a shed he was intending to build on the property.¹⁷⁷⁰
10. Russell borrowed a friend's car to travel from his home in Summerland Point to the property in Yarrowitch. After experiencing some mechanical issues with the car enroute, Russell arrived at the property with his dog Khan on 25 October 2019.¹⁷⁷¹

¹⁷⁶⁵ Exhibit 43, Brief of Evidence at p. 1, 100, 156.

¹⁷⁶⁶ Exhibit 43, Brief of Evidence at p. 28, 115, 177.

¹⁷⁶⁷ Exhibit 43, Brief of Evidence at p. 27-28, 178-180.

¹⁷⁶⁸ Exhibit 43, Brief of Evidence at p. 1, 14.

¹⁷⁶⁹ Exhibit 43, Brief of Evidence at p. 1-2, 115.

¹⁷⁷⁰ Exhibit 43, Brief of Evidence at p. 28, 177; Transcript for 16 March 2022 T 24:23-47.

¹⁷⁷¹ Exhibit 43, Brief of Evidence at p. 3, 28, 116-117.

11. There were further mechanical issues with the car after reaching Yarrowitch and Russell left it in the nearby township of Walcha for repairs, meaning he did not have independent means of transport.¹⁷⁷²
12. Meanwhile, on 27 October 2019, the Stockyard Flat, Yarrowitch Fire was reported to the RFS, burning in Oxley Wild Rivers National Park in very steep terrain within the Yarrowitch Gorge to the north-west of Blomfield Road, Yarrowitch.¹⁷⁷³
13. At about 5:11pm, Chris Lute, Captain of the Yarrowitch RFS Brigade, was notified of the Stockyard Flat, Yarrowitch Fire. He, along with James Goodwin, RFS New England Zone Deputy Group Officer, and other members of the Yarrowitch and Bergen RFS Brigades, travelled to 481 Blomfield Road, Yarrowitch (Lot 36), owned by David Baumer, as it offered a good vantage point to locate the Fire.¹⁷⁷⁴
14. Whilst at Mr Baumer's property at that time, Captain Lute and Mr Goodwin spoke to Russell across the road about the Stockyard Flat, Yarrowitch Fire and the danger it posed should it reach his isolated property, which had restricted access and no fire preparation. Russell did not seem concerned and told Captain Lute and Mr Goodwin that if needed, he could escape down a track if the main road was blocked; however, they were concerned that neither Russell nor the property were prepared in the event of fire.¹⁷⁷⁵
15. This did not suggest that Russell had planned to stay and defend the property from fire. Rather, based upon a telephone conversation Russell had with Ms Bratby on that day, Russell planned to remain in Yarrowitch until the car had been repaired so that he could return home.¹⁷⁷⁶
16. In the intervening days, the RFS were active along Blomfield Road putting in fire breaks to protect properties from the Stockyard Flat, Yarrowitch Fire.¹⁷⁷⁷
17. Separately, on 30 October 2019, Russell contacted Walcha Police Station wishing to make a report regarding building materials alleged to have been stolen from his property. At about 3:30pm, SC Michael McDonnell attended Russell's property along with another officer in response to Russell's report. In the days following, the matter was resolved with the building materials returned to Russell's property, which had mistakenly been taken by a neighbour's relative. SC McDonnell attempted to contact Russell to confirm that the building materials had been returned, although after leaving Russell a message on his mobile phone, he did not hear back.¹⁷⁷⁸
18. Russell had expected to return home to Summerland Point on 6 November 2019. He had arranged a lift to Walcha with Mr Baumer at 3:45pm on that day to collect the car; however, it was not ready for collection. At that time, Russell informed Mr Baumer accordingly and told Mr Baumer that he had 3 days' worth of food, and he would be alright to stay at his property until the car was ready. Mr Baumer told Russell that if he needed a lift into town, he could get one with the mail delivery on Friday, or he could speak to Alison, another neighbour who lived at 445 Blomfield Road (Lot 37). At that time, Mr Baumer recalled that there was little concern about the Stockyard Flat, Yarrowitch Fire burning in the gorge as it looked like it was dying down. Mr Baumer subsequently locked up his place and left Yarrowitch to return to his home in Walcha.¹⁷⁷⁹
19. At around lunch time on 7 November 2019, whilst at work in Walcha, Mr Baumer received a telephone call from Alison who stated that she was leaving Blomfield Road. Alison was scared due to the thick smoke in the area at the time. Alison informed Mr Baumer that if Russell was still at his property, he could use her car which was parked at her property. David tried to get into contact with Russell but did not have the correct phone number, so instead he had his wife Rosemary contact Ms Bratby, who in turn tried to get into contact with Russell but was unable to do so.¹⁷⁸⁰
20. By 2:08pm, after the prevailing weather conditions worsened, the Stockyard Flat, Yarrowitch Fire broke its containment and had reached Blomfield Road.¹⁷⁸¹

¹⁷⁷² Exhibit 43, Brief of Evidence at p. 117–118.

¹⁷⁷³ Exhibit 43, Brief of Evidence at p. 25.

¹⁷⁷⁴ Exhibit 43, Brief of Evidence at p. 82, 86, 100, 103, 156.

¹⁷⁷⁵ Exhibit 43, Brief of Evidence at p. 82, 86–87, 115.

¹⁷⁷⁶ Exhibit 43, Brief of Evidence at p. 119–120.

¹⁷⁷⁷ Exhibit 43, Brief of Evidence at p. 104.

¹⁷⁷⁸ Exhibit 43, Brief of Evidence at p. 29.

¹⁷⁷⁹ Exhibit 43, Brief of Evidence at p. 104–105.

¹⁷⁸⁰ Exhibit 43, Brief of Evidence at p. 105.

¹⁷⁸¹ Exhibit 42A, Brief of Evidence at p. 122.

21. At around 3:30pm, Simon Conaty, NPWS Ranger, Field Officer and firefighter, and Michael Jarman, NPWS firefighter, attended Blomfield Road after being tasked to attend the area. Upon arrival they saw Russell walking towards them from Mr Baumer's property. Russell's clothes were wet, and he had significant fullthickness burns. Mr Conaty saw a 5000-litre polyethylene water tank partially melted and split open.¹⁷⁸²
22. When he was found, Russell was in pain, but he was calm. He informed Mr Conaty that he had pain in his chest and abdomen. Mr Conaty and Mr Jarman poured water on Russell's burns and wrapped a fire blanket around him. Mr Conaty radioed for a medivac helicopter to be requested to attend the scene.¹⁷⁸³
23. At 4:11pm, NSW Ambulance received a 000 call from the RFS reporting that Russell had suffered third degree burns to 30% of his body on his arms and legs. An ambulance was assigned to respond but the area was surrounded by active fire. The Rapid Launch Trauma Coordinator at the NSW Aeromedical Control Centre contacted the RFS to obtain patient information and ascertain whether there were any RFS aircraft in the vicinity.¹⁷⁸⁴
24. At 4:35pm, 'Westpac 4', the closest aeromedical helicopter acknowledged the job but indicated they needed to travel to Cessnock to refuel before accepting the tasking.¹⁷⁸⁵ At 4:51pm, a NSW Ambulance Special Operation Team, comprised of paramedics who specialise in urgent medical care in remote locations was also tasked to attend. They left Armidale Airport to attend Yarrowitch via RFS helicopter 226.¹⁷⁸⁶
25. At 6:15pm, the NSW Ambulance Special Operation Team arrived and commenced treating Russell.¹⁷⁸⁷ Shortly after, a road ambulance arrived and transferred Russell onto a stretcher and placed him inside the ambulance until 'Westpac 4' arrived.¹⁷⁸⁸
26. 'Westpac 4' arrived, and a critical care physician and specialist paramedic onboard were winched down from the helicopter to assist in treating Russell, reaching him by 6:25pm.¹⁷⁸⁹ At 6:50pm, Russell was winched up into 'Westpac 4'¹⁷⁹⁰ and transported to Port Macquarie Airport where he was transferred by a road ambulance to the Emergency Department at Port Macquarie Hospital where he arrived at 8:15pm and treated for approximately 8 hours.¹⁷⁹¹
27. In the early hours of 8 November 2019, Russell was transferred by air from Port Macquarie Hospital to the Intensive Care Unit at the Royal North Shore Hospital in Sydney. Russell was observed to have burns to 23% of his total body surface, predominantly on the upper and lower limbs and face. He arrived at Royal North Shore Hospital at 3:57am and on that date, Russell underwent debridement and dressings to his face, forearms, and legs.¹⁷⁹²
28. On 9 November 2019, during his treatment at Royal North Shore Hospital, Russell was initially conscious and communicative, and was able to recall some information about the Fire. Russell's account of the events of 7 November 2019 was that once he knew the Fire was approaching, he put his dog Khan into the caravan in which he had been staying on the property and then walked to Mr Baumer's property to try and see where the Fire was. He looked back and saw the Fire was threatening the caravan and rushed to let Khan out. He then raced back to Mr Baumer's property, running through flames. He noticed the water tank on Mr Baumer's property and rushed towards it in the hope that it would offer shelter from the Fire. Russell did not recall how long he waited before he was found by firefighters.¹⁷⁹³

¹⁷⁸² Exhibit 43, Brief of Evidence at p. 31, 84, 91–92.

¹⁷⁸³ Exhibit 43, Brief of Evidence at p. 92–93.

¹⁷⁸⁴ Exhibit 43, Brief of Evidence at p. 81-2, 81-24 – 81-25.

¹⁷⁸⁵ Exhibit 43, Brief of Evidence at p. 81-2, 81-24, 81-31.

¹⁷⁸⁶ Exhibit 43, Brief of Evidence at p. 81-2 – 81-3.

¹⁷⁸⁷ Exhibit 43, Brief of Evidence at p. 81-3.

¹⁷⁸⁸ Exhibit 43, Brief of Evidence at p. 81-3.

¹⁷⁸⁹ Exhibit 43, Brief of Evidence at p. 81-3.

¹⁷⁹⁰ Exhibit 43, Brief of Evidence at p. 81-3.

¹⁷⁹¹ Exhibit 43, Brief of Evidence at p. 81-3.

¹⁷⁹² Exhibit 43, Brief of Evidence at p 15, 81-30.

¹⁷⁹³ Exhibit 43, Brief of Evident at p. 32, 37, 150–152.

29. From 13 November 2019 to 6 December 2019, Russell underwent several debridement and grafting procedures to treat his injuries. However, sadly, Russell's condition deteriorated. He needed to be intubated and over the coming weeks developed multiple serious complications including acute renal failure, progressing to chronic liver failure, low blood protein, a blood infection, increased bile in the blood, and ventilator associated pneumonia. Russell was ultimately diagnosed with haemolysis owing to oxidative stress from arsenic toxicity, believed to have arisen due to the fumes he had inhaled from the burning plastic water tank where Russell had taken shelter at the time of fire.¹⁷⁹⁴
30. At some point it became clear that Russell's neurological condition had deteriorated. On 22 November 2019, an MRI scan was undertaken and showed extensive necrosis of white matter in Russell's brain.¹⁷⁹⁵
31. On 20 December 2019, it was noted that Russell was in a severe vegetative state which had not improved for six weeks, and he was dialysis dependent with burns to large areas of his body. It was noted by a senior medical officer that "... given all this I feel the chance of Mr Bratby making a good functional recovery is slim." Following discussions with the Bratby family, Russell was treated as 'not for resuscitation' and transferred to palliative care on 23 December 2019.¹⁷⁹⁶
32. After some seven and a half weeks of hospital admission, Russell was pronounced deceased at 2:09am on 29 December 2019.¹⁷⁹⁷
33. On 13 January 2020, an autopsy was conducted by Dr Rebecca Irvine. It was concluded that Russell's cause of death was best described as 'complications of the effects of fire'.¹⁷⁹⁸

Expert evidence

34. Dr Shuang Fu, a Forensic Pharmacologist/Toxicologist of the NSWPF Pharmacology Services Unit was engaged to provide an expert opinion on the chemical compounds of a polyethylene water tank and polyvinyl chloride (commonly known as PVC) piping and the effects of certain gases and fumes on the human body produced from those materials on combustion.¹⁷⁹⁹
35. In his report, Dr Fu explained that carbon monoxide is reportedly the most common toxic gas released from the combustion of polyethylene, and that Russell's symptoms, including his lack of memory of what had happened and how long he had been in the water tank, may have been consistent with carbon monoxide poisoning.¹⁸⁰⁰
36. Dr Fu noted that polyethylene plastic material may contain heavy metals such as chromium, copper and other pigments, colourants, and additives, which may also explain Russell's elevated urine copper and urine chromium.¹⁸⁰¹
37. In Dr Fu's opinion, Russell may have inhaled a mixture of polyethylene combustion components at a toxic quantity, in addition to possible PVC combustion components which may have caused significant harm to his body.¹⁸⁰²

¹⁷⁹⁴ Exhibit 43, Brief of Evidence at p. 15–16, 32.

¹⁷⁹⁵ Exhibit 43, Brief of Evidence at p. 16.

¹⁷⁹⁶ Exhibit 43, Brief of Evidence at p. 16.

¹⁷⁹⁷ Exhibit 43, Brief of Evidence at p. 9.

¹⁷⁹⁸ Exhibit 43, Brief of Evidence at p. 13–14.

¹⁷⁹⁹ Exhibit 43, Brief of Evidence at p. 67.

¹⁸⁰⁰ Exhibit 43, Brief of Evidence at p. 71.

¹⁸⁰¹ Exhibit 43, Brief of Evidence at p. 71.

¹⁸⁰² Exhibit 43, Brief of Evidence at p. 71.

38. Professor Ian Seppelt, specialist in intensive care medicine, was engaged to review the entirety of Russell's medical records from his treatment at Port Macquarie Hospital and Royal North Shore Hospital. In Professor Seppelt's opinion, Russell was treated appropriately for his burn injury; acute kidney failure; and various complications he suffered including infectious complications developed whilst in hospital. Professor Seppelt was satisfied that Russell's neurological deterioration was investigated and treated appropriately, and once it was clear he had a severe delayed post-hypoxic leukoencephalopathy with minimal chance of meaningful recovery, he was appropriately transitioned to palliative care following discussion with his family.¹⁸⁰³
39. Professor Seppelt identified one 'red flag' from his review of Russell's medical records from the emergency department at Port Macquarie Hospital. A venous blood gas specimen was collected and showed a metabolic acidosis and evidence of a significant inhalation injury. He did not find any evidence in the records that a subsequent arterial blood gas specimen was taken soon after an arterial line was inserted. Professor Seppelt was not convinced staff understood the significance of the results of the venous blood gas which showed significant exposure to carbon monoxide.
40. In Professor Seppelt's opinion, this result required high flow normobaric oxygen via a tightfitting facemask to be provided and continued in the aircraft to Sydney. However, Professor Seppelt stated that treatment for carbon monoxide poisoning is controversial and even if high flow normobaric oxygen was available, it may not have altered the outcome. As a result, no systemic issues warranting recommendations were identified although Professor Seppelt considered that the case could be used as a learning experience for the Port Macquarie Hospital.¹⁸⁰⁴

Section 81 Findings

41. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Russell Bratby.

Date of death

Russell died on 29 December 2019 at 2:09am.

Place of death

Russell died at the Royal North Shore Hospital.

Cause of death

The cause of Russell's death was due to complications of the effects of fire.

Manner of death

Russell died as a result of complications arising from burns he sustained to his body and the inhalation of noxious fumes on 7 November 2019 when the Stockyard Flat, Yarrowitch Fire impacted upon his property at 478 Blomfield Road, Yarrowitch.

42. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made. It is noted that a copy of Professor Seppelt's report will be referred to Port Macquarie Hospital for further consideration as a learning experience for the relatively rare circumstances involved in cases like Russell's, along with a copy of these findings.
43. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Russell's family and loved ones, friends, and community for their loss.

¹⁸⁰³ Exhibit 43, Brief of Evidence at p. 39-4.

¹⁸⁰⁴ Exhibit 43, Brief of Evidence at p. 39-2, 39-4, 39-16, 39-17. In light of Professor Seppelt's comments, it was determined that Port Macquarie Hospital and the doctors involved did not need to be served with sufficient interest letters in relation to the proceedings, nor invited to reply to the matter raised by Professor Seppelt on his review of the medical records.

19. Myall Creek Road, Bora Ridge Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Myall Creek Road, Bora Ridge Fire.

Introduction

2. The Myall Creek Road, Bora Ridge Fire started on 8 November 2019. It burned for approximately six weeks until it was declared 'Out' on 23 December 2019¹⁸⁰⁵. During that time, the Myall Creek Road, Bora Ridge Fire burned in the Richmond Valley LGA, encompassed within the lands of the Galibal and Bundjalung People. It burned approximately 118,574 hectares comprising of 49,898 hectares of private land, 34,142 hectares of State Forest, 33,569 hectares of National Park, and 965 hectares of other land.¹⁸⁰⁶
3. The Myall Creek Road, Bora Ridge Fire impacted several areas, including Myall Creek, Bora Ridge, Bungawalbin, Gibberagee, Whiporie, Tabbimoble, Camira, Marsh, New Italy, West Bungawalbin, Myrtle Creek, Wardell, Coraki, West Coraki, and Swan Bay¹⁸⁰⁷.
4. At least 13 properties were damaged or destroyed and several firefighters suffered injuries, most of which were considered minor, as a result of the Myall Creek Road, Bora Ridge Fire.¹⁸⁰⁸

Chronology of events

5. On the morning of 17 October 2019, Marco Brunato was at his home at 880 Myall Creek Road, Bora Ridge preparing to drive to work when he saw a small amount of smoke coming from a neighbouring property at 780 Myall Creek Road. He noticed the smoke in a low-lying area containing tussocks approximately 400-500 metres from where he was standing on his property (see blue arrow in image below).



6. Given the prevailing weather conditions and the risk of fire, Marco took two photographs of the smoke. On his return home that afternoon, he did not notice any further smoke.¹⁸⁰⁹
7. Several lightning strikes were recorded in the vicinity of Myall Creek Road from 16 October 2019 to 17 October 2019.¹⁸¹⁰

¹⁸⁰⁵ Exhibit 45A, Brief of Evidence at p. 99, 144.

¹⁸⁰⁶ Exhibit 45A, Brief of Evidence at p. 7-9.

¹⁸⁰⁷ Exhibit 45A, Brief of Evidence at p. 2.

¹⁸⁰⁸ Exhibit 45A, Brief of Evidence at p. 9, 109.

¹⁸⁰⁹ Exhibit 45A, Brief of Evidence at p. 5, 111, 205; Transcript for 17 March 2022 T 44:38-47.

¹⁸¹⁰ Exhibit 45A, Brief of Evidence at p. 144-1-144-4.

8. The following day on 18 October 2019, Mr Brunato received a telephone call from his mother advising him that there was a fire burning across their property at 880 Myall Creek Road. Mr Brunato returned home and by that time, the RFS was already on his property managing the Fire, which became known as the Benauds Road, Bora Ridge Fire. Mr Brunato witnessed the Fire which he believed was connected to the smoke he saw the day prior within the property of 780 Myall Creek Road, heading in a northerly direction.¹⁸¹¹
9. Between 18 and 19 October 2019, Mr Brunato saw small amounts of smouldering peat on his property that he would try to put out.¹⁸¹²
10. By 20 October 2019, Mr Brunato recalled that the Benauds Road, Bora Ridge Fire had “calmed down”.¹⁸¹³
11. In the period between 20 October 2019 and 8 November 2019, Mr Brunato recalled that there was no active fire that he observed on the property at 780 Myall Creek Road, and it appeared at least to him that the Fire he first observed on 17 October 2019, the Benauds Road, Bora Ridge Fire, had been extinguished.¹⁸¹⁴
12. Although Mr Brunato had some concerns about smouldering peat on his property at 880 Myall Creek Road in the days after 20 October 2019, he felt there was nothing further he could do as the local fire brigade were monitoring and patrolling the area through the use of helicopters and fire appliances on the ground.¹⁸¹⁵
13. By 29 October 2019, the Benauds Road, Bora Ridge Fire was declared ‘Out’ by the RFS as was recorded on a SITEP of the same date.¹⁸¹⁶ The Court heard evidence in relation to a notation on the SITREP ‘*FLIR run 09:30hrs 28/10/19 detected no hotspots.*’ This suggested that an infrared camera likely from an aerial platform was used to detect ground fire or any hotspots along the fireground. In relation to the use of the term ‘Out’ in a SITREP, the Court heard further evidence that it means there is no active fire on the Fireground, and it has been taken off the patrol status where it would be regularly monitored. It does not exclude the possibility that there may be smouldering peat.¹⁸¹⁷
14. On 8 November 2019 at 3:06pm, a further RFS SITREP was generated recording that a fire, the Myall Creek Road, Bora Ridge Fire, was authorised as ‘Going’ following a number of reports of the Fire to 000.¹⁸¹⁸ It had started on the property at 780 Myall Creek Road.¹⁸¹⁹
15. At that time, local RFS crews were committed to other fires in Coraki and Busbys Flat. Resources were procured from FRNSW with the first fire appliance arriving approximately 35 minutes after the initial call.¹⁸²⁰
16. By approximately 4:00pm, several properties were destroyed on Myall Creek Road and Bloodwood Drive.¹⁸²¹
17. Firefighters continued to work into the evening of 8 November 2019 until the early morning on 9 November 2019 to contain the Myall Creek Road, Bora Ridge Fire from spreading in a northerly direction under the influence of a south-easterly wind change.¹⁸²²
18. On 9 November 2019, there was increased activity in the north-west of the Myall Creek Road, Bora Ridge Fire with fire spotting over containment lines.¹⁸²³
19. By 12 November 2019, the Myall Creek Road, Bora Ridge Fire had intensified and spread significantly under strong winds. By the early evening, it started spotting towards the Pacific Highway.¹⁸²⁴

¹⁸¹¹ Exhibit 45A, Brief of Evidence at p. 111, 114; Transcript for 17 March 2022 T 46:1-9.

¹⁸¹² Transcript for 17 March 2022 T 48:22-27.

¹⁸¹³ Transcript for 17 March 2022 T 48:22-27.

¹⁸¹⁴ Transcript for 17 March 2022 T 47:23-31.

¹⁸¹⁵ Transcript for 17 March 2022 T 48:11-44.

¹⁸¹⁶ Exhibit 45A, Brief of Evidence at p. 117.

¹⁸¹⁷ Transcript for 17 March 2022 T 37:45-50; Transcript for 17 March 2022 T 38:1-33.

¹⁸¹⁸ Exhibit 45A, Brief of Evidence at p. 112-1, 112-3, 119.

¹⁸¹⁹ Exhibit 45A, Brief of Evidence at p. 7.

¹⁸²⁰ Exhibit 45A, Brief of Evidence at p. 82.

¹⁸²¹ Exhibit 45A, Brief of Evidence at p. 82, 91.

¹⁸²² Exhibit 45A, Brief of Evidence at p. 82.

¹⁸²³ Exhibit 45A, Brief of Evidence at p. 91.

¹⁸²⁴ Exhibit 45A, Brief of Evidence at p. 92.

20. From 13 November 2019 to 23 November 2019, the Myall Creek Road, Bora Ridge Fire had significant activity. It continued to break containment lines and damaged further property despite tactical back burning operations, aerial support, and heavy plant engaged to construct containment lines.¹⁸²⁵
21. On 17 November 2019, the Myall Creek Road, Bora Ridge Fire merged with the Busbys Flat Fire to the north-west.¹⁸²⁶ By around 22 November 2019, it had merged with the Banyabba Fire to the south-west.¹⁸²⁷
22. By 25 November 2019 at around 6:00am, the Myall Creek Road, Bora Ridge Fire broke containment lines on the east side, which had been worked on for several days, and spotted further south. The fire was out of control by this point with aircraft deployed to deal with the outbreak however containment was not considered likely at that time.¹⁸²⁸
23. By 26 November 2019, the Myall Creek Road, Bora Ridge Fire merged with the Washpool State Forest, Coombadjha Fire to the west.¹⁸²⁹
24. The Myall Creek Road, Bora Ridge Fire continued to burn and on 17 December 2019, it moved to 'Contained' status due to firefighting efforts.¹⁸³⁰
25. On 23 December 2019, the Myall Creek Road, Bora Ridge Fire was declared 'Out' due to favourable weather conditions and extensive containment.¹⁸³¹ The full extent of the Fire and associated fires on this day is demonstrated in the image below:



¹⁸²⁵ Exhibit 45A, Brief of Evidence at p. 92–95.

¹⁸²⁶ Exhibit 45A, Brief of Evidence at p. 134.

¹⁸²⁷ Exhibit 45A, Brief of Evidence at p. 139.

¹⁸²⁸ Exhibit 45A, Brief of Evidence at p. 95.

¹⁸²⁹ Exhibit 45A, Brief of Evidence at p. 143.

¹⁸³⁰ Exhibit 45A, Brief of Evidence at p. 95–98.

¹⁸³¹ Exhibit 45A, Brief of Evidence at p. 99, 144.

Cause and origin

26. In November 2019, a cause and origin investigation was conducted by RFS AFI Mark Mulheron in relation to the Myall Creek Road, Bora Ridge Fire. Mr Mulheron also “*looked over the fire from 17/10/19*”, referring to the Benauds Road, Bora Ridge Fire, but he was not tasked to investigate that fire.¹⁸³²
27. In that regard, Mr Mulheron gave evidence that RFS AFI Peter Arthur was tasked to investigate the likely cause and origin of the Benauds Road, Bora Ridge Fire. Following his investigation on 21 October 2019, Mr Arthur found that on 17 October 2019, the cause and origin of the Benauds Road, Bora Ridge Fire was lightning strike within private property at 780 Myall Creek Road, noting evidence of lightning activity in that area at the time.¹⁸³³
28. Returning to the Myall Creek Road, Bora Ridge Fire, Mr Mulheron attended 780 Myall Creek Road on three occasions; 17, 19 and 20 November 2019.¹⁸³⁴ Mr Mulheron described the general area of origin of the Myall Creek Road, Bora Ridge Fire as a slightly wooded area surrounded by open paddocks and a tea tree plantation.¹⁸³⁵ Mr Mulheron indicated in evidence that the area of origin in relation to the Myall Creek Road, Bora Ridge Fire was on the same parcel of land as the Benauds Road, Bora Ridge Fire but the Myall Creek Road, Bora Ridge Fire was found to have re-ignited in a different location within that land.¹⁸³⁶
29. Mr Mulheron identified a peat bed to the rear of the fireground and found evidence of a reignition of fire from that peat bed.¹⁸³⁷ Mr Mulheron found evidence of deep-seated fire activity in the nearby previously burnt area with smoke being produced from tree roots within that burnt area.¹⁸³⁸
30. In relation to the cause of the Myall Creek Road, Bora Ridge Fire, in Mr Mulheron’s opinion, it was the prevailing weather conditions that exacerbated an already smouldering ground fire causing the Myall Creek Road, Bora Ridge Fire to rekindle and re-ignite from smouldering peat.¹⁸³⁹ Mr Mulheron was able to exclude other potential causes of ignition including human involvement and lightning strikes.¹⁸⁴⁰
31. Richard Woods, Adjunct Lecturer in Wildfire Investigation and former Inspector, Superintendent and Acting Deputy Chief Officer of the ACT and NSW RFS, was engaged to provide an expert report in relation to the Myall Creek Road, Bora Ridge Fire. Mr Woods did not conduct a scene investigation however provided his report based on a documentary review of the NSWPF and civilian statements, RFS reports, lightning strike and weather data, and photographs.¹⁸⁴¹
32. Mr Woods gave evidence of the complexity and difficulty of managing peat fires as in many instances they do not emit smoke, heat and/or a flame. Peat consists of semibroken down or degrading vegetation which is often found in waterlogged or water evident areas. Peat can be thick and run meters deep and can burn at a very slow rate for prolonged periods. Peat fires may burn, undetected, for many days, weeks, or months until conditions, most notably wind, allow flames to emerge from the peat.¹⁸⁴²

¹⁸³² Exhibit 45A, Brief of Evidence at p. 24; Transcript for 17 March 2022 T 31:27-29.

¹⁸³³ Exhibit 45A, Brief of Evidence at p. 70-150 – 79-153; Transcript for 17 March 2022 T 32:8-33.

¹⁸³⁴ Exhibit 45A, Brief of Evidence at p. 24.

¹⁸³⁵ Transcript for 17 March 2022 T 30:7-13.

¹⁸³⁶ Transcript for 17 March 2022 T 33:14-23

¹⁸³⁷ Transcript for 17 March 2022 T 30:7-13; Transcript for 17 March 2022 T 31:21-25.

¹⁸³⁸ Exhibit 45A, Brief of Evidence at p. 24.

¹⁸³⁹ Transcript for 17 March 2022 T 32:47-50; Transcript for 17 March 2022 T 33:1-3; Transcript for 17 March 2022 T 34:21-28. Although Mr Mulheron referred to the term ‘debris burning’ in his Fire Investigation Report, in oral evidence he agreed he was referring to smouldering peat; see Transcript for 17 March 2022 T 34:21-28.

¹⁸⁴⁰ Exhibit 45A, Brief of Evidence at p 24–25; Transcript for 17 March 2022 T 33:25-41.

¹⁸⁴¹ Transcript for 17 March 2022 T 53:14-21; Exhibit 45A, Brief of Evidence at p. 79-38.

¹⁸⁴² Transcript for 17 March 2022 T 53:3-33.

33. Mr Woods added that the complexity of managing peat fires is exacerbated by the limited options available to prevent peat fires from spreading. Mr Woods gave evidence that the best strategy is to flood an area where a peat fire is burning; however, he noted that this is not always an option, particularly during firefighting operations as the amount of water required would be prohibitive.¹⁸⁴³
34. Ultimately, Mr Woods agreed with the conclusions reached by Mr Mulheron, that the Myall Creek Road, Bora Ridge Fire escaped from a previously burning area of peat at 780 Myall Creek Road and occurred secondary to the Benauds Road, Bora Ridge Fire, which started, most likely due to lightning strike, on 17 October 2019 on the same parcel of land.¹⁸⁴⁴

Section 81 Findings

35. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Myall Creek Road, Bora Ridge Fire commenced on 8 November 2019 on private property at 780 Myall Creek Road, Bora Ridge.

The Myall Creek Road, Bora Ridge Fire was caused by smouldering peat which escaped on 8 November 2019 due to strong wind and unfavourable fire weather conditions. The cause of the smouldering peat was a lightning strike that occurred on or about 17 October 2019.

36. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹⁸⁴³ Transcript for 17 March 2022 T 52:35-46.

¹⁸⁴⁴ Exhibit 45A, Brief of Evidence at p. 79-25; Transcript for 17 March 2022 T 53:23-50; Transcript for 17 March 2022 T 54:1-28.

20. Rumba Complex, Dingo Tops Road (Tapin Tops National Park) Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Rumba Complex, Dingo Tops Road (Tapin Tops National Park) Fire.

Introduction

2. The Rumba Dump Fire was first reported to authorities on 18 October 2019.¹⁸⁴⁵ It originated in rugged, mountainous terrain within the Tapin Tops National Park, north-west of Wingham, encompassed within the MidCoast LGA and the lands of the Biripi People.
3. On 15 November 2019, the Rumba Dump Fire merged with the Thunderbolts Way, Bretti Fire and Riley Creek Trail Fire (which themselves had earlier merged between 9 – 11 November 2019) and was thereafter renamed the Rumba Complex Fire.¹⁸⁴⁶
4. The Rumba Complex Fire was declared ‘Out’ on 24 January 2020, after burning for approximately 14 weeks.¹⁸⁴⁷ The fire damaged an area of approximately 153,200 hectares within the Tapin Tops National Park, Dingo State Forest and beyond.¹⁸⁴⁸ At least 134 structures were destroyed, including many homes in the villages of Bobin, Caffreys Flat and Caparra. The historic primary school of Bobin, built in 1883, was also severely damaged by the Fire.

Chronology of events

5. On 16 October 2019, an electrical thunderstorm passed through the area where the Rumba Dump Fire originated. Lightning strike data recorded some 67 lightning strikes in the area within the space of two hours, namely between approximately 7:29pm and 8:44pm.¹⁸⁴⁹
6. On 17 October 2019, there was light rainfall in the area.
7. On 18 October 2019, Colin Temple, NPWS Supervising Field Officer for the Manning-Great Lakes area was on duty in the Tapin Tops National Park. He was working on a tractor at the Boot Hill Forestry Camp. Around 10:00am, Mr Temple spotted some smoke down a gully about 2 kilometres north-west from the camp along Dingo Tops Road.¹⁸⁵⁰
8. Mr Temple investigated and is the first eyewitness to the Rumba Dump Fire. He observed the Fire was burning in very dense ‘viney’ country which was difficult to access and was about 10 x 8 metres in size at the time.¹⁸⁵¹

¹⁸⁴⁵ Exhibit 46A, Brief of Evidence at p. 7, 63.

¹⁸⁴⁶ Exhibit 46A, Brief of Evidence at p. 105h – 105i.

¹⁸⁴⁷ Exhibit 46A, Brief of Evidence at p. 103.

¹⁸⁴⁸ Exhibit 46A, Brief of Evidence at p. 103.

¹⁸⁴⁹ Exhibit 46A, Brief of Evidence at p. 25-24.

¹⁸⁵⁰ Exhibit 46A, Brief of Evidence at p. 63.

¹⁸⁵¹ Exhibit 46A, Brief of Evidence at p. 63.

9. The approximate location of the Fire is demonstrated in the figure below:



10. Mr Temple had the presence of mind to look for indications of what might have caused the Fire. He didn't see any evidence of lightning strike. There had been rain the previous day and so he inspected Dingo Tops Road near the Fire's origin looking for any tyre or horse tracks. He found that there was nothing visible which might have suggested human presence in the vicinity of the Fire.¹⁸⁵²
11. Mr Temple reported the Fire to a colleague by radio and a small team was marshalled to fight the Fire with Mr Temple, assisted by two water-bucketing helicopters.

¹⁸⁵² Exhibit 46A, Brief of Evidence at p. 64.

12. At 11:08am, the Rumba Dump Fire was authorised as 'Going' and managed by the NPWS.¹⁸⁵³ At 1:08pm, Wendy Smith of the RFS, performing the role of Air Observer, took an aerial photograph of the nascent fire, which shows its proximity to Dingo Tops Road.¹⁸⁵⁴



13. According to Mr Temple, by the end of 18 October 2019, he thought that the Fire was under control. However, when he returned to the scene the next morning, on 19 October 2019, the Fire had in fact spread a further 200 metres beyond containment.¹⁸⁵⁵ Despite efforts to contain the Fire, it continued to spread in the days that followed.
14. The Rumba Dump Fire was not the only fire burning within the vicinity during October and November 2019 and the months that followed. At different times in October and November 2019, several other fires were burning in relative proximity, including:
- the Riley Creek Trail Fire to the south;
 - the Thunderbolts Way Fire to the east (each of which later merged with the Rumba Dump Fire resulting in the renamed Rumba Complex Fire);
 - the Lyrebird Fire to the north-west;
 - the Coombes Fire to the north; and
 - the Reserves Road Fire to the north-east.
15. Still within the MidCoast and Port Macquarie-Hastings Council areas, other fires such as the Hillville Fire and Failford Road, Darawank Fire also presented threats to large population centres.¹⁸⁵⁶

¹⁸⁵³ Exhibit 46A, Brief of Evidence at p. 100.

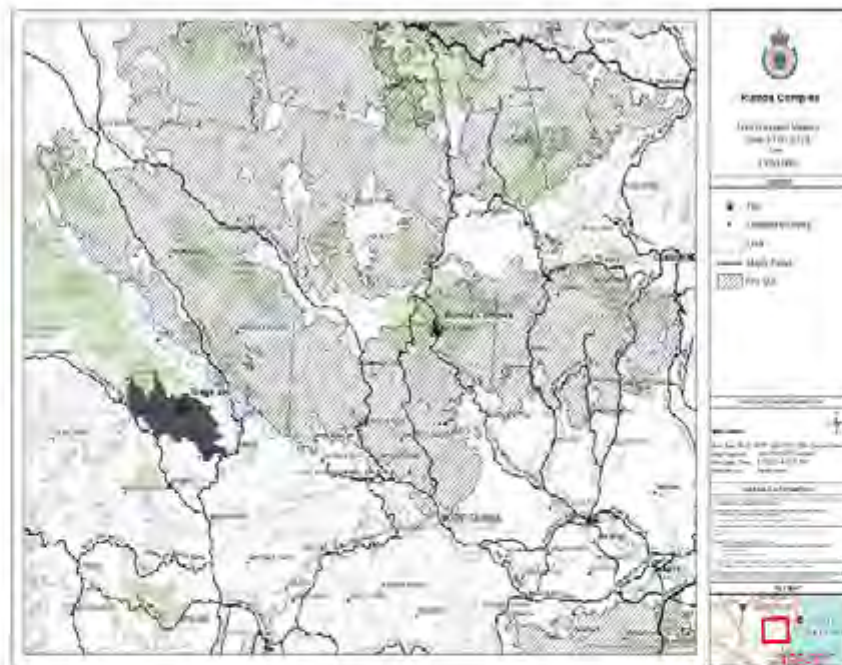
¹⁸⁵⁴ Exhibit 46A, Brief of Evidence at p. 110.

¹⁸⁵⁵ Exhibit 46A, Brief of Evidence at p. 64.

¹⁸⁵⁶ Exhibit 46A, Brief of Evidence at p. 80–98.

16. Those charged with responsibility for coordination of firefighting efforts faced difficult decisions in allocating limited firefighting resources to the areas which faced the greatest risk of harm. In many cases, efforts were prioritised on immediate, heavy-weighted responses to new fires rather than established fires in order to avoid new fires becoming large, complex, and problematic and to restrict fire impact and spread.
17. In the context of police resourcing, DCI Rodney Blackman, attached to the Manning-Great Lakes Police District told the Court that his role was to manage the NSWPF investigation into crimes and coronial matters within the district but:

'Given the nature of these devastating bushfires and the impact on both the human and property toll, it became a situation where all the resources available to Manning-Great Lakes were absorbed into our fundamental obligation to saving life, and secondary obligation which is saving property. So all police and resources were drawn into that, myself included, to be operational during this period'.¹⁸⁵⁷
18. DCI Blackman further commented that the NSWPF were deployed *'trying to evacuate houses, notify people of the dangers and responding to the requests that were coming in, in aplenty'*.¹⁸⁵⁸
19. At 1:50pm on 26 October 2019, a section 44 declaration was made, ceding to the RFS the operational response for all bushfires burning generally in the MidCoast and Port Macquarie-Hastings LGAs, of which the Rumba Dump Fire was a part.¹⁸⁵⁹
20. The Rumba Dump Fire made a significant run between 9 – 11 November 2019, impacting largely residential homes in Caparra, Bobin, Killabakh, Strathcedar and Wherrol Flat. Meanwhile, fire progression mapping demonstrated that to the south-west of the Rumba Dump Fire, the Thunderbolts Way, Brettie Fire had merged with the Riley Creek Trail Fire and the Hillville Fire had also commenced.
21. On 15 November 2019, the Rumba Dump Fire merged with the previously merged Thunderbolts Way Fire and Riley Creek Fire and was thereafter managed under the name 'Rumba Complex Fire'.¹⁸⁶⁰
22. It was not until towards the end of December 2019, the Rumba Complex Fire was 'Contained' and on 24 January 2020, it was recorded as 'Out'.¹⁸⁶¹ The final extent of the Fire is demonstrated in the figure below:



¹⁸⁵⁷ Transcript for 21 March 2022 T 8:31-39.

¹⁸⁵⁸ Transcript for 21 March 2022 T 10:50-6.

¹⁸⁵⁹ Exhibit 46A, Brief of Evidence at p. 67-79.

¹⁸⁶⁰ Exhibit 46A, Brief of Evidence at p. 11, 42.

¹⁸⁶¹ Exhibit 46A, Brief of Evidence at p. 103.

Cause and origin

23. There was no cause and origin investigation of the Rumba Dump Fire by the RFS.

Police Investigation

24. Officers from the NSWPF FETS undertook a scene investigation on 19 May 2020, seven months after the Fire started.
25. DCI Blackman was asked about the reasons for this delay in his evidence. He noted the hazards of access to the area of origin as a result of fire damage (fallen trees) as well as its remote location and the limited availability of FETS.¹⁸⁶² That is, there were a very large number of fires to be investigated and only a limited pool of investigators to complete the work.
26. Present at the scene investigation on 19 May 2020 were trained fire investigator, SC Gerry Kemp, from FETS in Lismore, SC Michael Nemeth, DS David Frith, and Mr Temple, who was the NPWS Supervising Field Officer who first observed the Rumba Dump Fire on 18 October 2019.
27. Mr Temple guided the party to the area where he first observed the Fire on 18 October 2019.
28. SC Kemp's analysis of remaining fire indicators at the scene, along with Mr Temple's anecdotal observations, suggested the Fire originated in the general vicinity of the spur ridge. The remaining fire indicators demonstrated the Fire then moved rapidly uphill from the gullies to Dingo Tops Road and further uphill. However, the scene investigation was hampered by the fact that there had been substantial regrowth in the intervening seven-month period which limited the ability to identify other potential fire indicators.¹⁸⁶³
29. At or close to the point where Mr Temple first observed the Fire, SC Kemp identified a large, dead tree that had fallen free of its heavily charred stump on a spur ridge between two steep gullies which ran from the valley floor up to an access path along which the party accessed the scene from Dingo Tops Road.¹⁸⁶⁴
30. Having observed the fallen tree, SC Kemp was unable to determine whether it had been affected by lightning strike.¹⁸⁶⁵
31. SC Kemp next considered a nearby tree which, in his view, might have displayed an area of damage arising from lightning strike.¹⁸⁶⁶
32. SC Kemp did not find any evidence of human intervention at the scene, but I note, his investigation took place many months after the Fire. The best evidence as to the absence of human activity impacting upon the cause of the Fire remains the evidence of Mr Temple.
33. SC Kemp returned to the fire scene on 5 January 2022 at the request of the Counsel Assisting team to re-confirm the coordinates of the fallen tree where the Fire was suspected to have originated. This was important because lightning strike data suggested the presence of lightning in the general area on 16 October 2019.

Expert Report

34. Richard Woods AFSM provided an expert report at the request of the Court and gave oral evidence. Mr Woods' qualifications and roles include adjunct lecturer in wildfire investigation at Charles Sturt University, Chair of the International Association of Arson Investigators, International Association of Fire Investigators and Director of Wildfire Investigations and Analysis, an international wildfire consultancy.

¹⁸⁶² Transcript for 21 March 2022 T 13:28-36.

¹⁸⁶³ Exhibit 46A, Brief of Evidence at p. 38.

¹⁸⁶⁴ Exhibit 46A, Brief of Evidence at p. 28.

¹⁸⁶⁵ Exhibit 46A, Brief of Evidence at p. 38.

¹⁸⁶⁶ Exhibit 46A, Brief of Evidence at p. 30.

35. While he did not undertake a scene examination himself, on a document review Mr Woods was able to form an opinion that the cause of the Rumba Dump Fire was lightning strike. He had regard to the photographs taken by SC Kemp. In particular, Mr Woods placed emphasis on the photos of the large tree which had fallen over, leaving behind a burnt trunk. He concluded that the inner wood had burnt at a very high temperature, burning through to the surface of the trunk at two points. Mr Woods was of the opinion that the tree had burnt for some time while still standing and continued to burn after falling over.¹⁸⁶⁷
36. The photographs below of the tree's stump showed it had been fully consumed internally, causing the trunk to fall.¹⁸⁶⁸ There were unburnt external sections of the trunk, some of which were still angled towards the direction the trunk fell. The unburnt sections suggested the Fire had consumed the available fuel on the ground by the time the trunk fell such that after it fell, the Fire moved to another area and did not impact the unburnt section of the remaining stump.



Figure 2. Image of remnant section of the fallen tree trunk. Note the fractured and fire damaged tree to the immediate right of the downed tree trunk, highlighted by a green arrow. This suggests the larger tree fell while still burning, splintering the smaller tree trunk to the right and then subjecting it to radiant heat damage. Additionally, this image demonstrates the intensity of the fire damaged vegetation in the immediate vicinity of the downed tree, however the vegetation in the background of the image further down the ridge appears to have green foliage intact, suggesting the Specific Origin Area was not in the valley floor area. (Refers to Photos- 4.4. Other photographs taken by SC Kemp (IMS ID- 637609-0004))



Figure 3. Image of remnant section of the stump of the fallen tree. Note the fire fully consumed the inner sections of trunk (highlighted by green arrows). This suggests the heartwood timber was susceptible to fire along with outer layers of bark, weakening the support of the tree resulting in its failure. This image also shows the fresh fractured timber (orange arrows) was not fire damaged suggesting fire had already left this area after the tree fell (Refers to Statement of Gerry Kemp, FETS Senior Constable, NSW Police 'Photograph 2 page 4')

¹⁸⁶⁷ Exhibit 46A, Brief of Evidence at p. 25-8, 25-9.

¹⁸⁶⁸ Exhibit 46A, Brief of Evidence at p. 25-12.

37. Fire indicators including angle of char and a vortex effect suggested the Fire burnt uphill from the fallen tree towards Dingo Tops Road. This is demonstrated in the photograph below.



Figure 5. Image shows Angle of Char, red overlay arrows at Advancing Fire Pattern Indicator confirming the Fire Progression from the lower side of this image to the top; Lateral Fire Pattern Indicator from centre to left (Refers to Statement of Gerry Kemp, FETS Senior Constable, NSW Police: 'Photograph 9 page 12').

38. As for the tree nearby to the burnt-out stump that SC Kemp thought might have displayed evidence of lightning strike damage, Mr Woods took a different view. He thought the tree had the appearance of fire having climbed up the fibrous bark trunk to produce the charred effect that SC Kemp had observed.¹⁸⁶⁹ This is evident in the photograph below.



Figure 4. Image of fire damaged section of standing tree (highlighted by green arrows) referred to by Senior Constable Kemp, which shows continuation of the burnt bark from below (highlighted by red arrow), a result of fire travelling vertically up the external section of bark. (Refers to Statement of Gerry Kemp, FETS Senior Constable, NSW Police: 'Photograph 3 page 5').

39. Mr Woods further told the Court that 'traditionally when a large tree is struck by lightning, it also has a mechanical impact, and that will see the fracturing of the timber and in particular, large limbs being dropped and so forth. There doesn't appear to be any fracturing of the trunk layer in that image' taken by SC Kemp.¹⁸⁷⁰

¹⁸⁶⁹ Exhibit 46A, Brief of Evidence at p. 25-12; Transcript for 21 March 2022 T 20:29-31.

¹⁸⁷⁰ Transcript for 21 March 2022 T 20:38-43.

40. Thus, the evidence raised the prospect of lightning strike as a cause of the Rumba Dump Fire, although the location of the strike was not agreed between SC Kemp and Mr Woods.
41. Regardless, and as a result of his review of the photos, Mr Woods asked for lightning strike data for the month prior to the Fire being observed near Dingo Tops Road. This was because, as he told the Court, a fire caused by lightning strike can burn for weeks if not months before it is noticed.¹⁸⁷¹
42. This data revealed a number of lightning strikes across the previous month with the closest strike to the suspected area of origin for the Fire occurring on 16 October 2019. On that day, some 67 strikes were recorded, however, none of these were in the precise location where Mr Temple had first observed the Fire, with the nearest strike recorded some one and a half kilometres away.¹⁸⁷²
43. Mr Woods told the Court '*lightning strike detection systems are not infallible. It's stated that they record between 80 and 90% of all lightning strikes and some therefore are not recorded.*'¹⁸⁷³ He referred to other factors or parameters that may affect the reliability of strike data, including distance from Sydney affecting the degree of variance between where a strike is recorded and where it in fact struck, and mountainous terrain.¹⁸⁷⁴
44. As to the fact Mr Temple himself had not observed evidence of lightning strike when he attended the scene of the Fire, Mr Woods suggested that the suspect tree may have already fallen over by the time Mr Temple attended the scene.¹⁸⁷⁵
45. Whilst the Fire was yet in its incipient stages when Mr Temple first saw it, Mr Woods placed emphasis on the fact that there was rainfall on 17 October 2019, that the area was 600 metres above sea level and in an east to south-easterly forested slope. In his view, these factors would have inhibited the rate of spread and intensity of the Fire even after the damaged tree fell.¹⁸⁷⁶
46. In his report, Mr Woods eliminated other potential causes of the Rumba Dump Fire for lack of evidence, including campfire, smoking, incendiary/deliberate, juvenile/children, debris burning, equipment use, railway and miscellaneous human activity (such as fireworks, cutting, welding, and grinding, firearms use, and glass refraction). In forming these opinions, Mr Woods took into account the remoteness of the location including the ruggedness of the bushland making it difficult to access by foot and impossible to access by vehicle.¹⁸⁷⁷
47. Ultimately, Mr Woods was prepared to go further than SC Kemp, and conclude that the cause of the Fire was as a result of lightning strike in the area where Mr Temple first observed the Fire.¹⁸⁷⁸

Section 81 Findings

48. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Rumba Complex, Dingo Tops Road (Tapin Tops National Park) Fire commenced on the evening of 16 October 2019 in a gully broadly east of Dingo Tops Road in the Tapin Tops National Park.

The cause of the Rumba Complex, Dingo Tops Road (Tapin Tops National Park) Fire is lightning strike to a tree in the area on 16 October 2019.

49. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹⁸⁷¹ Transcript for 21 March 2022 T18:49–19:3.

¹⁸⁷² Exhibit 46A, Brief of Evidence at p. 25-24, 25-25.

¹⁸⁷³ Transcript for 21 March 2022 T 21:29-31.

¹⁸⁷⁴ Transcript for 21 March 2022 T 21:36-49.

¹⁸⁷⁵ Transcript for 21 March 2022 T 19:43-49.

¹⁸⁷⁶ Transcript for 21 March 2022 T 20:15-23.

¹⁸⁷⁷ Exhibit 46A, Brief of Evidence at p. 25-18–25-21.

¹⁸⁷⁸ Exhibit 46A, Brief of Evidence at p. 25–27.

21. Bills Crossing, Crowdy Bay Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Bills Crossing, Crowdy Bay Fire.

Introduction

2. The Bills Crossing, Crowdy Bay Fire started on 26 October 2019. It burned for approximately nine weeks until it was declared 'Out' on 26 December 2019. During that time, it impacted approximately 13,400 hectares in the MidCoast LGA, encompassed within the lands of the Biripi People. The Cattai Wetlands are reported to have sustained significant damage, both environmental and structural, requiring the wetlands to be closed to the public for a year. It is also reported that a staggering 84% of the Crowdy Bay National Park, approximately 9,000 hectares, was impacted by the Fire, including a large area of critical koala habitat.
3. Six properties were damaged, and two houses were destroyed, including Kylie's Hut, a historic small hut and former residence of Australian author Kylie Tennant during the 1940s, donated to the National Park as a retreat for writers and the community.
4. While these findings are limited to the cause and origin of the Bills Crossing, Crowdy Bay Fire, it should be noted that on 8 November 2019, Julie Fletcher died in connection with this Fire. The circumstances of Julie's death is considered briefly in these findings. Separate, and more detailed, findings into the manner and cause of Julie's death are located in Section 22 following.¹⁸⁷⁹

Chronology of events

5. On 26 October 2019, Rowan Lund, RFS AAS and Jason Oliver, Pilot in Command were on duty in aircraft Birddog 376. They were engaged in various firefighting operations, relating to the Carrai Creek, Schultz Rd, Muck Creek Rd, and Failford Rd, Darawank Fires.

¹⁸⁷⁹ Exhibit 48, Brief of Evidence at p. 3–4.

6. At around 5:53pm, as they headed south to the Failford Rd, Darawank Fire to continue line building efforts, Mr Lund states that they observed a column of smoke in bushland due west of Crowdy Head, adjacent to Cattai Creek, on the east side of the waterway, near the junction of Two Mile Creek (see image below).¹⁸⁸⁰ This is some 47 minutes after a suspected lightning strike is believed to have struck that area.¹⁸⁸¹



7. At 6:03pm, Mr Lund reported the fire to the RFS IC at the time, Kam Baker. Another aircraft, Bomber 138, was re-tasked to drop a load of gel at the location of the Fire. It delivered its first drop at 6:36pm, and the remainder shortly thereafter. A further aircraft, Bomber 165, deployed its load at about 6:55pm. Unfortunately, these attempts were unsuccessful in extinguishing the Fire and on account of the ensuing darkness of the night, the aircraft all returned to base at Coffs Harbour.
8. Between 28 and 29 October 2019, on account of the wind and the Fire burning predominantly in heathland, the Fire was mapped as making multiple rapid runs in different directions, spreading approximately 2.5 kilometres to the south-southeast, before spreading approximately 3-4 kilometres south-southeast.¹⁸⁸² The fire impacted the Crowdy Bay National Park and encroached on the Harrington township. RFS vigorously directed their efforts towards property protection in the area and to slowing the progress of the Fire overnight.
9. Over the next week, firefighting crews and aircraft worked to strengthen containment lines near Harrington which were ultimately effective in largely preventing the Fire from impacting residences in this location, and the Fire had burnt some 2 kilometres north.
10. On 7 November 2019, the Fire took another significant run, spreading approximately 5 to 6 kilometres to the east-southeast, again tearing through the National Park and then some 1.5 to 2 kilometres towards Coralville Road, Coralville.
11. The following day, 8 November 2019, the Fire was initially mapped as spreading slowly north. By mid-afternoon, the Fire commenced a significant rapid spread to the north-east towards Diamond Head. Between 1:32pm and 6:59pm, the Fire was mapped as spreading a staggering 7 kilometres in approximately three hours. The fire then spread 2 to 3 kilometres to the north-west into the evening and into the early morning of 9 November 2019. During this period, the Fire impacted the locality of Johns River and Ms Fletcher's property, where she tragically died.¹⁸⁸³

¹⁸⁸⁰ Exhibit 47A, Brief of Evidence at pp. 95, 97.

¹⁸⁸¹ Exhibit 47A, Brief of Evidence at p. 12.

¹⁸⁸² Exhibit 47A, Brief of Evidence at p. 88.

¹⁸⁸³ Exhibit 48, Brief of Evidence at p. 167-172.

12. In the seven weeks thereafter, the Fire was largely either mapped as 'not spreading but continuing to remain active' and/or 'remaining relatively stationary' and/or 'not progressing', providing opportunity for firefighting efforts to prevail.
13. At 9:06am on 26 December 2019, the Fire was authorised as 'Out'.¹⁸⁸⁴ The final extent of the Fire is demonstrated in the figure below.



Figure 151. Bills Crossing Crowdy Final Burnt area 0906, 26/12/2019 (1:100,000 scale)

¹⁸⁸⁴ Exhibit 47A, Brief of Evidence at p. 82, 92.

Cause and origin

14. On 11 November 2019, a cause and origin scene investigation was carried out by fire investigator Mark Fullagar, Operations Officer from the RFS.
15. Mr Fullagar attempted to access the location of the suspected lightning strike by entering the Cattai Wetlands off Springhill Road by car, and then walking to the location. He was unable to progress more than 500 metres from his car due to the thick vegetation and terrain. Nonetheless, Mr Fullagar states that he observed indicators on the drive to the area indicative of the Fire having travelled from the area in a south and south easterly direction into the township of Harrington.
16. Following his investigation, including review of lightning data, linescans and fire mapping, Mr Fullagar concluded that the Bills Crossing, Crowdy Bay Fire was caused by a lightning storm that passed through the area on the afternoon of 26 October 2019.
17. Mr Fullagar told the Court that he was able to exclude other possible causes of the ignition and lightning was the only confident source of initiation due to the inaccessibility of the area.¹⁸⁸⁵
18. On 21 May 2020, SC Gerry Kemp and SC Michael Nemeth, NSWPF Crime Scene Officers attached to the FETS, Lismore Crime Scene Section also attempted to attend the suspected area of origin of the Fire. They were some 2 kilometres from the estimated area of origin when they terminated their investigation on account of the suspected area of origin not being accessible on foot. SC Kemp reported that, by this time, heavy and abundant ground cover regrowth and tree regrowth was evident in the surrounding vegetation and there were no indications of wildfire direction or movement.

Section 81 Findings

19. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Bills Crossing, Crowdy Bay Fire was caused by a lightning strike on 26 October 2019.

The Bills Crossing, Crowdy Bay Fire commenced on the afternoon of 26 October 2019 in bushland in the Cattai Wetlands, near Cattai Creek, some 3.5 kilometres east of Cooperbrook.
20. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹⁸⁸⁵ Transcript for 21 March 2022 T 32:15-16.

22. Julie Fletcher

Why was an inquest held?

1. In this inquest, Julie Fletcher's identity is known, as is the date and place of her death. For this reason, the inquest into Julie's death focused on the manner and cause of her death.

Introduction

2. Julie Fletcher, the middle sister of three siblings, was 63 years old when she died at around 11:05pm on Friday, 8 November 2019 on a property located at, 232 Wharf Rd, Johns River, due to the effects of fire, in connection with the Bills Crossing, Crowdy Bay Fire.
3. Julie's property, known as 'Johns River', was Julie's 'peaceful space'. It was the residence of her late father, Brian Fletcher. In around 2010, Julie moved from Lismore to Johns River to reside with her father so that she could provide him with care and assistance, which she did until the time of his passing in 2012. Subsequently, Julie remained at the property.¹⁸⁸⁶
4. The property was around 120 acres in size, approximately half of which consisted of a grazing paddock and the homestead, which had originally been built by Julie's father. The other half of the property consisted of swamp forest. The property adjoined Crowdy Bay National Park to the east and south of the property.¹⁸⁸⁷
5. It is clear from the statements prepared by the loved ones and friends of Julie that she is fondly revered and remembered as a compassionate, caring, positive and easy-going person with good humour, sensitivity, vulnerability, and strength.¹⁸⁸⁸
6. Julie loved all creatures great and small, and cared for many animals on her property, namely, two beloved pet cats named 'Bonnie' and 'Clyde', and livestock including, cattle, namely 'Garry' the bull and Nick the 'retired trotter', as well as a miniature horse named 'Mr Big', and chickens.¹⁸⁸⁹ Julie was known to care about her animals as much as she did people.¹⁸⁹⁰
7. In the years prior to 2019, Julie suffered from some serious health issues, however, she had overcome those challenges and was living a healthy, meaningful life.¹⁸⁹¹

Chronology of events

8. The Bills Crossing, Crowdy Bay Fire had been burning since 26 October 2019. It is believed to have commenced in the Cattai Wetlands, east of the Crowdy Bay National Park, approximately 12 kilometres south of Julie's home.¹⁸⁹²
9. Julie's sister, Daintry Gerrand, who lived on the same road as Julie, stated that they both had been concerned and conscious of the risk of the Fire as their properties adjoined the Crowdy Bay National Park.¹⁸⁹³
10. It is understood from Anthony 'Tony' Sharp, Julie's partner, that they had discussed a bushfire plan in the days before 8 November 2019. The agreed plan was to open the gates to let the animals out and then evacuate the house early. Mr Sharp said that he repeated this plan to Julie constantly to ensure that she would follow the plan.

¹⁸⁸⁶ Exhibit 48, Brief of Evidence at p. 33, 39.

¹⁸⁸⁷ Exhibit 48, Brief of Evidence at p. 33.

¹⁸⁸⁸ Exhibit 48, Brief of Evidence at Tabs 8-9, 16-20.

¹⁸⁸⁹ Exhibit 48, Brief of Evidence at p. 113.

¹⁸⁹⁰ Exhibit 48, Brief of Evidence at p. 41.

¹⁸⁹¹ Exhibit 48, Brief of Evidence at p. 56.

¹⁸⁹² Exhibit 48, Brief of Evidence at p. 55

¹⁸⁹³ Exhibit 48, Brief of Evidence at p. 34.

11. On Thursday, 7 November 2019, a TOBAN was declared with respect to the MidCoast LGA, which includes Johns River. That day, the Bills Crossing, Crowdy Bay Fire took a significant run, spreading from a location of some 2 kilometres north of Harrington, towards Coralville Road, Coralville, some 7 to 8 kilometres, and around a 20 minutes' drive south-east from Julie's residence.
12. On Friday, 8 November 2019, a TOBAN had again been declared for the MidCoast LGA. At this time, the Fire was initially mapped as slowly spreading north. Ms Gerrand stated that on this day, she and Julie *'were aware that the fire could put [them] at risk if there was a wind change...'* and they had spoken in the morning about being prepared to leave.¹⁸⁹⁴
13. Later that day, around lunchtime, Julie left work early to pack some of her belongings due to increasing concerns that the bushfire was approaching her home.¹⁸⁹⁵ Throughout the afternoon, she spoke with a number of friends and neighbours, including Bernadette Worner, Cheryl Wright, Diny Khan, Robyn McGrath, and Jodie Bradley, who variously contacted her via text message or phone call to check if she was okay and discussed her plans to leave if the Fire approached.¹⁸⁹⁶
14. By mid-afternoon, the Fire had commenced a significant and rapid spread north-east towards Diamond Head, which is situated just to the north-east of Johns River.¹⁸⁹⁷
15. Between 1:32pm and 6:59pm on 8 November 2019, the Fire took an extreme and abnormal run, spreading a staggering 7 kilometres in approximately 3 hours. The fire then spread 2 to 3 kilometres to the north-west into the evening and the early morning of 9 November 2019.¹⁸⁹⁸ This extreme and dangerous fire behaviour goes some way to explaining how the Fire took Julie and the residents of Johns River by surprise.
16. At around 5.30pm, Ms Gerrand went to Julie's property to help move livestock and *'encouraged her to put her cats in a cage and ready to go'*.¹⁸⁹⁹ Ms Gerrand stated she returned home (at a nearby property) around 6:00pm to continue with preparations. This was the last time that Julie was seen alive by Ms Gerrand.
17. At around 7:40pm, Mr Sharp stated he spoke with Julie over the phone about needing to stay safe and leave early. Mr Sharp stated that he did not get the impression that the Fire was threatening Julie's house at this time.¹⁹⁰⁰
18. At 8:22pm, Robyn McGrath received a phone call from Julie. She stated that Julie told her that she had packed her car, but she did not yet have her cats and she was going to wet some towels down. Ms McGrath stated that she and her husband told Julie she had to leave now and whatever she owned had to stay. Ms McGrath recalled that Julie sounded *'a bit panicky'* but agreed with her. Ms McGrath stated that she did not get any indication that Julie was not going to leave the property at that time.¹⁹⁰¹
19. At around 9:00pm, Ms Gerrand stated she had a conversation with Chris Bawn, a friend in the Johns River RFS who was in Sydney at the time. Mr Bawn had called Ms Gerrand to check that they were okay and told them to be ready to leave if needed. Following this phone call, at approximately 9:09pm, Ms Gerrand called Julie and suggested that Julie finish packing and sorting the animals and then travel to her house so that they could make a decision on leaving together. Ms Gerrand stated she relayed to Julie what Mr Bawn had told her and discussed what provisions she had in terms of hoses and water. She told Julie that Julie would not be able to defend her property if the Fire reached her house.¹⁹⁰²
20. At 9:42pm, Julie texted Mr Sharp a photo of the Fire in the distance.¹⁹⁰³

¹⁸⁹⁴ Exhibit 48, Brief of Evidence at p. 34.

¹⁸⁹⁵ Exhibit 48, Brief of Evidence at p. 34.

¹⁸⁹⁶ Exhibit 48, Brief of Evidence, Tabs 16–20.

¹⁸⁹⁷ Exhibit 48, Brief of Evidence at p. 164.

¹⁸⁹⁸ Exhibit 48, Brief of Evidence at p. 164.

¹⁸⁹⁹ Exhibit 48, Brief of Evidence at p. 34.

¹⁹⁰⁰ Exhibit 48, Brief of Evidence at p. 40.

¹⁹⁰¹ Exhibit 48, Brief of Evidence at p. 133.

¹⁹⁰² Exhibit 48, Brief of Evidence at p. 34.

¹⁹⁰³ Exhibit 48, Brief of Evidence at p. 50.

21. At around 10:50pm, the wind changed direction. Ms Gerrand and her husband decided that they needed to leave immediately. Ms Gerrand phoned Julie and told her: *'This is urgent, the wind has hit, you need to get out now!'* Ms Gerrand stated that Julie responded, *'I've just got out of the shower, I need to have something to eat'*, to which she replied, *'No, you have to leave now'*. Ms Gerrand recalls that *'[t]he whole conversation was urging [Julie] to get out'*.¹⁹⁰⁴
22. At 10:59pm, Ms Gerrand stated she called Julie and they spoke for approximately a minute and a half. Ms Gerrand asked *'Have you got out, are you out?'* to which Julie responded, *'I can't get out, the house is exploding around me'* before the phone call dropped out. This was the last time that Ms Gerrand and Julie spoke.¹⁹⁰⁵
23. FRNSW records indicate they received a call from Ms Gerrand at 11:03pm.¹⁹⁰⁶ Ms Gerrand stated she reported that her sister's house was on fire and her sister was trapped inside. After this, Ms Gerrand stated that she tried to keep calling Julie back, but there was no answer. She and her husband attempted to drive to Julie's house and had driven some 50 metres down Julie's driveway which is a few hundred metres long when they were met with thick smoke and flames in the trees beside the track. They were forced to return to their residence.¹⁹⁰⁷
24. At about 11:04pm, Julie rang 000 and reported to the Operator that her house was just about *'alight and the whole place was going up'* and stressed it was *'really urgent'*. When the call was transferred to FRNSW, Julie repeated that the *'whole place is alight all of a sudden'*.¹⁹⁰⁸ Julie informed the FRNSW Operator that she wanted to get her other cat before she left but she didn't know where it went, and repeated *'the whole place is on fire.'* The FRNSW Operator informed her to look after herself before the animals and advised they would send a truck. She thanked them and hung up. This is the last contact that Julie had with anyone, and it is believed Julie's house was destroyed by the Fire shortly after this phone call.
25. Captain Michael Cleland of RFS Brigade stated that on 8 November 2019, the Harrington Brigade received a page at 11:07pm reporting a structure alight. After radioing through to FireCom for further details, they were advised that there were multiple houses alight on Wharf Road, Johns River. He stated that he arrived at Wharf Road, Johns River with a crew of another four people, in appliance Harrington 1 at about 11:33pm, directly behind another RFS appliance, namely Kundle Moto 2.¹⁹⁰⁹
26. While Harrington 1 was travelling along Wharf Rd, Captain Cleland overheard a radio message from Kundle Moto 2 indicating that an elderly woman was trapped inside her residence at 232 Wharf Rd, Johns River. Both appliances headed directly to Julie's address, with Kundle Moto 2 leading the way.¹⁹¹⁰
27. Captain Cleland stated that Kundle Moto 2 stopped suddenly when driving up Julie's driveway, requiring Harrington 1 to take evasive action to avoid a collision. Kundle Moto 2 advised Harrington 1 that a large tree had fallen in front of them and that they were pulling out as it was too dangerous to continue. There was poor visibility due to smoke and the presence of a firestorm going across the driveway.¹⁹¹¹
28. Harrington 1 reversed, allowing Kundle Moto 2 to attend to other emergencies. Three crew members including Captain Cleland, Senior Deputy Captain Robert McPherson, and Deputy Captain Garth Honeysett, attempted to make their way up the driveway. They bravely did so through a firestorm with severe ember attack and with no visibility due to the intense smoke and strong winds. Captain Cleland reported that he returned to the truck to obtain his portable radio and their thermal imaging camera while the other two crew members continued up the driveway. On his return, Captain Cleland stated that the crew members advised him that there was a two-storey house completely burnt to the ground and they had a walk around the remains of the house and had not been able to locate anyone. They had also seen two cars still at the property with no one inside, nor anyone inside the shed nearby the house which still had a light on.¹⁹¹²

¹⁹⁰⁴ Exhibit 48, Brief of Evidence at p. 35.

¹⁹⁰⁵ Exhibit 48, Brief of Evidence at p. 35.

¹⁹⁰⁶ Exhibit 48, Brief of Evidence, Tab 38.

¹⁹⁰⁷ Exhibit 48, Brief of Evidence at p. 35.

¹⁹⁰⁸ Exhibit 48, Brief of Evidence, Tab 36.

¹⁹⁰⁹ Exhibit 48, Brief of Evidence at p. 105; Transcript for 22 March 2022 T 14:33-44.

¹⁹¹⁰ Exhibit 48, Brief of Evidence at pp 105-106.

¹⁹¹¹ Exhibit 48, Brief of Evidence at p. 106; Transcript for 22 March 2022 T14:46-50.

¹⁹¹² Exhibit 48, Brief of Evidence at pp. 106-107; Transcript for 22 March 2022 T 15 - 16.

29. Captain Cleland states they returned to their appliance and remained awaiting the arrival of FRNSW and the NSWPF.¹⁹¹³
30. On 9 November 2019, Police Forensic Crime Scene Officers including SC Warwick Holborow attached to the Taree Crime Scene Section, attended the house, and located bone fragments, believed to be the remains of Julie. The remains were located on the western side of the house in a location proximate to Julie's bedroom. Julie's vehicle was still parked in the garage where it had been the day before when Ms Gerrand visited.¹⁹¹⁴
31. A comparison of Julie's dental records against the remains located at Julie's residence confirmed on the balance of probabilities that the remains belonged to Julie.¹⁹¹⁵
32. The pathologist at autopsy concluded that Julie's cause of death was best described as 'effects of fire'.

Section 81 Findings

33. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Julie Fletcher.

Date of death

Julie died on 8 November 2019.

Place of death

She died on her property, known as 'Johns River' located at 232 Wharf Rd, Johns River.

Cause of death

The cause of her death was due to the effects of fire, in connection with the Bills Crossing, Crowdy Bay Fire.

Manner of death

Julie died when her home was engulfed by the Bills Crossing, Crowdy Bay Fire at about 11:05pm on 8 November 2019. The fire approached her property with such speed and ferocity that she was unable to evacuate in time.

34. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.
35. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Julie's family and loved ones, friends, and community for their loss.
36. At the conclusion of the evidence in the inquest, Julie's sister, Daintry showed extraordinary generosity in some incredibly moving and treasured memories of Julie with those in the courtroom. It is reproduced in Part 7 – Testimonials.

¹⁹¹³ Exhibit 48, Brief of Evidence at pp. 106–107.

¹⁹¹⁴ Exhibit 48, Brief of Evidence at p. 61, 79; Transcript for 22 March 2022 T 9–11.

¹⁹¹⁵ Exhibit 48, Brief of Evidence, Tabs 5 & 6.

23. Failford Road, Darawank Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Failford Road, Darawank Fire.

Introduction

2. The Failford Road Fire ignited on 26 October 2019 and was amalgamated with the Hillville Fire on 13 November 2019.¹⁹¹⁶ The fire commenced on Failford Road, an important road that links the Pacific Highway to The Lakes Way and communities along the coast, including Black Head, Hallidays Point, Failford, Darawank, Forster and Tuncurry.
3. The fire burnt in the MidCoast LGA encompassed within the lands of the Worimi People. It burned for approximately three weeks and damaged an area of approximately 3,000 hectare, including around 1,200 hectares of the Darawank Nature Reserve.
4. At least 16 structures were destroyed or damaged, including homes in Failford, Darawank and Hallidays Point and surrounds. Fortunately, no loss of human life ensued.
5. A combination of high temperatures and gusting winds on the background of drought, quickly pushed this Fire to the east of its starting point on Failford Road, Darawank and at times blew ash and embers kilometres ahead to create spot fires. Firefighting authorities had to chase the Fire and anticipate where it might land next whilst some communities had no time to do anything but hide.

Chronology of events

6. Contemporaneous records, and accounts of the early stages of the Fire, point to the Fire as having been caused by at least one branch falling onto overhead powerlines along Failford Road.
7. On 26 October 2019, a TOBAN was in force across the MidCoast LGA which included Failford.¹⁹¹⁷ At 11:30am, observations from the closest AWS at Taree Airport recorded the temperature as 35.1 degrees Celsius, RH as 14%, wind speed as 35 kilometres per hour, wind direction as 320 degrees (from the north-west) and wind gusts of up to 46 kilometres per hour.¹⁹¹⁸
8. At 11:41am, a power trip was detected by Essential Energy at a feeder for the Hallidays Point substation CB-3B21.¹⁹¹⁹ In less than a minute, the circuit breaker activated three times, and then remained open. In essence, the power to the conductor (powerline) went out. Shortly afterwards, there were multiple emergency calls from drivers travelling along Failford Road.
9. The first caller at 11:43am, was James Murphie, an Acting Inspector with FRNSW.¹⁹²⁰ After first observing a different fire, shortly after turning onto Failford Road from The Lakes Way, Mr Murphie was made aware of another fire a further 300 metres west along Failford Road. He walked in that direction and saw a fire on the southern side of Failford Road, approximately 20 x 10 metres in size and burning in a south easterly direction.¹⁹²¹

¹⁹¹⁶ Exhibit 49A, Brief of Evidence at p. 60.

¹⁹¹⁷ Exhibit 49A, Brief of Evidence at p. 55.

¹⁹¹⁸ Exhibit 49A, Brief of Evidence at p. 874-2.

¹⁹¹⁹ Exhibit 49A, Brief of Evidence at p. 132-2.

¹⁹²⁰ Exhibit 49A, Brief of Evidence, Tab 44.

¹⁹²¹ Exhibit 49A, Brief of Evidence at p. 21-47c.

10. At 11:45am, FRNSW received a call from Mr Jordan Keyte. Mr Keyte had been driving east along Failford Road towards the intersection of Failford Road and The Lakes Way. He had driven approximately 400 metres past the Failford Road and Drut Road intersection when a large branch from a roadside tree fell down in front of him. He saw the branch land partly onto powerlines below.¹⁹²² Mr Keyte says the front part of the branch reached down onto the stretch of road directly in front of him and he ended up driving over it.
11. Mr Keyte immediately pulled over and got out of his car. He said the powerlines did not break apart under the weight of the branch. Rather they were sagging towards the ground, but not touching the ground. The bottom part of the tree branch was lying suspended half in the air over the sagging powerlines and the other half lying across the road.
12. Over the next minute or so, from a position about 10 metres away, Mr Keyte recalled that:

'[He] heard crackling and saw sparks from the point of contact of the branch against the powerlines fall directly in the dry grass below and smoking along the ground followed shortly by a flame which took hold and a fire started'.¹⁹²³
13. By 11:50am, Essential Energy had received reports that a conductor was down, and a grassfire had started.¹⁹²⁴ Crews attended the site and observed a tree limb spread over high voltage conductors between poles 12480 and 34830, 'with a large fire in the vicinity'.¹⁹²⁵
14. The alleged incident location is identified in the photograph below:



¹⁹²² Exhibit 49A, Brief of Evidence at p. 21–48.

¹⁹²³ Exhibit 49A, Brief of Evidence at p. 21–48.

¹⁹²⁴ Exhibit 49A, Brief of Evidence at p. 93.

¹⁹²⁵ Exhibit 49A, Brief of Evidence at p. 87.

15. Shortly after midday, DSC Peter Shedden arrived at the scene of the Fire. He observed, and took the photograph below of, a large branch lying across powerlines on the ground on the southern side of Failford Road.¹⁹²⁶ By this time, the Fire was progressing east towards The Lakes Way.



Figure 7 Fallen branches suspended on powerline below the Subject Tree

16. Soon after the Fire commenced, it rapidly reached the intersection of Failford Road and The Lakes Way, Darawank then crossed The Lakes Way and continued to burn to the east. It was burning through bush but towards homes and populated areas along the coast. Roads were closed and people were evacuated from areas including Failford, Darawank, Hallidays Point and Tuncurry.¹⁹²⁷
17. The fire consumed parts of the Darawank Nature Reserve that runs along Tuncurry Beach.
18. Later that day, a wind change forced the Fire in a southerly direction towards the Tuncurry township and soon after, sharply changed direction again, spreading the Fire along its flanks in a northerly direction, unfortunately impacting on the villages of Hallidays Point and Black Head.¹⁹²⁸
19. Overnight, the Fire extended to Black Head Road with a spot over north of Black Head Road between Tallwoods Village and Diamond Beach Rd. There was also spot over north of Failford Road in the vicinity of Bungwahl Creek. Around this time, the Fire was reported to be approximately 2,307 hectares in size.¹⁹²⁹
20. By 2 November 2019, the northern flank of the Fire had passed Black Head Road and was encroaching on Tallwoods Village, while the eastern flank of the Fire had progressed in the area near Bungwahl Creek.¹⁹³⁰
21. As at 13 November 2019, firefighting resources were being stretched south of the Failford Road Fire to attend to a number of surrounding fires, including:
- a. the Wall, Wallis Lake Fire to the south-west;
 - b. the Hillville Fire to the north; and
 - c. a further three fires including the Bills Crossing, Crowdy Bay Fire, further north-east, and the Rumba Complex, Dingo Tops Road (Tapin Tops National Park) and Thunderbolts Way, Brettis Fires, to the north-west.¹⁹³¹

¹⁹²⁶ Exhibit 49A, Brief of Evidence at p. 21-1, 21-4.

¹⁹²⁷ Exhibit 49A, Brief of Evidence at p. 2.

¹⁹²⁸ Exhibit 49A, Brief of Evidence at p. 65.

¹⁹²⁹ Exhibit 49A, Brief of Evidence at p. 78.

¹⁹³⁰ Exhibit 49A, Brief of Evidence at p. 82.

¹⁹³¹ Exhibit 49A, Brief of Evidence at p. 85.

22. At 11:06pm on 13 November 2019, the Failford Road Fire amalgamated with the Hillville Fire and from there on, was mapped and managed as part of the Hillville Fire by the RFS IMT.¹⁹³² The Hillville Fire was the subject of a separate fire inquiry.
23. On 26 December 2019, the Hillville Fire was authorised as 'Out'.¹⁹³³ The final extent of the Fire is demonstrated in the figure below (marked with a red star):

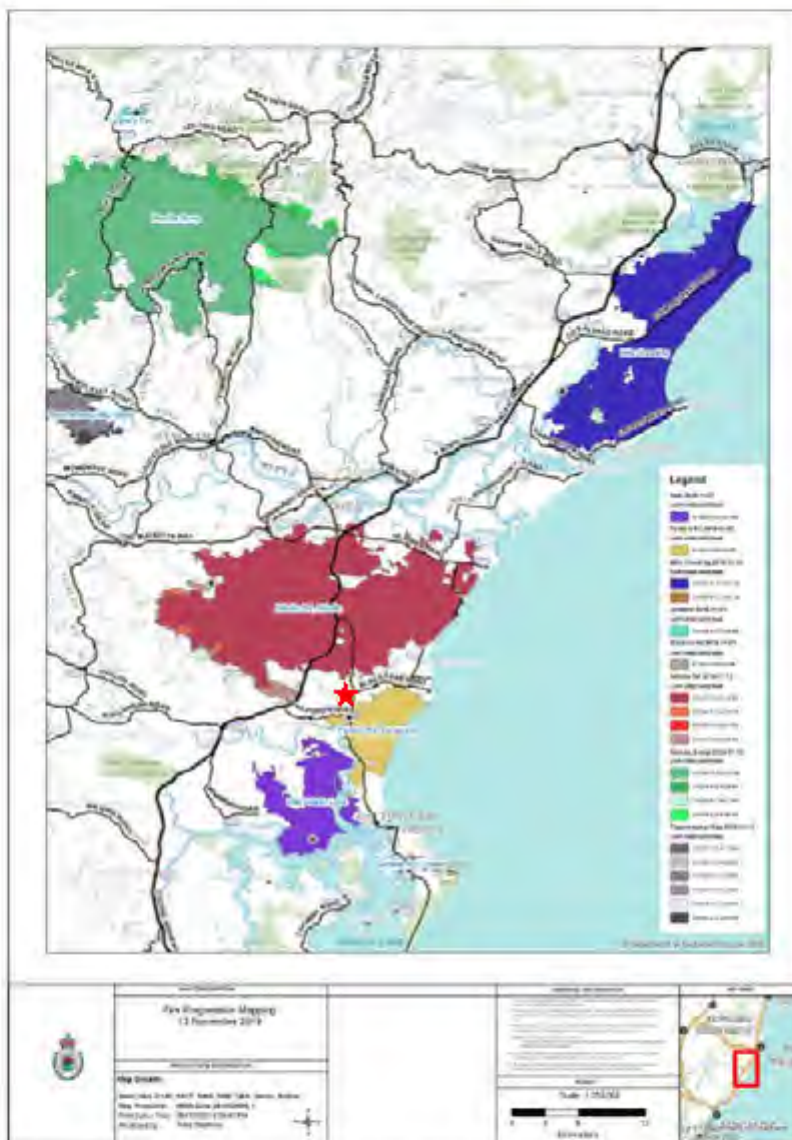


Figure 105 Hillville Rd, Hillville and Surrounding Fires Progression Mapping 0000, 13/11/2019 to 0000, 14/11/2019 (1:250,000 scale)

¹⁹³² Exhibit 49A, Brief of Evidence at p. 60, 83.

¹⁹³³ Exhibit 49A, Brief of Evidence at p. 563–4, 571.

Cause and origin

24. Three experts gave evidence in relation to the cause and origin of the Failford Road Fire:
 - a. Mr Paul de Mar AFSM, Court-appointed expert, Bushfire Risk and Vegetation Management Consultant;
 - b. Mr Glenn Hargrave, Senior Program Supervisor in Vegetation Operations, Northern Eastern Region, Essential Energy; and
 - c. Adjunct Associate Professor Trevor Blackburn, Court-appointed expert, Consulting Engineer.
25. The expert evidence ultimately reflected early observations of the cause of the Fire. Mr de Mar, Mr Hargrave and Adjunct Associate Professor Blackburn each formed the view that the Fire resulted from two branches falling onto overhead powerlines between power poles 12480 and 34830.
26. Mr de Mar gave evidence that, in his expert opinion, a large branch from a Blackbutt tree was weakened by strong winds and fell, striking a smaller branch that was higher up on the tree but within the larger branch's reach. Both branches made contact with two of the three conductors. The contact between the branches and the conductors caused electricity to pass through the branches, generating embers, which led to a fire igniting on the dry vegetation beneath the powerlines.¹⁹³⁴
27. This was based in part on observations made when Mr de Mar attended the site on 1 February 2022. During that inspection, he recorded that the tree adjacent to the suspected point of origin of the Fire was situated approximately 8 metres from the closest conductor, with two fractured stubs evident as seen in the photograph below. He saw darkening of the surface wood at these fracture sites, consistent with 27 months' exposure to the elements. He also observed no signs of fire impact at the branch stubs or around the fracture sites.



Figure 1 The Subject Tree

¹⁹³⁴ Exhibit 49A, Brief of Evidence at p. 2-15, 2-16.

28. In his view, which is reflected in street view imagery below, the subject branches were overhanging the powerlines as of May 2018, and very likely at least as far back as 2014.¹⁹³⁵



Figure 11 Google Streetview imagery (May 2018) showing Subject Tree overhang

29. Mr de Mar surmised that both branches fell onto the conductors below, noting that each branch in his view would have extended out above the conductors by at least 6 metres. The photograph below taken by Mr Hargrave of one of the fallen branches showed black marks on the surface of the bark.¹⁹³⁶



¹⁹³⁵ Exhibit 49A, Brief of Evidence at p. 2-22.

¹⁹³⁶ Exhibit 49A, Brief of Evidence at p. 2-23, 2-24.

30. Those marks, in Mr de Mar's view, were burnt surface resins and cells which had burnt due to contact with an energized high voltage conductor, igniting the Fire. There was no alternative explanation.¹⁹³⁷
31. Mr Hargrave ultimately agreed with Mr de Mar's opinion. At a site inspection carried out two days after the start of the Fire, on 28 October 2019, Mr Hargrave observed a branch with '*what appeared to be 'arc points' which would be consistent with contact between the conductor and branch*'.¹⁹³⁸ Although he initially disagreed with Mr de Mar during his oral evidence on the location of one branch when in situ on the tree, Mr Hargrave re-attended the site on 5 April 2022 and subsequently, agreed with Mr de Mar as to the identification of the branches which had impacted the conductors.¹⁹³⁹
32. Adjunct Associate Professor Blackburn came to the same view as to cause of the Fire. He gave evidence that the particular conductors in question were comprised of three phases (A, B, and C). The branch interacted with the phase A (middle) conductor and phase C (property-side) conductor, but not the phase B (roadside) conductor. Professor Blackburn ruled out a direct clash between those conductors as the direct metal to metal contact would have resulted in very substantial arc fusion damage to the conductors.¹⁹⁴⁰ There were no reports from Essential Energy crews on the day of such damage having occurred.
33. In Associate Professor Blackburn's view, the probable cause was bridging between the A and C phases from a fallen branch. He explained:

'...wood is not... a very good electrical conductor and particularly dry wood with no moisture in it is a quite a good insulator but green wood such as you had at the end of the branch there which has lots of moisture in it, by virtue of most of that moisture the wood becomes a semi-conductor...It's not a conductor in the same sense that metal is a good conductor but nevertheless, it will conduct electrical current mainly because of the moisture that's just under the marked layer there and that will allow a small current flow between phase A and phase C through the green tree vegetation, wood or leaves or the like and that will have a small, a small current in, in - in the, the material I used from the American source would've indicated that it was going to give a current of around about 1 or 2 amps. And then that would burn for a reasonable long time.

It would be more or less a - not a permanent fault but it would allow current to flow for a long time and then when the current does flow through the wood it evaporates the moisture, the moisture evaporates and gives you the crackling sound the witness who saw of all of this happening heard and then it allows current to flow through the wood. It starts to caramelize the wood, char the wood and so you can then start to get embers formed. And eventually you will get more or less a charcoal bridge replacing the green wood between the two and charcoal is a much better conductor of electricity than is green wood. And so once the charcoal forms between the two conductors then the current level will start to rise fairly rapidly and eventually it will allow an arc to be developed along the surface of the wood between phase A and phase B but the current of that arc will be much lower than you get when you have a clashing contact of the two metals. And also the arc roots at the metal will move about a bit and so it won't - that sort of arc along the wood with moving points of contact on the metal of the conductors won't give you any indication of gross fusion, arc fusion damage to the conductors.

But it will cause, until that arc is formed, it can cause burning embers, it can and then they can drop to the ground and can ignite the vegetation on the ground, dry grass on the ground. And then all of that can happen before the current in the fault between the two conductors across that wooden bridge, it will cause ignition potentially or well certainly in this case before the current is high enough to cause the electrical protection to pick up.'¹⁹⁴¹

¹⁹³⁷ Exhibit 49A, Brief of Evidence at p. 2-24.

¹⁹³⁸ Exhibit 49A, Brief of Evidence at p. 21-55, 21-118.

¹⁹³⁹ Exhibit 49A, Brief of Evidence at p. 21-187.

¹⁹⁴⁰ Transcript for 23 March 2022 T 30:34-35:15.

¹⁹⁴¹ Transcript for 23 March 2022 T 31:29-32:17.

Section 81 Findings

34. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Failford Road, Darawank Fire commenced at around 11:41am on 26 October 2019 in grass beneath powerlines on the southern side of Failford Road, Darawank, approximately 500 metres east of the intersection of Failford Road and Drut Rd, between electricity pole 12480 and pole 34830.

The Failford Road, Darawank Fire was caused by at least one, but possibly two, tree branches falling onto the powerlines at that location on 26 October 2019, which resulted in arcing between two conductors. Sparks from the arcing dropped into the grass below the powerlines, igniting the fire.

35. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into bushfire risk classification. This is detailed in Volume 2, Part 10, Section 2.

24. Hillville Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Hillville Fire.

Introduction

2. The Hillville Fire is believed to have started on or before 7 November 2019 and was declared ‘Out’ on 26 December 2019.¹⁹⁴² It burned for approximately seven weeks within the MidCoast LGA, encompassed within the lands of the Worimi People. At least 156 structures were destroyed or damaged in connection with the Hillville Fire, including at least 61 homes in Hillville, Koorainghat, Old Bar, Rainbow Flat and Tinonee. Fortunately, no loss of human life ensued.
3. The fire ultimately burnt an area of approximately 310,000 hectares including large portions of hardwood forests within the Kiwarrak State Forest, Talawahl State Conservation Area, Khappinghat National Park and beyond. The fire tore through these areas, leaving a devastating ‘dead zone’ with no signs of living fauna. The World Wide Fund for Nature Australia reported that the Hillville Fire resulted in a 87% decline in koala occupancy in the Khappinghat National Park, and a 100% decline in the Kiwarrak State Forest.
4. The RFS Rainbow Flat Fire Station was devastatingly destroyed by this Fire while its resident firefighters were concentrating their efforts towards saving properties elsewhere across the MidCoast LGA. On account of the fundraising efforts of the RFS Charmhaven Brigade members and members of the Gorokan community, necessary funds were raised which enabled the Rainbow Flat Fire Station to be rebuilt in early 2021.

Chronology of events

5. The Hillville Fire is believed to have commenced on or before 7 November 2019 in a partially cleared small paddock south of the farmhouse situated on the subject property, 120 Marylands Close, Hillville.¹⁹⁴³ At the time of the Fire, the subject property was occupied by the late Mr Geoffrey Kinchin and his wife, Mrs Peggy Kinchin.
6. Mr and Mrs Kinchin each stated in their interviews that at around 1:30pm, on 7 November 2019 they observed their chicken pen, situated south-west of the farmhouse, alight.¹⁹⁴⁴
7. At 1:38pm, Mrs Kinchin rang 000 and reported to FRNSW that their chicken pen was alight and there was a grassfire travelling up hill. She further advised that the Fire was some 20-30 metres from the farmhouse.¹⁹⁴⁵ Mr and Mrs Kinchin then rang surrounding neighbours to request assistance.
8. Despite the best efforts of Mr and Mrs Kinchin and their neighbours, some half an hour later, on account of the predominantly west-northwest wind, the Fire escaped and spread east onto the adjoining property, 99 Marylands Close, Hillville.¹⁹⁴⁶ Noting that the subject property was no longer under threat, RFS resources were targeted at fighting the Fire on 99 Marylands Close to protect that property and adjacent properties.
9. At around 2:05pm, RFS Superintendent Jason Regan took several aerial photographs of the Fire in its infancy in FireSpotter 265 with the Fire appearing to be to the east and south of the farmhouse.¹⁹⁴⁷

¹⁹⁴² Exhibit 50A, Brief of Evidence at p. 563-4, 571.

¹⁹⁴³ Exhibit 50A, Brief of Evidence at p. 3-4.

¹⁹⁴⁴ Exhibit 50A, Brief of Evidence at p. 5, 191, 292.

¹⁹⁴⁵ Exhibit 50A, Brief of Evidence at p. 191.

¹⁹⁴⁶ Exhibit 50A, Brief of Evidence at p. 26.

¹⁹⁴⁷ Exhibit 50A, Brief of Evidence at p. 59-62.

10. According to Mr Kinchin, sometime that afternoon, he noticed that the edge of a pile of logs located to the east and south of the farmhouse on the subject property was smouldering. He moved the top logs off and sprayed the logs until the embers had disappeared. Mr and Mrs Kinchin each stated that this pile of logs had been stacked criss-cross about half a metre high and had been left there for possible use as future firewood.¹⁹⁴⁸
11. At around 6:00pm that night, the Fire was mapped as having spread some 5 kilometres east-southeast past the Talawahl Nature Reserve, and by about 8:00pm, as having reached Breakneck Hill.¹⁹⁴⁹
12. At around 9:00am, on the following day, 8 November 2019, Mr Barry Smith, neighbour of Mr and Mrs Kinchin, stated he attended the subject property to see if they required use of his tractor. Mr Smith observed a log that was smouldering, on the eastern side of the house, at a location between the farmhouse and the carport with a caravan (believed to be situated some 50 to 100 metres uphill from the pile, to the far south and east of the farmhouse)¹⁹⁵⁰ and close to an unburnt area of grass. With the approval of Mr Kinchin, Mr Smith advised that he scooped some earth from the unburnt area over the smouldering log.¹⁹⁵¹
13. Mr Kinchin stated that on the morning of 8 November 2019, Mrs Kinchin got up to make coffee and looked at the pile situated to the east and south of the farmhouse and saw that what was left of it was in flames.¹⁹⁵² He stated that he and his wife worked on stamping out the Fire because they were concerned about the unburnt grass in the vicinity catching alight. Further, when Mr Smith arrived at their farmhouse later that morning with his tractor, he stated that Mr Smith pushed some earth over the logs.¹⁹⁵³
14. Later that day, the Fire impacted on properties at Rainbow Flat.¹⁹⁵⁴
15. The following day, on 9 November 2019, the Fire impacted on properties in the areas of Old Bar and Wallabi Point.¹⁹⁵⁵
16. On 12 November 2019, the Fire impacted on the areas of Tinonee, Purfleet and Old Bar and a south-south-easterly change was pushing the Fire in a north-westerly direction towards Nabiac and Failford and in the vicinity of the Failford Rd, Darawank Fire (this Fire is the subject of separate Inquiry).¹⁹⁵⁶
17. At 11:06pm on 13 November 2019, the Failford Rd, Darawank Fire was amalgamated with the Hillville Fire, by the RFS IMT and from there on, the Failford Rd, Darawank Fire commenced being mapped and managed as part of the Hillville Fire. On this same day, the Hillville Fire was downgraded to W&A.¹⁹⁵⁷

¹⁹⁴⁸ Exhibit 50A, Brief of Evidence at p. 223.

¹⁹⁴⁹ Exhibit 50A, Brief of Evidence at p. 564.

¹⁹⁵⁰ Transcript for 24 March 2022 T 19:2-7.

¹⁹⁵¹ Exhibit 50A, Brief of Evidence at p. 462.

¹⁹⁵² Exhibit 50A, Brief of Evidence at p. 220.

¹⁹⁵³ Exhibit 50A, Brief of Evidence at p. 220-221.

¹⁹⁵⁴ Exhibit 50A, Brief of Evidence at p. 542; Transcript for 24 March 2022 T 6:30-31.

¹⁹⁵⁵ Transcript for 24 March 2022 T 6:31-32.

¹⁹⁵⁶ Transcript for 24 March 2022 T 6:43-50.

¹⁹⁵⁷ Transcript for 24 March 2022 T 7:1-6.

18. The Hillville Fire was eventually authorised as 'Out' on 26 December 2019.¹⁹⁵⁸ The final extent of the Fire is demonstrated in the figure below:

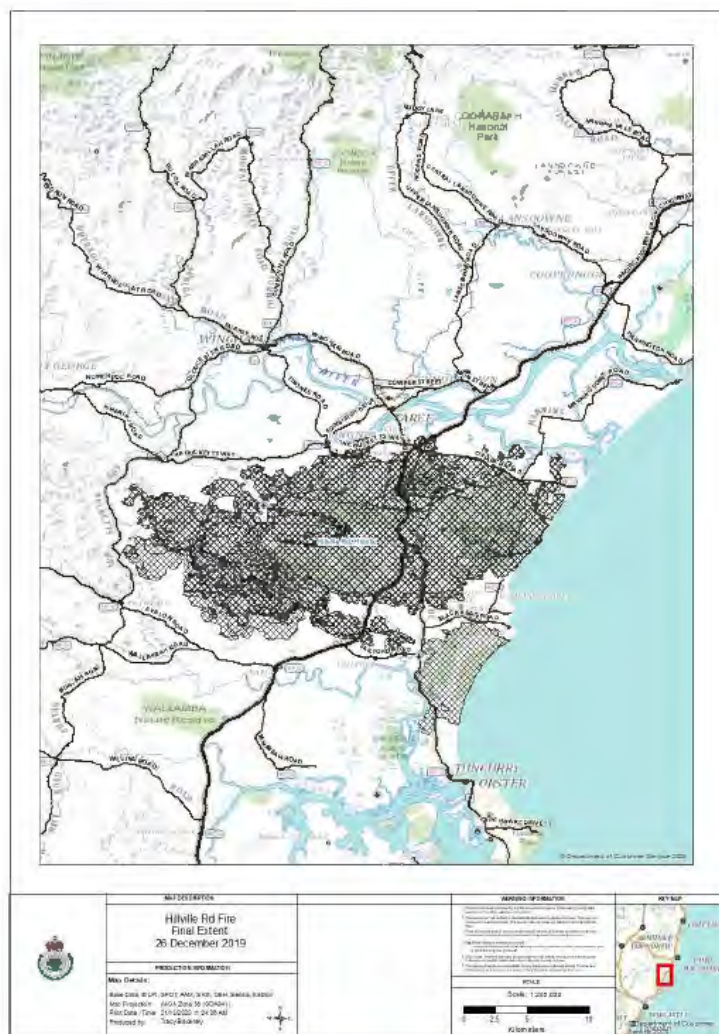


Figure 152. Hillville Rd Fire, Hillville Final Burnt Area 0832, 26/12/2019 (1:200,000 scale)

Cause and origin

19. On 9 November 2019, the RFS assigned Fire Investigator Mark Fullagar to investigate the cause and origin of the Hillville Fire and other fires in the Mid Coast RFS District between 10 and 15 November 2019.
20. The NSWPF assigned Detective (Technical) Sergeant Shane Guymer, FETS Taree Crime Scene Section to examine the cause and origin of the Hillville Fire.
21. The suspected (general) area of origin was not secured or guarded by the NSWPF between 7 and 14 November 2019, a period of one week.¹⁹⁵⁹

Initial examination of the scene

22. Mr Fullagar stated that on the afternoon of 10 November 2019, he contacted the former NSWPF OIC of the investigation into the Hillville Fire, namely, DS David Frith and they agreed to conduct an initial scene inspection of this Fire later that day, with the intention of returning to the scene at a later date to complete the investigation. Mr Fullagar stated this necessitated him to travel approximately two hours' distance from the Wauchope FCC, by which time he would be close to 12 hours on shift by late afternoon.

¹⁹⁵⁸ Exhibit 50A, Brief of Evidence at p. 563–564, 571.

¹⁹⁵⁹ Exhibit 50A, Brief of Evidence at p. 74; Transcript for 24 March 2022 T 7:17-19.

23. Mr Fullagar stated that he arrived at 99 Marylands Close at 3:05pm that afternoon with DS Frith, DSC Aaron Tull and SC Warwick Holborow, Crime Scene Officer attached to the FETS, Taree Crime Scene Section.
24. Mr Fullagar recorded that while at 99 Marylands Close, he walked beside the boundary fence shared with the subject property and made his way to where the Fire had crossed from the subject property to 99 Marylands Close.
25. Mr Fullagar '*observed fire indicators of foliage freeze, grass stem fall, angle of char indicating the fire had travelled from the west, uphill and onto*' 99 Marylands Close. He was also able to '*identify a number of runs of fire that initiated*' on the subject property.¹⁹⁶⁰
26. Mr Fullagar stated he and DS Frith, DSC Tull and SC Holborow relocated to the subject property at 4:00pm that afternoon.
27. During his oral evidence and as detailed in his report, Mr Fullagar accepted he was present at 4:00pm when Mr Kinchin advised the NSWPF he first '*observed the chook shed was alight*'.¹⁹⁶¹ Mr Fullagar stated he did not necessarily look for particular indicators or micro-fire indicators consistent with Mr Kinchin's account in relation to the origin of the Fire because at that time he had been examining where the Fire had been running and indicators he had seen.¹⁹⁶²
28. Mr Fullagar recorded the following with respect to his examination undertaken on the subject property:

'We exited the house yard through a gate into a predominantly grassed paddock, with an uphill slope to the east and groupings of trees. The grass appeared to be partially maintained within 20 metres of the gate as it was short and 90% cured. The grass outside of this 20 meter area was not maintained and varied in height from 30cm to half a meter. Approximately 5 meters from the gate at grid reference 401599 within the maintained grassed area there was evidence of machinery use. I observed a pushed up pile of dirt and logs/vegetation showing signs of having recently been burnt as heat and smoke was emanating from it. This was the only spot where a machine had been used along a burnt edge. The southern side of the pushed up pile was circular with charcoal, ash, rock debris and burnt logs along with a small oxidised piece of corrugated iron. The intensity at this location of the initial fire was high as there had been complete combustion down to mineral earth. The indicators show a low intensity fire moving away from this circular pattern sometime later.

I walked the perimeter of the North, North Eastern, Western and South Western edge of the fire for approx. 50 meters in a clockwise and counter clockwise direction. During this walk I observed indicators of grass stem, angle of char, protection, sooting and staining showed a low intensity fire moving away from the pile in a south-south-easterly direction. Due to the slope gaining intensity and crossed into the neighbouring property at 99 Marylands Cl under the predominantly WNW wind.

*It was at this time a decision was made to conclude the investigation due to time constraints on both Police and fire investigator and return to the property at a later time to complete the origin and cause determination.*¹⁹⁶³

¹⁹⁶⁰ Exhibit 50A, Brief of Evidence at p. 26.

¹⁹⁶¹ Transcript for 24 March 2022 T 34:25-31.

¹⁹⁶² Transcript for 24 March 2022 T 35:9-16.

¹⁹⁶³ Exhibit 50A, Brief of Evidence at p. 26.

29. The photograph below shows the pile of pushed up earth and logs/vegetation referenced by Mr Fullagar in his evidence:



D003
Establishment photo of pushed up earth and logs/vegetation and high intensity fire having burnt down to mineral earth.

30. DSC Tull took a short video evidencing the smoke emanating from the pile.¹⁹⁶⁴
31. Mr Fullagar stated he departed the subject property at around 5:00pm and that he understood that the NSWPF Officers in attendance had other matters to attend to later that day.
32. Mr Kinchin stated shortly after the RFS and the NSWPF had left his residence on 10 November 2019, and having been made aware by them that the pile was still smouldering, he took his tractor and spread out the pile even further.
33. Mr Fullagar confirmed during his oral evidence, that he had conducted a detailed examination of the area in and around where the chicken pen existed and had observed indicators of advancing fire travelling to the chicken pen. He rejected the notion that those indicators may have in fact been lateral or flanking fire and did not think that if the Fire had originated from the chicken pen it would have moved across the prevailing wind in that direction towards the pile of debris.¹⁹⁶⁵
34. While he did not necessarily look for glass around the chicken pen, he stated he did not observe any glass.¹⁹⁶⁶ He also accepted that spontaneous combustion or heating can occur in poultry manure but had excluded this as a likely cause due to the indicators observed that the Fire went into the chicken pen.¹⁹⁶⁷ Mr Fullagar also stated that he did not, as part of his examination, undertake a search for any glass objects that could have been a source of an ignition in and around the log pile, nor did he disturb the log pile, on 10 November 2019. While he stated he did not observe any glass objects there at the time, he accepted that a glass bottle or some glass in an existing log pile or vegetation, depending on its shape and location, can cause an ignition.¹⁹⁶⁸
35. DSC Tull stated that he could not recall why the investigation of the NSWPF was not concluded on 10 November 2019, that he had accompanied DS Frith for the purpose of providing assistance, including adducing evidence by way of taking photographs and a video as was required.

¹⁹⁶⁴ Exhibit 50A, Brief of Evidence at Tab 8, Annexure 50.

¹⁹⁶⁵ Transcript for 24 March 2022 T 40:10-41:7.

¹⁹⁶⁶ Transcript for 24 March 2022 T 42:16-26.

¹⁹⁶⁷ Transcript for 24 March 2022 T 43:6-23.

¹⁹⁶⁸ Transcript for 24 March 2022 T 41:31-40.

Second examination of the scene

36. Mr Fullagar detailed that he could not recall when he agreed to attend the subject property with the NSWPF for a second time, however, recalled that Detective (Technical) Sergeant Guymer was available on 14 November 2019, which is why it was agreed they would return to the scene at that time. Further, given the MOU between RFS, FRNSW and the NSWPF (2018), regarding responsibility for fire investigation, he stated it was appropriate that the NSWPF be present for the second scene examination.¹⁹⁶⁹
37. Mr Fullagar expressed that it was not uncommon to attend the scene of a fire more than once when conducting fire investigations.
38. Between leaving the subject property on 10 November 2019 and returning some four days later at 10:55am on 14 November 2019, to examine the scene with Detective (Technical) Sergeant Guymer and DSC Tull in attendance, Mr Fullagar recorded the following observations:

'On inspection, the fire scene had been dramatically altered with the pile of dirt and logs having been spread out over the burnt ground by use of machinery and other material, unburnt logs, branches and poly pipe introduced to the fire scene. This was the only spot a machine had been used on the burnt edge of the fire on the property.

Having previously walked the immediate perimeter I entered the fire scene from the north eastern edge of the fire and I observed an advancing run of fire up hill to the east, I continued walking in a south westerly direction until I found the middle of an advancing run of fire in a grove of standing trees. Using a serpentine pattern I followed the advancing indicators, area of most damage, in a northerly direction and tracked the run of fire back to the area where the initial pile of logs/vegetation and dirt was observed, the area of least damage.

I then entered the fire ground from the south western edge, near where a small shed had been destroyed and I tracked the advancing indicators back to the area where the initial pile of logs and dirt was observed. The indicators revealed that the fire had travelled into the shed from the north, as a low intensity fire.

I observed indicators of foliage freeze and leaf curl on leaves, angle of char on tree trucks, fence posts and grass tufts, protection, white ash on the trucks of trees, sooting on metal fence posts and wire fence strings. There were also two circular areas near the fence, bare of grass that appeared to have previously had fires.

Under the prevailing weather conditions on the day, the dryness of the surrounding fuel, the fire that has crept out of the pile was of low intensity and may well have been burning for some time before the owner observed the shed alight and called triple zero "000".¹⁹⁷⁰

39. Mr Fullagar recorded he had eliminated potential causes including lightning,¹⁹⁷¹ campfire, smoking, equipment use, juvenile (fire play), rail and miscellaneous (fireworks or flares). He ultimately opined with respect to his investigation undertaken on 10 and 14 November 2019, that the Hillville Fire was caused by *'debris burning from embers or burnt material escaping the pile burn, lit by a person or persons unknown and conducted on or prior to the 7th November.*¹⁹⁷² He noted that on 10 November 2019, he was able to examine the scene, identify fire indicators, identify the area of origin, and take photographic evidence. Although the scene had been altered by the time he returned on 14 November 2019, he surmised there were still indicators present and that the alteration of the scene during this time did not impact his conclusion on cause and origin.

¹⁹⁶⁹ Exhibit 50A, Brief of Evidence, Annexure to Tab 5A.

¹⁹⁷⁰ Exhibit 50A, Brief of Evidence at p. 27.

¹⁹⁷¹ Exhibit 50A, Brief of Evidence at p. 190-4: DSC Tony Cramer interrogated Australian GPATS network lightning strike data obtained from the RFS for the period 3 to 7 November 2019. He identified three lightning strikes recorded to the far east of the subject property and relevantly as being outside the two-kilometre radius of the suspected area of origin.

¹⁹⁷² Exhibit 50A, Brief of Evidence at p. 27.

40. Notwithstanding this view, during his oral evidence, Mr Fullagar accepted that the scene had been disturbed at least twice by the interaction with machinery and that to the extent that there may have been in existence a glass object in or around the pile, it may not have been discovered by reason of the disturbances.¹⁹⁷³ He also accepted that spontaneous heating or combustion could occur in relation to a pile of vegetation or logs that could have been present in situ for some time, depending on the specific type of vegetation and depending on the conditions. However, as to the pile of logs or vegetation in question, he stated he would not have had enough information to include or exclude spontaneous heating or combustion as a possible cause.¹⁹⁷⁴
41. Detective (Technical) Sergeant Guymer confirmed during his oral evidence an awareness Mr and Mrs Kinchin had advised the NSWPF that they believed the Fire had started in or around the chicken pen,¹⁹⁷⁵ and during his examination on 14 November 2019 recorded that:
- 'Seven days had passed since the start of the fire. The scene had not been secured or guarded. People had conducted numerous activities at the location altering the scene over those seven days. Objects and items were located on the fireground to the east of the farmhouse consisting of pieces of wood, timber and sticks as well as lengths of black poly pipe. These objects had been placed on the fireground after the fire. Tyre marks and use of an earth moving blade were visible on the ground. These tyre marks and use of the earth moving blade were also after the fire.'*¹⁹⁷⁶
42. Detective (Technical) Sergeant Guymer opined there was no doubt that the Fire started to the east and south of the farmhouse, as proven by the photographs taken by Superintendent Regan on 7 November 2019. While he agreed with Mr Fullagar as to the suspected (general) area of origin, he was unable to identify the SAO and the specific cause of the Fire on account of the altered fire scene. Accordingly, he concluded that the cause and specific origin of the Fire was undetermined.
43. During his oral evidence, Detective (Technical) Sergeant Guymer further clarified that on his view there were too few fire indicators which were also somewhat contradictory.¹⁹⁷⁷ Additionally, he saw *'nothing in the immediate surrounds of the chicken pen to be able to make any determination as to direction of approach or a fire leaving that building'*. He found the suggestion which he believed had been put to him by Mr and Mrs Kinchin that the Fire could have ignited by way of spontaneous combustion of decaying chook manure to be *'unlikely'*.¹⁹⁷⁸
44. He also surmised that it was *'certainly possible'* but *'unlikely'* that the Fire ignited within the pile of debris caused by the reflection or refraction of a piece of glass. In conducting his examination in the vicinity of the chicken pen he had not recalled seeing any disused pieces of glass, however, he *'may well have missed a portion of glass'*.¹⁹⁷⁹ While he conceded that the prevailing wind on the day would have made it difficult for the Fire to have started in the chicken pen, fire could still burn back towards the wind, depending on the fuel available.¹⁹⁸⁰
45. Mr and Mrs Kinchin stated consistently to the NSWPF that they did not light a fire in the pile of logs on or before 7 November 2019 and to their knowledge, neither did any other person. On their recall, at around 1:30pm on 7 November 2019, they each observed the chicken pen alight and that sometime later that day, the Fire spread to the pile of logs. Mrs Kinchin's resolve on this matter remained unchanged during her oral evidence.

¹⁹⁷³ Transcript for 24 March 2022 T 41:50 – 42:15.

¹⁹⁷⁴ Transcript for 24 March 2022 T 43:20-43.

¹⁹⁷⁵ Transcript for 24 March 2022 T 14:39 – T 15:23.

¹⁹⁷⁶ Exhibit 50A, Brief of Evidence at p. 74.

¹⁹⁷⁷ Transcript for 24 March 2022 T 14:19-20.

¹⁹⁷⁸ Transcript for 24 March 2022 T 23:39-50.

¹⁹⁷⁹ Transcript for 24 March 2022 T 24:8-30.

¹⁹⁸⁰ Transcript for 24 March 2022 T 28:12-16.

46. Counsel Assisting submitted:
- a. there was insufficient evidence to identify the precise cause or point of origin of the Fire. While it is accepted that the Fire *may have been* (original emphasis) caused by debris burning from embers or burnt material escaping the pile burn, lit by a person or persons unknown, a finding could not be made on the balance of probabilities that this is the likely cause of the Fire.¹⁹⁸¹ Competing and equally likely causes of the Fire exist and to choose between them would result in impermissible speculation or conjecture.
 - b. the evidence suggested that prior to Mr Fullagar's examination of the scene on 10 November 2019, the scene had been disturbed on at least three separate occasions, with two such disturbances occasioned by machinery use. The evidence also suggested that the scene was disturbed again prior to the attendance of Mr Fullagar and Detective (Technical) Sergeant on 14 November 2019.
 - c. although theoretically possible causes such as lightning, campfire, smoking, equipment use, juvenile (fire play), rail and miscellaneous (fireworks or flares), can be eliminated from consideration, there remained insufficient circumstantial evidence to find that one possible cause of the Fire is more likely than another competing possible cause of the Fire.
 - d. it is possible that a piece of glass (unobserved) in or around the chicken pen caused ignition of the Fire by way of reflection or refraction, or that the Fire was caused by spontaneous heating or combustion of poultry manure in or around the chicken pen. However, on balance, these possibilities perhaps were tempered on account of the prevailing winds at the time and the indicators observed by Mr Fullagar of fire having advanced to the chicken pen.
 - e. it is also possible that the Fire was caused by the reflection or refraction of a piece of glass in or around the pile of debris (unobserved) particularly due to the circumstances of at least three disturbances to the scene noting that the pile was not disturbed by either Mr Fullagar or the NSWPF to either rule in or exclude this possibility. There was also insufficient evidence to include or exclude the possibility that the Fire was caused due to spontaneous heating or combustion of the debris pile.
 - f. the Fire originated in a partially cleared small paddock to the south of the farmhouse on the subject property. Where exactly it started remains unclear, although Mr Fullagar believes it started in a pile of debris located to the east and south of the farmhouse, approximately 5 metres from the gate leading into the paddock, at gride reference 401599. Contrary to the opinion evidence of Mr Fullagar, is the direct evidence of the first eyewitnesses of the Fire, Mr, and Mrs Kinchin, who have firmly stated that the Fire started in or around the chicken pen. In practical terms, the difference is largely insignificant.
47. I accept the submissions of Counsel Assisting and the reasoning provided therein as to the cause and origin of the Fire.

Section 81 Findings

48. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:
- The Hillville Fire commenced on private property, 120 Marylands Close, Hillville, in a partially cleared small paddock to the south of the farmhouse.*
- The likely cause of the Hillville Fire which commenced on or before 7 November 2019, is undetermined.*
49. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

¹⁹⁸¹ See the *Briginshaw*, test, requiring reasonable satisfaction on the balance of probabilities, whilst having regard for (a) the gravity and importance of issues to be determined, and (b) the possible consequences of a finding of guilt (see *Briginshaw v Briginshaw* (1938) 60 CLR 336, 360-363).

Part 6

Stage 1 Inquests and
Inquiries: Central/Metro
Region

6

1. Introduction

1. The Central/Metro Region of New South Wales, for the purpose of these inquests and inquiries, encompassed the LGAs of Blue Mountains, Central Coast, Cessnock, Goulburn, Greater Lithgow, Hawkesbury, Lithgow, Mid-Western Regional, Mulwaree, Oberon, Singleton, Upper Lachlan, Wingecarribee and Wollondilly.
2. The fires in this region included the biggest bushfire (from a single ignition point) in Australia's history. The fires traversed multiple LGAs and had a particularly damaging impact on the Greater Blue Mountains World Heritage Area which is home to various national parks and temperate eucalypt forests. Over 80% or 850,000 hectares of this Heritage Area was impacted by fire during the 2019/2020 bushfire season.¹⁹⁸²
3. Successful fire suppression by RAFTs and aerial resources were critical in ensuring the remaining 20% remained unburnt. This included saving the last remaining wild stands of Wollemi Pines in the world in a remote sandstone canyon within the Wollemi National Park.¹⁹⁸³
4. Tragically, two firefighters, Geoffrey Keaton and Andrew O'Dwyer also lost their lives in the Central/Metro Region in connection with the Fires. On 14 April 2022, I had the opportunity to visit the site where these terrible events occurred, attend the memorial plaque and read the various messages left in commemoration.

Hearing overview

Central/Metro Region

5. The Central/Metro group of hearings took place during 9 – 12 May 2022 (at Lidcombe) and 14 – 23 June 2022 (in Katoomba) and comprised the following proceedings:

Lidcombe

- a. Inquiry into the Green Wattle Creek (Lake Burragorang) Fire;
- b. Inquests into the deaths of Geoffrey Wesley Keaton and Andrew Joel O'Dwyer; and
- c. Inquiry into the Ruined Castle, Kedumba Valley Fire;

Katoomba

- d. Inquiry into the Gaspers Mountain (Wollemi National Park) Fire
 - e. Inquiry into the Grose Valley, Mount Wilson Fire;
 - f. Inquiry into the Little L Complex, Laguna Fire; and
 - g. Inquiry into the Palmers Oaky, Upper Turon Fire.
6. The Court and legal representatives were permitted to travel at this time. Hearings were held at Katoomba Court which sits on the lands of the Dharug and Gundungurra Peoples.
 7. At the commencement of the hearings in Katoomba, a Welcome to Country was performed at the Court by Graham Davis-King, a proud Wiradjuri and Ngiyampaa man, on behalf of the Deerubbin Local Aboriginal Land Council. Mr Davis-King spoke beautifully about his connection with the land, affiliation with the community and he also performed a traditional song related to the region.

¹⁹⁸² Exhibit 61, Brief of Evidence at p. 336.

¹⁹⁸³ Exhibit 61, Brief of Evidence at p. 336.

The impacts in more detail

8. The fires in the Central/Metro Region were substantial in geographic scope. The extent and complexity of multiple and significant fire progressions across multiple LGAs has meant the impacts are not readily distinguished by LGA alone. In this context, the information for the Central/Metro Region has been presented in a different format to earlier Regions.

Gospers Mountain (Wollemi National Park), Grose Valley, Mount Wilson and Ruined Castle, Kedumba Valley Fires

9. The Gospers Mountain (Wollemi National Park) Fire, also referred to as the “Mega Fire” or “Mega Blaze”, generated enormous community concern and significant media interest due to its close proximity to Sydney. It burnt an area of approximately 512,626 hectares and was the largest single forest fire in Australian recorded history.
10. The Gospers Mountain Fire burnt for over 15 weeks.¹⁹⁸⁴ Fanned by strong winds and unprecedented dry conditions, it spread from the Wollemi National Park to the Gardens of Stone National Park, the Yengo National Park and beyond, through the LGAs of Lithgow, the Blue Mountains, Hawkesbury, Singleton, and Cessnock. It burnt within the lands of the Darug, Gundungurra, Awabaka, Darkinjung, Wiradjuri, and Wonnarua People.¹⁹⁸⁵
11. Over 147 properties were directly impacted, with homes and other structures destroyed in Bell, Clarence, Colo Heights, Dargan, Lithgow, Newnes and Wolgan Valley. Fortunately, there was no loss of human life.¹⁹⁸⁶
12. The Gospers Mountain Fire precipitated another fire known as the Grose Valley, Mount Wilson Fire. That is, in anticipation of the likely advance of the Gospers Mountain Fire, the RFS implemented a number of strategic back burns with a view to strengthening a southern containment edge for that fire. One such back burn took place on Saturday, 14 December 2019 starting at the intersection of Mount Wilson Road and Bells Line of Road.
13. Combined, these two fires burnt over 532,546 hectares. Approximately 50,000 hectares of State Forest and some 433,000 hectares of national park tenure was impacted. This included, but was not limited to, the Parr State Conservation Area, Ben Bullens, Wolgan, Newnes, Putty and Coricudgy State Forests and the Wollemi, Gardens of Stone, Yengo and Blue Mountains National Parks.¹⁹⁸⁷ There was also several buildings in the Jemby Rinjah Eco-lodge destroyed.¹⁹⁸⁸
14. The Ruined Castle (Kedumba Valley) Fire burned predominately in the Kedumba Valley within the Blue Mountains National Park, south of the township of Katoomba in the Blue Mountains LGA and encompassed within the lands of the Dharug and Gundungurra People. The fire destroyed approximately 17,058 hectares of National Park.¹⁹⁸⁹ Damage from the Fire was reported to a home and various residential out-buildings, a cabin and infrastructure such as fencing and bridges, in particular, within the Megalong Valley area.

Green Wattle Creek (Lake Burragorang) Fire

15. The Green Wattle Creek (Lake Burragorang) Fire burned for approximately 11 weeks.¹⁹⁹⁰ During this time, the Fire burnt approximately 278,200 hectares of land across the Goulburn, Mulwaree, Oberon, Upper Lachlan, Wingecarribee, and Wollondilly LGAs, encompassed within the lands of the Gundungurra, Wiradjuri and Dharawal People.
16. The Green Wattle Creek Fire caused great loss to the community and the surrounding environment. The fire destroyed 37 homes, caused significant damage to over 100 properties, and burnt close to 240,000 hectares of native vegetation in national parks, including the Blue Mountains National Park, Kanangra Boyd National Park, and Nattai National Park.

¹⁹⁸⁴ Exhibit 55A, Brief of Evidence at p. 182.

¹⁹⁸⁵ Exhibit 55A, Brief of Evidence at p. 18.

¹⁹⁸⁶ Exhibit 55A, Brief of Evidence at p. 19.

¹⁹⁸⁷ Exhibit 55A, Brief of Evidence at p. 182.

¹⁹⁸⁸ Exhibit 56A, Brief of Evidence – Grose Valley Mount Wilson, Tab 43 (Situation Report) at p. 803.

¹⁹⁸⁹ Exhibit 53A, Brief of Evidence at p. 254.

¹⁹⁹⁰ Exhibit 52A, Brief of Evidence at p. 1089, 1092, 1209.

17. The Rocklily Wombats, a wildlife sanctuary set in the southwestern corner of the Blue Mountains National Park, suffered significant damage to approximately 38.9 hectares of the 40.5-hectare sanctuary, resulting in the immeasurable loss of native species, including wombats, koalas, endangered brush-tailed rock wallabies, eastern grey kangaroos, and greater gliders.
18. Tragically, on 19 December 2019, RFS firefighters Geoffrey Keaton and Andrew O'Dwyer were killed as a result of a falling tree impacting their appliance whilst they were undertaking firefighting activities in response to the Green Wattle Creek Fire. Numerous other firefighters and residents were also treated for injuries sustained while fighting this Fire.

Little L Complex, Laguna Fire

19. The neighbouring Singleton and Cessnock LGAs, encompassed within the lands of the Wonnarua People, were affected by the Little L Complex, Laguna Fire. The Little L Fire, and other fires with which it merged, burnt across the Cessnock and Singleton LGAs, encompassed within the lands of the Wonnarua People.
20. The Little L Fire was later included within a “complex”, or grouping, of related fires. This group of fires was renamed the Little L Complex Fire. Some of the Fires within the complex physically merged as the Fires burnt. Other fires in close proximity might not have physically merged but were managed by the RFS as part of the Little L Complex Fire.
21. The Little L Complex Fire burned for approximately nine weeks, damaging an area of approximately 171,400 hectares.¹⁹⁹¹ It destroyed or damaged at least 27 structures, including many homes in Laguna, Wollombi, and Paynes Crossing, although the precise number of homes, out-buildings and other structures impacted by the Fire is not known.

Palmers Oaky, Upper Turon Fire

22. The lands of the Wiradjuri People within the Lithgow and Mid-Western Local LGAs, were affected by the Palmers Oaky, Upper Turon Fire. This Fire burned for approximately eight weeks and burnt an area of approximately 17,414 hectares.¹⁹⁹²
23. During its run, the Fire impacted the Capertee National Park and several communities including Palmers Oaky, Running Stream and Brogans Creek. Ten homes were destroyed along with 14 outbuildings and a further 2 homes and 4 outbuildings were damaged.¹⁹⁹³ Additionally, parts of a number of large, privately owned Pine Plantation were destroyed. Fortunately, there was no loss of life.

Conclusion

24. It is clear that the Fires that burnt collectively in the Central/Metro Region were undoubtedly ferocious and had a significantly detrimental impact.
25. In total, they burnt a total of approximately 1,000,000 hectares, resulting in the damage or destruction of at least 325 structures, including many individuals' homes and outbuildings, and the loss of two lives.
26. I address each inquest and inquiry identified above as follows.

¹⁹⁹¹ Exhibit 57A, Brief of Evidence at p. 138.

¹⁹⁹² Exhibit 58A, Brief of Evidence at p. 85.

¹⁹⁹³ Exhibit 58A, Brief of Evidence at p. 85.

2. Green Wattle Creek (Lake Burragorang) Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Green Wattle Creek (Lake Burragorang) Fire.

Introduction

2. The Green Wattle Creek Fire started in late November 2019.¹⁹⁹⁴ It burned for approximately 11 weeks until it was recorded 'Out' on 10 February 2020.¹⁹⁹⁵ During this time, the Fire burnt approximately 278,200 hectares of land across the Goulburn, Mulwaree, Oberon, Upper Lachlan, Wingecarribee, and Wollondilly LGAs, encompassed within the lands of the Gundungurra, Wiradjuri and Dharawal People.
3. The Green Wattle Creek Fire caused great loss to the community and the surrounding environment. The fire destroyed 37 homes, caused significant damage to over 100 properties, and burnt close to 240,000 hectares of native vegetation in national parks, including the Blue Mountains National Park, Kanangra Boyd National Park, and Nattai National Park.
4. The Rocklily Wombats, a wildlife sanctuary set in the south-western corner of the Blue Mountains National Park, suffered significant damage to approximately 38.9 hectares of the 40.5-hectare sanctuary, resulting in the immeasurable loss of native species, including wombats, koalas, endangered brush-tailed rock wallabies, eastern grey kangaroos, and greater gliders.
5. While these findings are limited to the cause and origin of the Green Wattle Creek Fire, it should be noted that on 19 December 2019, RFS firefighters Geoffrey Keaton and Andrew O'Dwyer died while undertaking firefighting activities in connection with this Fire. The circumstances of these men's deaths is considered briefly in these findings. Separate, and more detailed, Findings into the manner and cause of these men's deaths are located in Sections 3 and 4 following.
6. Numerous other firefighters and residents were also treated for injuries sustained while fighting the Fire.

Chronology of events

27 November 2019 – a fire starts

7. On the morning of 27 November 2019, smoke was reportedly sighted in the Blue Mountains National Park from lookouts in Katoomba and surrounding suburbs.¹⁹⁹⁶
8. Several officers from the NPWS were tasked with undertaking a reconnaissance flight on the helicopter, ParkAir 3, to obtain intel on the locations and status of fires, and to provide a holistic view of the landscape to assist with devising plans of attack.¹⁹⁹⁷
9. During that flight, the officers detected three fires: the Green Wattle Creek Fire, the Red Ridge Fire which was burning in the central Blue Mountains, and a smaller fire, being the Butchers Creek Fire, which was reported to be only 2 or 3 smoking trees and largely self-extinguished.¹⁹⁹⁸

¹⁹⁹⁴ Exhibit 52A, Brief of Evidence at p. 340.

¹⁹⁹⁵ Exhibit 52A, Brief of Evidence at p. 1089, 1092, 1209.

¹⁹⁹⁶ Exhibit 52A, Brief of Evidence at p. 76-3.

¹⁹⁹⁷ Exhibit 52A, Brief of Evidence at p. 76-3.

¹⁹⁹⁸ Exhibit 52A, Brief of Evidence at p. 76-3, 76-4.

10. At 9:03am, NPWS Officer Tobias Settree took the first photographs of the Green Wattle Creek Fire.¹⁹⁹⁹ In those photographs (one below), the Fire could be seen in its infancy, with smoke billowing from amongst the trees, but no flames visible. The fire was in a remote location with heavily vegetated and mountainous terrain.



11. After the helicopter returned to base, it was tasked with assisting the RFS in waterbombing the Red Ridge Fire. It was not until 2:00pm that the helicopter was re-tasked to winch NPWS and RFS crews into the Butchers Creek and Green Wattle Creek firegrounds.
12. Officers returned to the Green Wattle Creek fireground at 2:45pm. By this time, the Fire had increased to about 32 hectares. Flame heights were reaching 3 to 5 metres, and the Fire was accelerating swiftly uphill and over a cliff-line. It was deemed too dangerous for crews to winch into the fireground.²⁰⁰⁰
13. Officers were instead winched into the Butchers Creek fireground. Nicholas Neilsen, a Field Supervisor with the NPWS described that after some time fighting the Fire on the ground with the assistance of 2 or 3 water bombing runs, there was a sudden 'flare up' and the Fire jumped containment lines. Members of the NPWS and RFS attempted to implement a hand tool line, but the Fire spread too fast. After moving to higher ground, Mr Neilsen saw that his team was almost entirely surrounded by the Fire. As the team were extracted by helicopter, the Fire began to form at their feet and a number of the team's bags began to catch fire.²⁰⁰¹
14. RFS Chief Superintendent, Simon Davis, stated that significant retardant resources were directed at the eastern edge of the Green Wattle Creek Fire to restrict its progression towards Lake Burragorang. Despite this, the Fire pushed south overnight.²⁰⁰²

¹⁹⁹⁹ Exhibit 52A, Brief of Evidence at p. 76-3, 76-4, 1475–1479.

²⁰⁰⁰ Exhibit 52A, Brief of Evidence at p. 76-5; 76-22.

²⁰⁰¹ Exhibit 52A, Brief of Evidence at p. 76-23.

²⁰⁰² Exhibit 52A, Brief of Evidence at p. 92.

Fire progression

15. The following day, on 28 November 2019, the Green Wattle Creek Fire spread approximately 3.7 kilometres to the south-west.²⁰⁰³ A section 44 declaration was issued that evening.²⁰⁰⁴
16. On 29 November 2019, the Fire had grown to 2,700 hectares and was mapped as spreading distances of up to 2.7 kilometres to the west and north-west. During this spread, the Fire was mapped as coalescing with the area of Fire previously named the Butchers Creek Fire.²⁰⁰⁵
17. Numerous other Fires joined with the Green Wattle Creek Fire over a 16-day period, between 22 November and 7 December 2019 including:²⁰⁰⁶
 - a. to the south-south-west, the Colong Stock Route, Yerranderie Fire. That Fire was identified as 'going' at about 4:00pm on 22 November 2019. It was amalgamated into the Peaks Fire on 2 December 2019.
 - b. the Peaks Fire was identified as 'going' on 28 November 2019. It joined with the Green Wattle Creek Fire on 3 December 2019.
 - c. to the west, was the Kowmung River Fire, near Oberon, which was identified as 'going' on 27 November 2019. It joined with the Green Wattle Creek Fire on 8 December 2019.
 - d. a short distance to the east of that Fire was the Thurat Fire, Oberon which was identified as 'going' on 27 November 2019. It joined with the Green Wattle Creek Fire on 1 December 2019.
18. To the north of these Fires was the Ruined Castle Fire, Kedumba Valley (also known as the Mount Solitary Fire). While the Ruined Castle Fire burned in very close proximity to the Green Wattle Creek Fire, they did not join. Nonetheless, the existence of two fires of such significance in close proximity stretched the resources available to fight both Fires from the outset.
19. On 1 December 2019, the Fire was mapped as spreading extreme and abnormal distances of up to 7.7 kilometres to the east and 3.7 kilometres to the west. Over the following days, the Fire bore down quickly on the Peaks and Colong Stock Route Fires and spread further to the east.²⁰⁰⁷
20. The following day, on 2 December 2019, the size of the Fire was reportedly 54,600 hectares. That day, the Fire had spread approximately 7.4 kilometres to the north-east. It is important to recognize it is uncommon for a Fire to spread more than 7 kilometres in two consecutive days.²⁰⁰⁸
21. By 4 December 2019, the Fire had reached the western edge of Lake Burragorang and weather conditions were severe. DS Daniel Clements, NSWPF stated that the Fire took a significant run on this day, burning rapidly up a steep incline into the surroundings of Nattai which borders Oakdale, Werombi, and Orangeville. This caused significant concern that the Fire was going to jump Lake Burragorang into the valley and find its peak up the hill or mountain towards the nearby towns.²⁰⁰⁹
22. Chief Superintendent Davis stated that at 4:57pm on 4 December 2019, the Fire spotted to the eastern side of Lake Burragorang in an area inaccessible to vehicles. The spot fire was attacked by RFS crews from boats on Lake Burragorang and water bucketing aircraft.
23. Westerly winds hindered attempts to fight the spot fire from the ground, and on 5 December 2019, those winds drove the Fire 13.2 kilometres to the east.²⁰¹⁰ The following day, on 6 December 2019, severe weather conditions caused significant spotting which ravaged parts of the communities of Nattai, Oakdale, Werombi, and Orangeville. Eleven civilians were extracted by NSW RFS Search and Rescue helicopters, and at least 13 structures were destroyed or damaged.²⁰¹¹

²⁰⁰³ Exhibit 52A, Brief of Evidence at p. 1095.

²⁰⁰⁴ Exhibit 52A, Brief of Evidence at p. 331.

²⁰⁰⁵ Exhibit 52A, Brief of Evidence at p. 1099.

²⁰⁰⁶ Exhibit 52A, Brief of Evidence at p. 1097.

²⁰⁰⁷ Exhibit 52A, Brief of Evidence at p. 1102.

²⁰⁰⁸ Exhibit 52A, Brief of Evidence at p. 1105.

²⁰⁰⁹ Transcript for 9 May 2022 T 12:35-46.

²⁰¹⁰ Exhibit 52A, Brief of Evidence at p. 1112.

²⁰¹¹ Exhibit 52A, Brief of Evidence at p. 94, 1116.

24. By the evening of 8 December 2019, the amalgamated Green Wattle Creek Fire was reportedly more than 100,000 hectares in size.²⁰¹²
25. Between 10 to 13 December 2019, the eastern-most part of the Fire proceeded past Picton and ended just to the north of Pheasant's Nest and a new linear area of Fire was mapped to the west and of Hilltop. In the middle of this Fire and the Green Wattle Creek Fire were the communities of Bargo, Balmoral, and Buxton.²⁰¹³

Backburning

26. On 14 December 2019, RFS undertook backburning in the Nattai National Park west of Buxton. The RFS intended to carry out the backburn to line up with an area of low fuel that had been the subject of a hazard reduction burn in April 2019. However, the backburn ultimately extended further south than planned, into an area with higher fuel loads.²⁰¹⁴
27. Just after midday on 14 December 2019, the backburn started progressing towards Balmoral. By 12:45pm, the backburn had crossed the southern containment line, and air support was called in. The Fire took hold and continued to spread towards Balmoral over the coming days.²⁰¹⁵
28. The RFS investigation into the backburning operation concluded that this unintended spread was due to a 'lack of clarity on containment line and backburn alignment and status within the IAP, and operational mapping'.²⁰¹⁶
29. This spread came to a tragic climax on the afternoon of 19 December 2019 when the Fire made a run to the east, impacting Balmoral and then Bargo, including the Bargo Dingo Sanctuary. A southerly change then pushed the northern flank of the Fire into Buxton.²⁰¹⁷
30. Brendon O'Connor, former Captain of the Balmoral Village Rural Fire Brigade stated that every member of his brigade made the decision to stay notwithstanding the unsafe conditions.²⁰¹⁸ They defended the village against the Fire, saving lives, including 35 people who had taken shelter at the fire station as a last resort.
31. Tragically, it was during the response to this part of the Fire that RFS firefighters Geoffrey Keaton and Andrew O'Dwyer lost their lives as a result of a falling tree impacting their appliance whilst they were undertaking firefighting activities.²⁰¹⁹
32. As at 21 December 2019, the Green Wattle Creek Fire was approximately 190,000 hectares in size. Additional properties in the Balmoral area had been lost under severe weather conditions. Fortunately, a southerly change pushed the fire away from Yanderra at a time when the Fire was within metres of impacting properties.²⁰²⁰
33. Between 22 December 2019 and 4 January 2020, the Green Wattle Creek Fire spread on all fronts. The north-west flank of the Fire extended into Jenolan and the Jenolan State Forest. The north-eastern flank had spread further past the Warragamba Gorge. In the south, it had spread as far as the Wombeyan Caves, and just past High Range.²⁰²¹
34. Most notably, there were two days during this period of extreme abnormal fire spread: 11 kilometres on 31 December 2019 and some 9 kilometres on 4 January 2020. Three homes in Jenolan and the Jenolan RFS shed were destroyed on 4 January 2020.²⁰²² Fortunately, several properties were saved by FRNSW using compressed air foam systems.²⁰²³

²⁰¹² Exhibit 52A, Brief of Evidence at p. 1119.

²⁰¹³ Exhibit 52A, Brief of Evidence at p. 1122, 1130, 1133.

²⁰¹⁴ Exhibit 52A, Brief of Evidence at p. 191, 196, 251.

²⁰¹⁵ Exhibit 52A, Brief of Evidence at p. 211; Transcript for 9 May 2022 T 15:32-34.

²⁰¹⁶ Exhibit 52A, Brief of Evidence at p. 191; Transcript for 9 May 2022 T 14:33-43.

²⁰¹⁷ Exhibit 52A, Brief of Evidence at p. 97, 1161.

²⁰¹⁸ Exhibit 52A, Tab 28, 1:07 – 2:51.

²⁰¹⁹ Exhibit 52A, Brief of Evidence at p. 1169.

²⁰²⁰ Exhibit 52A, Brief of Evidence at p. 1176.

²⁰²¹ Exhibit 52A, Brief of Evidence at p. 98–100, 1179–1188.

²⁰²² Exhibit 52A, Brief of Evidence at p. 1186, 1188.

²⁰²³ Exhibit 52A, Brief of Evidence at p. 98–100.

35. Weeks of prolonged efforts of firefighting crews were able to defend the Jenolan Caves House, a 122-year-old, heritage listed building and an icon of Blue Mountains accommodation. It is a critical part of many residents' livelihoods, and its loss would have exacerbated the damage caused by the fires to many communities with the loss of tourism. The effects were not short-term, with clean-up efforts extending the impact long after the fires had passed.²⁰²⁴
36. From 5 January 2020 onwards, the spread of the Fire was generally limited.²⁰²⁵
37. On 10 February 2020, the Green Wattle Creek Fire was recorded as 'Out'. The final extent of the Fire and associated Fires on 11 February 2020, is demonstrated in the figure below:²⁰²⁶



Figure 61 Final Extent of the Green Wattle Creek and Associated Fires on the 11/02/2020 (1:350,000 scale)

Cause and origin

38. RFS lightning strike data showed 18 lightning strikes were recorded between 11:00am on 25 November 2019 and 11:00am, 26 November 2019 (the day before the Fire was first identified) and within the first mapped area of the Fire on 28 November 2019.
39. DSC Thomas Dodd, NSWPF overlaid some of these strikes with the first linescan of the Fire taken at 12:18pm on 27 November 2019.²⁰²⁷ He identified two lightning strikes as having occurred within the area of two hot spots that formed the early stages of the Green Wattle Creek Fire.

²⁰²⁴ Exhibit 52A, Brief of Evidence at p. 99.

²⁰²⁵ Exhibit 52A, Brief of Evidence at p. 101-102.

²⁰²⁶ Exhibit 52A, Brief of Evidence at p. 1089, 1209.

²⁰²⁷ Exhibit 52A, Brief of Evidence at p. 68.

40. On 21 January 2020, a cause and origin scene investigation was commenced by RFS AFI, Andrew Sweeney. On 22 January 2020, Mr Sweeney conducted a scene investigation by air. He took digital photographs and GPS coordinates. Whilst inspecting the area where the first sightings of smoke were reported, he observed and photographed,²⁰²⁸ trees that in his view had been badly affected by lightning against the burnt-out area.²⁰²⁹ The photographs below showed trees with damage markedly different to the surrounding canopy:



²⁰²⁸ Exhibit 52A, Brief of Evidence at p. 64-14, 64-18.

²⁰²⁹ Exhibit 52A, Brief of Evidence Tabs 3 and 4; Transcript for 9 May 2022 T 26:22-45.

41. The fire indicators such as foliage freeze and angle of char that Mr Sweeney could see from the air suggested to him that the fire emanated from two trees. The trees were located in a remote area of the Kanangra-Boyd National Park approximately 15 kilometres west of the Warragamba Dam. Mr Sweeney could see no evidence of any cause of the Fire other than lightning.²⁰³⁰
42. Following his investigation, which included a review of available lightning data at the time of the initial smoke sightings, and canvassing of the relevant RFS and NPWS crews, Mr Sweeney concluded that the Green Wattle Creek Fire was caused by a lightning strike during a storm event sometime between 25 to 26 November 2019.²⁰³¹ Mr Sweeney had eliminated other possible causes of the Fire due to the inaccessible location of the area of origin and a lack of powerlines, rail lines and/or equipment use. There were also no fire trails or roads in the immediate area.²⁰³²

Section 81 Findings

43. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Green Wattle Creek (Lake Burragorang) Fire commenced sometime in the 48 hours prior to the first sighting of the fire on the morning of 27 November 2019, in remote bushland of the Kanangra-Boyd National Park, some 15 kilometres southwest of the Warragamba Dam Wall.

The Green Wattle Creek (Lake Burragorang) Fire was caused by a lightning strike to potentially two trees in the area.

44. The matter of whether it is neither necessary or desirable for any recommendations pursuant to section 82 of the Act to be made is addressed separately in respect of findings for the Stage 2 hearing into the design and safety of firefighting vehicles. This is detailed in Volume 2, Part 10, Section 4.

²⁰³⁰ Exhibit 52A, Brief of Evidence at p. 43.

²⁰³¹ Transcript for 9 May 2022 T 27:45; Exhibit 52A, Brief of Evidence at p. 44, 64-3.

²⁰³² Transcript for 9 May 2022 T 27:49-28:14.

3. Geoffrey Keaton

Why was an inquest held?

1. In this inquest, Geoffrey Wesley Keaton's identity is known, as is the date and place of his death. For this reason, the inquest into Geoffrey's death focused on the manner and cause of his death.

Introduction

2. At about 11:30pm on 19 December 2019, Geoffrey Keaton and Andrew O'Dwyer were responding to the Green Wattle Creek (Lake Burragorang) Fire near Buxton. As they travelled along Wilson Drive in Buxton, their RFS truck was struck by a falling tree, causing the truck to leave the roadway and roll. Tragically, both Geoffrey and Andrew died, and their crew were seriously injured.
3. Geoffrey Keaton was 32 years old when he died. He was a member of the RFS for 13 years. He joined the Plumpton Brigade in 2006 at the age of 18. He had followed in his father, Wes' footsteps, another long-term volunteer and member of the RFS.
4. In 2012, Geoffrey transferred to the Horsley Park Brigade, and eventually attained the rank of Deputy Captain. On 2 April 2017, Geoffrey was awarded the RFS Long Service Medal for 10 years of service.
5. Geoffrey is remembered as a loyal friend, who loved sport and the outdoors, especially fishing, camping, and four wheel driving.
6. He was farewelled at a funeral service at Pinegrove Memorial and Crematorium, Minchinbury on 2 January 2020, where he was remembered for his devotion to his brigade. He was posthumously awarded Commissioner's Commendations for Bravery and Service.
7. Geoffrey left behind his parents, Diane and Wes, brother Phil and Phil's partner Rachael, his partner and mother of his child, Jessica Hayes, and his son, Harvey.
8. The joint loss of Geoffrey and Andrew also had an enormous impact on the RFS. The RFS state that Geoffrey and Andrew were great friends with young children born just days apart from each other. They were part of a tight-knit brigade, for whom their loss was devastating.
9. In the face of that devastation, and to honour the memory and service of their colleagues, the members of the Horsley Park RFS Brigade were back in the field battling the Green Wattle Creek Fire less than 36 hours after Geoffrey and Andrew died. It was an incredible display of selflessness in tragic circumstances.
10. It is clear that Geoffrey and Andrew touched the lives of many. There have been numerous tributes to their lives and many years of service to the community:
 - a. Wingecarribee Shire Council, on behalf of the communities of Balmoral and Buxton, dedicated a memorial marking the location where the vehicle in which Geoffrey and Andrew were travelling in at the time of their deaths came to a stop.
 - b. in a collaboration between Wollondilly Shire Council, the Horsley Park RFS Brigade, Buxton RFS Brigade, and other community groups, a fire truck memorial playground was established in Telopea Park, Buxton, and dedicated to the lives of Geoffrey and Andrew.
 - c. on 19 December 2020, one year after their deaths, the Horsley Drive M7 overpass was renamed 'The Horsley Drive Keaton-O'Dwyer Bridge'.

11. On 14 April 2022, I attended an inspection of the incident site together with members from the Assisting Team, led by the OIC of the investigation, LSC Bryan Wilson, attached to the Metropolitan Crash Investigation Unit, NSWPF. At the time, we also paid our respects by way of attending the memorial plaque and reading the various messages left in commemoration.



Chronology of events

Events leading up to 19 December 2019

12. On 14 December 2019, backburning was undertaken by the RFS in Nattai National Park to the west of the village of Buxton. That backburn was not implemented as planned. Just over 300 firefighters (75 units) responded to Balmoral to contain the backburn.²⁰³³ That day, the Green Wattle Creek Fire (which was west of Buxton village), was mapped as spreading approximately 3 kilometres south and a new area of Fire was mapped south of Buxton and north of Balmoral.²⁰³⁴ The Fire was approximately 112,000 hectares and continued to grow.²⁰³⁵
13. In the afternoon of 19 December 2019, the Fire made a run to the east impacting Balmoral and then Bargo.²⁰³⁶ A southerly change then pushed the northern flank of the Fire into Buxton. 47 homes and other structures were destroyed in Balmoral, Bargo, and Buxton. The destruction and sheer ferocity of the Fire faced by the communities and brave volunteers of the RFS on that day was horrific.
14. It was this part of the Green Wattle Creek Fire that Geoffrey and Andrew were responding to on 19 December 2019.

Events of 19 December 2019

15. On the evening of 19 December 2019, between 6:30pm and 7:00pm, Geoffrey and Andrew reported for duty alongside their colleagues at the Cumberland FCC.
16. Adam Hurst was the Strike Team Leader. A strike team would ordinarily consist of 5 units of the same type of vehicle, in this instance Category '1' appliances. On this day, the Strike Team was comprised of 4 vehicles, with the last vehicle having been damaged during the day and unable to join the group.²⁰³⁷
17. The 4 vehicles travelling in 'Cumberland Strike Team Bravo' included Erskine Park 1, Horsley Park 1 Alpha, Castlereagh 1, and Regentville 1 Alpha. In addition, Mr Hurst was travelling in a separate RFS 4WD vehicle.²⁰³⁸

²⁰³³ Exhibit 52A, Brief of Evidence at p. 96.

²⁰³⁴ Exhibit 52A, Brief of Evidence at p. 1140.

²⁰³⁵ Exhibit 52A, Brief of Evidence at p. 395.

²⁰³⁶ Exhibit 52A, Brief of Evidence at p. 1161.

²⁰³⁷ Transcript for 11 May 2022 T 99:31-36; Exhibit 54, Brief of Evidence at p. 240-1.

²⁰³⁸ Exhibit 54, Brief of Evidence at p. 240-1, 240-2.

18. Geoffrey and Andrew's vehicle was identified as 'Horsley Park 1 Alpha'. It was a an RFS Isuzu Chassis Dual Cab, Category 1 Heavy Tanker appliance, with a GVM of 13.7 tonnes. The vehicle was fitted within a tank of approximately 3,500 litres which was fully loaded at the time.²⁰³⁹ The vehicle had some cabin rollover protection in the form of a metal frame that reinforced the headboard at the front of the rear tray.²⁰⁴⁰
19. Geoffrey was driving 'Horsley Park 1 Alpha' on the night of 19 December 2019. Andrew was beside him in the front passenger seat. Behind Andrew was Benjamin Fraser. Timothy Penning was seated in the middle rear seat and Carlos Quinteros occupied the final seat behind Geoffrey.²⁰⁴¹
20. Before the Strike Team departed, Mr Hurst conducted a briefing. At the time, no specific tasking was provided except to continue with general property protection. Mr Hurst stressed to the Strike Team the need to be vigilant in relation to trees as well as the normal road hazards at night and dealing with the impact of firebrands (pieces of burning wood).²⁰⁴²
21. Mr Penning, Mr Quinteros, and Mr Fraser recalled parts of that briefing.
 - a. Mr Penning recalled in his statement that they were told to be careful because there were a lot of trees coming down.
 - b. Mr Fraser recalled being advised that the Fire had come through '*hot, hard and fast, so the trees had been pretty burnt out*'.²⁰⁴³
 - c. Mr Quinteros recalled that there was an '*emphasis on the fact that there burning trees and ... structures that were already burned*' which were raised as a concern.²⁰⁴⁴
22. Following the briefing, the Strike Team were directed to attend Peak Road, Buxton to assist in the protection of properties. Upon arrival, they discovered that the Fire had already passed through, and local crews had the area under control.²⁰⁴⁵
23. Mr Hurst states that he asked the team to remain at Peak Road and at the Buxton RFS Station, until he got further taskings from the Division Commander. This was because early intelligence reports recorded that there were powerlines down along Wilson Drive, Buxton. At about 11:00pm, Mr Hurst drove along Wilson Drive to ensure it was passable and safe. There were no obstructions.²⁰⁴⁶
24. The Strike Team was then directed by the Division Commander to proceed to Hall Road some 7.2 kilometres south of Peak Road to assist with property protection and to monitor the Fire conditions. This required them to travel along Wilson Drive. Mr Hurst relayed those instructions to the Strike Team and requested they proceed to that location to meet him there so he could put them into position. He states that he reiterated to his team to '*proceed with caution, specifically and probably more so, noting that the trees that were on fire, were small in nature*'.²⁰⁴⁷
25. In those conditions, the Strike Team travelled along Wilson Drive in a single line convoy. Wilson Drive, Buxton consists of one north bound and one south bound lane, separated by a broken painted dividing line. The area either side consists of rural allotments surrounded by the Nattai National Park and Bargo State Conservation Area.
26. The Strike Team travelled in convoy in the following order: Mr Hurst in the RFS 4WD vehicle, followed by Erskine 1, Horsley Park 1 Alpha, Castlereagh 1, and then Regentville 1.²⁰⁴⁸

²⁰³⁹ Transcript for 11 May 2022 T 102:44-48.

²⁰⁴⁰ Exhibit 54, Brief of Evidence at p. 181-22.

²⁰⁴¹ Exhibit 54, Brief of Evidence at p. 181-9.

²⁰⁴² Transcript for 11 May 2022 T 99:49-100:22; Exhibit 54, Brief of Evidence at p. 240-2, 240-3.

²⁰⁴³ Exhibit 54, Brief of Evidence at p. 228, 234.

²⁰⁴⁴ Transcript for 11 May 2022 T 105:39-41.

²⁰⁴⁵ Exhibit 54, Brief of Evidence at p. 240-3; Transcript for 11 May 2022 T 100:31-48.

²⁰⁴⁶ Exhibit 54, Brief of Evidence at p. 240-3, 240-4; Transcript for 11 May 2022 T 101:1-29.

²⁰⁴⁷ Exhibit 54, Brief of Evidence at p. 181-23; Transcript for 11 May 2022 T 101:43-47.

²⁰⁴⁸ Exhibit 54, Brief of Evidence at p. 240-4.

27. Mr Hurst recalled a *'slight breeze at the time, which you could tell from the ember[s] thrown from the trees, but it wasn't gusting and would not have caused concerns'*. There was a slight smoke haze, but visibility would have been about 150 – 200 metres so he had no concerns about driving. He states there was no direct or active fire in the area and recalled the temperature was hot, extremely dry, and extremely smoky.²⁰⁴⁹
28. Weather observations from Camden Airport, the closest AWS, recorded a wind speed of 2 kilometres per hour with wind gusts up to 8 kilometres per hour.²⁰⁵⁰
29. Geoffrey and Andrew were in the second truck in the convoy. Mr Fraser said that they had the emergency light beacons on, with no siren, to help alert others that they were there due to the smoke. He recalled looking out the window and seeing small pockets of embers and smoke but said it was *'not heavy. You could still see through it'*.²⁰⁵¹
30. Mr Quinteros recalled while heading along Balmoral Drive *'there was small spot fires around the place. It was hazy, but ... visibility was still there, and it was dark, there was no street lights in the area. So the area was quite darkened out'*. He recalled they could see approximately 200 metres ahead of their vehicle.²⁰⁵²
31. Andrew Gregory, who was in the truck travelling directly behind Geoffrey and Andrew, observed it was dark, there were things smouldering like bushes and trees down that were still smouldering and alight. There was a bit of haze and, as the wind was from the west, it was pushing the smoke to the east, so he had a good view of the back of Horsley Park 1 Alpha which was about 100 metres ahead. With the vehicle lights on, Mr Gregory stated that he could see that little bit more.²⁰⁵³

A tree impacts the truck

32. Shortly before 11:20pm, and about 40 metres after passing Peregrine Lane, a large burning iron bark gum tree, approximately 30 metres in height, broke away from its base and impacted the roof and windscreen of Geoffrey and Andrew's vehicle.²⁰⁵⁴ It is believed the vehicle was travelling at approximately 70 kilometres per hour when impacted.²⁰⁵⁵
33. This tragic moment was captured by the vehicle's dashcam. That video was enhanced and slowed down by the NSWPF Forensic Imaging Section.²⁰⁵⁶ Geoffrey, as the driver, had little warning. The tree fall was sudden and devastating.
34. After impact, Geoffrey and Andrew's truck continued travelling forward from the south bound lane into the north bound lane for about 60 metres, dragging a tree branch which had broken away from the tree. At that point, the truck left the north bound lane and continued travelling up and along a dirt and vegetated embankment. After travelling about a further 32 metres, the truck started to roll. It rolled 270 degrees before coming to a complete stop on its side.²⁰⁵⁷
35. Mr Gregory, who was in the truck travelling directly behind Geoffrey and Andrew, described seeing the tree come down instantaneously in front of their vehicle. He said they *'had no chance of stopping'*.²⁰⁵⁸
36. He further described that he saw the rear lights of the truck fishtailing across the road, veering left to right and seemed to lose control before hitting a dirt gutter on the side of the road and becoming airborne. The truck then rolled and came to a stop on its side, with the passenger door facing upwards.²⁰⁵⁹

²⁰⁴⁹ Exhibit 54, Brief of Evidence at p. 181-103, 240-4.

²⁰⁵⁰ Exhibit 54, Brief of Evidence at p. 1355.

²⁰⁵¹ Exhibit 54, Brief of Evidence at p. 235.

²⁰⁵² Transcript for 11 May 2022 T 107:10-11.

²⁰⁵³ Exhibit 54, Brief of Evidence at p. 247.

²⁰⁵⁴ Exhibit 54, Brief of Evidence at p. 94-5, 99, 181-12.

²⁰⁵⁵ Exhibit 54, Brief of Evidence at p. 107; Transcript for 11 May 2022 T 90:37-43.

²⁰⁵⁶ Exhibit 54, Brief of Evidence Tab 49.

²⁰⁵⁷ Exhibit 54, Brief of Evidence at p. 94-6, 107-109.

²⁰⁵⁸ Exhibit 54, Brief of Evidence at p. 247; Transcript for 12 May 2022 T 116:13-17.

²⁰⁵⁹ Exhibit 54, Brief of Evidence at p. 247-8.

37. Mr Fraser, who was directly behind Andrew, explained that he felt the tree crumple on him from his side. After the impact, he did not believe Geoffrey was in control of the truck. He said that *'It felt like the truck sped up a bit after being hit, then a couple of seconds later, I felt us go down into the ditch and then we rolled. I am not certain but I believe the truck did a full roll as I remember being upside down at one point.'*²⁰⁶⁰

After impact

38. The other Strike Team members who had witnessed the vehicle roll out of control ran to assist by providing immediate care. The bravery of their actions in those moments was extraordinary.
39. A number of RFS crews in the area also immediately responded to radio messages for help and attended the scene. It was evident to those responding that Geoffrey had not survived the impact. First aid was administered to Andrew, before he quickly succumbed to his injuries.
40. Mr Fraser and Mr Penning were able to remove themselves from the back of the vehicle. The Strike Team, and other arriving units, worked tirelessly and successfully to assist Mr Quinteros with self-extricating from the vehicle.²⁰⁶¹ Mr Fraser, Mr Penning, and Mr Quinteros were each conveyed to Liverpool Hospital by Ambulance with serious injuries sustained as a result of the collision.

Forensic evidence

The tree

41. At around 1:00am on 20 December 2019, LSC Wilson arrived at the crash.
42. He observed the road surface was made of sealed bitumen and appeared to be in good condition. Further, the weather conditions were warm and dry, but the visibility was poor due to heavy smoke.²⁰⁶²
43. He located the remains of the tree on the road surface, shoulder, and nature strip, about 40 metres south of Peregrine Lane. It was split into two sections, one being about 20 metres in length. The base of the tree was 4 metres to the north. The tree was about 4 metres east of the edge of the lane in which Geoffrey and Andrew were travelling.²⁰⁶³
44. Little was left of the base of the tree after the fall. The overwhelming majority of the tree detached from its base and fell towards the road. The Work Health and Safety Incident Cause Analysis Method Investigation Report prepared by RFS into the incident states that the stump of the tree showed that the tree had been burnt through by approximately 60%. Only 40% of the tree was left to support its gross mass. This, combined with several large branches hanging over the roadway, caused the tree to fall. The Report posited that the remaining timber would have exhibited little control over the tree fall, with the fall instantaneous and unpredictable.²⁰⁶⁴

²⁰⁶⁰ Exhibit 54, Brief of Evidence at p. 236.

²⁰⁶¹ Transcript for 11 May 2022 T 108:5-29.

²⁰⁶² Exhibit 54, Brief of Evidence at p. 87–88; Transcript for 11 May 2022 T 86:14-37.

²⁰⁶³ Exhibit 54, Brief of Evidence at p. 95; Transcript for 11 May 2022 T 83:45-50.

²⁰⁶⁴ Exhibit 54, Brief of Evidence at p. 181-14, 181-20, 181-21.

45. An image of the tree before to the accident can be seen below, together with an image of the remaining stump of the tree after the accident:



FIGURE 2: Google Maps Street view image of the gum tree taken in November 2018

[Source: <https://www.google.com.au>]¹⁷



46. LSC Wilson located scrape marks on the road surface in the immediate area of the fallen branches and formed the view the marks were left on the road by branches dragging on the surface after falling under the moving vehicle.²⁰⁶⁵
47. LSC Wilson stated during the hearing that there was no physical evidence of any braking or evasive action after the point of impact. In his opinion, Geoffrey did not see the tree falling before impact. He did not even have the chance to do so. In his view, Geoffrey and Andrew were either knocked unconscious or killed immediately as soon as the tree impacted their vehicle.

Forensic examination of Isuzu vehicle

48. SC Jeffrey Head of the Engineering Investigation Section of the NSWPF carried out a forensic examination of the Isuzu vehicle on 8 January 2020. It was his view that before impact, there were no mechanical defects in the vehicle that may have contributed towards the collision.²⁰⁶⁶
49. As part of the Stage 2 inquiry into the safety of firefighting vehicles used by the RFS and FRNSW, the Court also heard evidence from Court appointed expert Professor Raphael Grzebieta that the speed at which the crash occurred was very high and the severity of the impact would have been particularly difficult and very complex, if not impossible, to design against.²⁰⁶⁷ The kinetic energy was around 47 times the minimum energy required by the relevant European standard.
50. To design a structure to withstand that falling object is not possible without substantial increases in mass and weight which may have the unintended consequence of possibly increasing roll-over propensity.²⁰⁶⁸ Dr Shane Richardson working with the MUARC did not think that the fitting of any systems would have mitigated the impact. His evidence was that it was *'probably an unsurvivable event in almost all vehicles that are on the road at the moment'*.²⁰⁶⁹
51. The pathologist at autopsy concluded that Geoffrey's cause of death was best described as being *'consistent with mechanical/crush asphyxia.'*

²⁰⁶⁵ Exhibit 54, Brief of Evidence at p. 96; Transcript for 11 May 2022 T 88:41-45.

²⁰⁶⁶ Exhibit 54, Brief of Evidence at p. 226; Transcript for 11 May 2022 T 94:30-95:49.

²⁰⁶⁷ Transcript for 29 March 2023 T 1244:19-21; 1244:34-35.

²⁰⁶⁸ Transcript for 29 March 2023 T 1245:16-20; 1246:20-28.

²⁰⁶⁹ Transcript for 29 March 2023 T 1245: 35-37.

Section 81 Findings

52. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Geoffrey Wesley Keaton.

Date of death

Geoffrey died on 19 December 2019.

Place of death

He died at Wilson Drive, Buxton.

Cause of death

The cause of his death was mechanical/crush asphyxia.

Manner of death

Geoffrey died at around 11:30pm, while on RFS duty at the Green Wattle Creek fireground after the fire truck he was travelling in was struck by a falling tree causing the fire truck to leave the roadway and rollover. Geoffrey's injuries were catastrophic.

53. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the design and safety of firefighting vehicles. This is detailed in Volume 2, Part 10, Section 4.
54. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Geoffrey's family and loved ones, friends, and community for their loss.
55. At the conclusion of the evidence in the inquest, Geoffrey's mum Diane shared incredibly treasured memories of Geoffrey, including a moving piece which Geoffrey, aged 11, wrote in his Year 6 journal about why volunteer firefighters play a big part in our everyday life. It is reproduced in Part 7 – Testimonials.

4. Andrew O'Dwyer

Why was an inquest held?

1. In this inquest, Andrew Joel O'Dwyer's identity is known, as is the date and place of his death. For this reason, the inquest into Andrew's death focused on the manner and cause of his death.

Introduction

2. At about 11:30pm on 19 December 2019, Geoffrey Keaton and Andrew O'Dwyer were responding to the Green Wattle Creek Fire (Lake Burragorang) near Buxton. As they travelled along Wilson Drive in Buxton, their RFS truck was struck by a falling tree, causing the truck to leave the roadway and roll. Tragically, both Geoffrey and Andrew died, and their crew were seriously injured.
3. Andrew O'Dwyer was 35 years old when he died. He had been a member of the RFS for 16 years, after joining the Fairfield Brigade in 2003. Andrew transferred to the Horsley Park Brigade shortly after joining, where he continuously served his community until his death. Andrew eventually attained the rank of Deputy Captain, and on 27 July 2013, was awarded an RFS Long Service Medal for his 10 years of service.
4. Andrew is remembered as a talented photographer who used his skills to give the world an insight into the life of an RFS volunteer.
5. Andrew's funeral was held at Our Lady of Victories Catholic Church, Horsley Park on 7 January 2020, where he was posthumously awarded Commissioner's Commendations for Bravery and Service.
6. Andrew left behind his wife, Melissa, and daughter Charlotte, together with his parents Errol and Margaret, and his sister Amanda and her family.
7. The joint loss of Geoffrey and Andrew also had an enormous impact on the RFS. The RFS state that Geoffrey and Andrew were great friends with young children born just days apart from each other. They were part of a tight-knit brigade, for whom their loss was devastating.
8. In the face of that devastation, and to honour the memory and service of their colleagues, the members of the Horsley Park RFS Brigade were back in the field battling the Green Wattle Creek Fire less than 36 hours after Geoffrey and Andrew died. It was an incredible display of selflessness in tragic circumstances.
9. It is clear that Geoffrey and Andrew touched the lives of many. There have been numerous tributes to their lives and many years of service to the community:
 - a. Wingecarribee Shire Council, on behalf of the communities of Balmoral and Buxton, dedicated a memorial marking the location where the vehicle in which Geoffrey and Andrew were travelling in at the time of their deaths came to a stop.
 - b. in a collaboration between Wollondilly Shire Council, the Horsley Park RFS Brigade, Buxton RFS Brigade, and other community groups, a fire truck memorial playground was established in Telopea Park, Buxton, and dedicated to the lives of Geoffrey and Andrew.
 - c. on 19 December 2020, one year after their deaths, the Horsley Drive M7 overpass was renamed 'The Horsley Drive Keaton-O'Dwyer Bridge'.

10. On 14 April 2022, I attended an inspection of the incident site together with members from the Assisting Team, led by the OIC of the investigation, LSC Wilson, attached to the Metropolitan Crash Investigation Unit, the NSWPF. At the time, we also paid our respects by way of attending the memorial plaque and reading the various messages left in commemoration.



Chronology of events

Events leading up to 19 December 2019

11. On 14 December 2019, backburning was undertaken by the RFS in Nattai National Park to the west of the village of Buxton. That backburn was not implemented as planned. Just over 300 firefighters (75 units) responded to Balmoral to contain the backburn.²⁰⁷⁰ That day, the Green Wattle Creek Fire (which was west of Buxton village), was mapped as spreading approximately 3 kilometres south and a new area of Fire was mapped south of Buxton and north of Balmoral.²⁰⁷¹ The Fire was approximately 112,000 hectares and continued to grow.²⁰⁷²
12. In the afternoon of 19 December 2019, the Fire made a run to the east impacting Balmoral and then Bargo.²⁰⁷³ A southerly change then pushed the northern flank of the Fire into Buxton. 47 homes and other structures were destroyed in Balmoral, Bargo, and Buxton. The destruction and sheer ferocity of the Fire faced by the communities and brave volunteers of the RFS on that day was horrific.
13. It was this part of the Green Wattle Creek Fire that Geoffrey and Andrew were responding to on 19 December 2019.

Events of 19 December 2019

14. On the evening of 19 December 2019, between 6:30 and 7:00pm, Geoffrey and Andrew reported for duty alongside their colleagues at the Cumberland FCC.
15. Adam Hurst was the Strike Team Leader. A strike team would ordinarily consist of 5 units of the same type of vehicle, in this instance Category '1' appliances. On this day, the Strike Team was comprised of 4 vehicles, with the last vehicle having been damaged during the day and unable to join the group.²⁰⁷⁴
16. The 4 vehicles travelling in 'Cumberland Strike Team Bravo' included Erskine Park 1, Horsley Park 1 Alpha, Castlereagh 1, and Regentville 1 Alpha. In addition, Mr Hurst was travelling in a separate RFS 4WD vehicle.²⁰⁷⁵

²⁰⁷⁰ Exhibit 52A, Brief of Evidence at p. 96.

²⁰⁷¹ Exhibit 52A, Brief of Evidence at p. 1140.

²⁰⁷² Exhibit 52A, Brief of Evidence at p. 395.

²⁰⁷³ Exhibit 52A, Brief of Evidence at p. 1161.

²⁰⁷⁴ Transcript for 11 May 2022 T 99:31-36; Exhibit 54, Brief of Evidence at p. 240-1.

²⁰⁷⁵ Exhibit 54, Brief of Evidence at p. 240-1, 240-2.

17. Geoffrey and Andrew's vehicle was identified as 'Horsley Park 1 Alpha'. It was a an RFS Isuzu Chassis Dual Cab, Category 1 Heavy Tanker appliance, with a GVM of 13.7 tonnes. The vehicle was fitted within a tank of approximately 3,500 litres which was fully loaded at the time.²⁰⁷⁶ The vehicle had some cabin rollover protection in the form of a metal frame that reinforced the headboard at the front of the rear tray.²⁰⁷⁷
18. Geoffrey was driving 'Horsley Park 1 Alpha' on the night of 19 December 2019. Andrew was beside him in the front passenger seat. Behind Andrew was Benjamin Fraser. Timothy Penning was seated in the middle rear seat and Carlos Quinteros occupied the final seat behind Geoffrey.²⁰⁷⁸
19. Before the Strike Team departed, Mr Hurst conducted a briefing. At the time, no specific tasking was provided except to continue with general property protection. Mr Hurst stressed to the Strike Team the need to be vigilant in relation to trees as well as the normal road hazards at night and dealing with the impact of firebrands (pieces of burning wood).²⁰⁷⁹
20. Mr Penning, Mr Quinteros, and Mr Fraser recalled parts of that briefing.
 - a. Mr Penning recalled in his statement that they were told to be careful because there were a lot of trees coming down.
 - b. Mr Fraser recalled being advised that the Fire had come through '*hot, hard and fast, so the trees had been pretty burnt out*'.²⁰⁸⁰
 - c. Mr Quinteros recalled that there was an '*emphasis on the fact that there burning trees and ... structures that were already burned*' which were raised as a concern.²⁰⁸¹
21. Following the briefing, the Strike Team were directed to attend Peak Road, Buxton to assist in the protection of properties. Upon arrival, they discovered that the Fire had already passed through, and local crews had the area under control.²⁰⁸²
22. Mr Hurst states that he asked the team to remain at Peak Road and at the Buxton RFS Station, until he got further taskings from the Division Commander. This was because early intelligence reports recorded that there were powerlines down along Wilson Drive, Buxton. At about 11:00pm, Mr Hurst drove along Wilson Drive to ensure it was passable and safe. There were no obstructions.²⁰⁸³
23. The Strike Team was then directed by the Division Commander to proceed to Hall Road some 7.2 kilometres south of Peak Road to assist with property protection and to monitor the Fire conditions. This required them to travel along Wilson Drive. Mr Hurst relayed those instructions to the Strike Team and requested they proceed to that location to meet him there so he could put them into position. He states that he reiterated to his team to '*proceed with caution, specifically and probably more so, noting that the trees that were on fire, were small in nature*'.²⁰⁸⁴
24. In those conditions, the Strike Team travelled along Wilson Drive in a single line convoy. Wilson Drive, Buxton consists of one north bound and one south bound lane, separated by a broken painted dividing line. The area either side consists of rural allotments surrounded by the Nattai National Park and Bargo State Conservation Area.
25. The Strike Team travelled in convoy in the following order: Mr Hurst in the RFS 4WD vehicle, followed by Erskine 1, Horsley Park 1 Alpha, Castlereagh 1, and then Regentville 1.²⁰⁸⁵

²⁰⁷⁶ Transcript for 11 May 2022 T 102:44-48.

²⁰⁷⁷ Exhibit 54, Brief of Evidence at p. 181-22.

²⁰⁷⁸ Exhibit 54, Brief of Evidence at p. 181-9.

²⁰⁷⁹ Transcript for 11 May 2022 T 99:49 – 100:22; Exhibit 54, Brief of Evidence at p. 240-2, 240-3.

²⁰⁸⁰ Exhibit 54, Brief of Evidence at p. 228, 234.

²⁰⁸¹ Transcript for 11 May 2022 T105:39-41.

²⁰⁸² Exhibit 54, Brief of Evidence at p. 240-3; Transcript for 11 May 2022 T 100:31-48.

²⁰⁸³ Exhibit 54, Brief of Evidence at p. 240-3, 240-4; Transcript for 11 May 2022 T 101:1-29.

²⁰⁸⁴ Exhibit 54, Brief of Evidence at p. 181-23; Transcript for 11 May 2022 T 101:43-47.

²⁰⁸⁵ Exhibit 54, Brief of Evidence at p. 240-4.

26. Mr Hurst recalled a *'slight breeze at the time, which you could tell from the ember[s] thrown from the trees, but it wasn't gusting and would not have caused concerns'*. There was a slight smoke haze, but visibility would have been about 150 – 200 metres so he had no concerns about driving. He states there was no direct or active fire in the area and recalled the temperature was hot, extremely dry, and extremely smoky.²⁰⁸⁶
27. Weather observations from Camden Airport, the closest AWS, recorded a wind speed of 2 kilometres per hour with wind gusts up to 8 kilometres per hour.²⁰⁸⁷
28. Geoffrey and Andrew were in the second truck in the convoy. Mr Fraser said that they had the emergency light beacons on, with no siren, to help alert others that they were there due to the smoke. He recalled looking out the window and seeing small pockets of embers and smoke but said it was *'not heavy. You could still see through it'*.²⁰⁸⁸
29. Mr Quinteros recalled while heading along Balmoral Drive *'there was small spot fires around the place. It was hazy, but ... visibility was still there, and it was dark, there was no street lights in the area. So the area was quite darkened out'*. He recalled they could see approximately 200 metres ahead of their vehicle.²⁰⁸⁹
30. Andrew Gregory, who was in the truck travelling directly behind Geoffrey and Andrew, observed it was dark, there were things smouldering like bushes and trees down that were still smouldering and alight. There was a bit of haze and, as the wind was from the west, it was pushing the smoke to the east, so he had a good view of the back of Horsley Park 1 Alpha which was about 100 metres ahead. With the vehicle lights on, Mr Gregory stated that he could see that little bit more.²⁰⁹⁰

A tree impacts the truck

31. Shortly before 11:20pm, and about 40 metres after passing Peregrine Lane, a large burning iron bark gum tree, approximately 30 metres in height, broke away from its base and impacted the roof and windscreen of Geoffrey and Andrew's vehicle.²⁰⁹¹ It is believed the vehicle was travelling at approximately 70 kilometres per hour when impacted.²⁰⁹²
32. This tragic moment was captured by the vehicle's dashcam. That video was enhanced and slowed down by the NSWPF Forensic Imaging Section.²⁰⁹³ Geoffrey, as the driver, had little warning. The tree fall was sudden and devastating.
33. After impact, Geoffrey and Andrew's truck continued travelling forward from the south bound lane into the north bound lane for about 60 metres, dragging a tree branch which had broken away from the tree. At that point, the truck left the north bound lane and continued travelling up and along a dirt and vegetated embankment. After travelling about a further 32 metres, the truck started to roll. It rolled 270 degrees before coming to a complete stop on its side.²⁰⁹⁴
34. Mr Gregory, who was in the truck travelling directly behind Geoffrey and Andrew, described seeing the tree come down instantaneously in front of their vehicle. He said they *'had no chance of stopping'*.²⁰⁹⁵
35. He further described that he saw the rear lights of the truck fishtailing across the road, veering left to right and seemed to lose control before hitting a dirt gutter on the side of the road and becoming airborne. The truck then rolled and came to a stop on its side, with the passenger door facing upwards.²⁰⁹⁶

²⁰⁸⁶ Exhibit 54, Brief of Evidence at p. 181-103, 240-4.

²⁰⁸⁷ Exhibit 54, Brief of Evidence at p. 1355.

²⁰⁸⁸ Exhibit 54, Brief of Evidence at p. 235.

²⁰⁸⁹ Transcript for 11 May 2022 T 107:10-11.

²⁰⁹⁰ Exhibit 54, Brief of Evidence at p. 247.

²⁰⁹¹ Exhibit 54, Brief of Evidence at p. 94-5, 99, 181-12.

²⁰⁹² Exhibit 54, Brief of Evidence at p. 107; Transcript for 11 May 2022 T 90:37-43.

²⁰⁹³ Exhibit 54, Brief of Evidence Tab 49.

²⁰⁹⁴ Exhibit 54, Brief of Evidence at p. 94-6, 107-109.

²⁰⁹⁵ Exhibit 54, Brief of Evidence at p. 247; Transcript for 12 May 2022 T 116:13-17.

²⁰⁹⁶ Exhibit 54, Brief of Evidence at p. 247-8.

36. Mr Fraser, who was directly behind Andrew, explained that he felt the tree crumple on him from his side. After the impact, he did not believe Geoffrey was in control of the truck. He said that *'It felt like the truck sped up a bit after being hit, then a couple of seconds later, I felt us go down into the ditch and then we rolled. I am not certain but I believe the truck did a full roll as I remember being upside down at one point.'*²⁰⁹⁷

After impact

37. The other Strike Team members who had witnessed the vehicle roll out of control ran to assist by providing immediate care. The bravery of their actions in those moments was extraordinary.
38. A number of RFS crews in the area also immediately responded to radio messages for help and attended the scene. It was evident to those responding that Geoffrey had not survived the impact. First aid was administered to Andrew, before he quickly succumbed to his injuries.
39. Mr Fraser and Mr Penning were able to remove themselves from the back of the vehicle. The Strike Team, and other arriving units, worked tirelessly and successfully to assist Mr Quinteros with self-extricating from the vehicle.²⁰⁹⁸ Mr Fraser, Mr Penning, and Mr Quinteros were each conveyed to Liverpool Hospital by Ambulance with serious injuries sustained as a result of the collision.

Forensic evidence

The tree

40. At around 1:00am on 20 December 2019, LSC Wilson arrived at the crash.
41. He observed the road surface was made of sealed bitumen and appeared to be in good condition. Further, the weather conditions were warm and dry, but the visibility was poor due to heavy smoke.²⁰⁹⁹
42. He located the remains of the tree on the road surface, shoulder, and nature strip, about 40 metres south of Peregrine Lane. It was split into two sections, one being about 20 metres in length. The base of the tree was 4 metres to the north. The tree was about 4 metres east of the edge of the lane in which Geoffrey and Andrew were travelling.²¹⁰⁰
43. Little was left of the base of the tree after the fall. The overwhelming majority of the tree detached from its base and fell towards the road. The Work Health and Safety Incident Cause Analysis Method Investigation Report prepared by RFS into the incident states that the stump of the tree showed that the tree had been burnt through by approximately 60%. Only 40% of the tree was left to support its gross mass. This, combined with several large branches hanging over the roadway, caused the tree to fall. The Report posited that the remaining timber would have exhibited little control over the tree fall, with the fall instantaneous and unpredictable.²¹⁰¹

²⁰⁹⁷ Exhibit 54, Brief of Evidence at p. 236.

²⁰⁹⁸ Transcript for 11 May 2022 T108:5-29.

²⁰⁹⁹ Exhibit 54, Brief of Evidence at p. 87-88; Transcript for 11 May 2022 T 86:14-37.

²¹⁰⁰ Exhibit 54, Brief of Evidence at p. 95; Transcript for 11 May 2022 T 83:45-50.

²¹⁰¹ Exhibit 54, Brief of Evidence at p. 181-14, 181-20, 181-21.

44. An image of the tree before to the accident can be seen below, together with an image of the remaining stump of the tree after the accident.



FIGURE 2: Google Maps Street view image of the gum tree taken in November 2018

[Source: <https://www.google.com.au>]²¹⁰²



45. LSC Wilson located scrape marks on the road surface in the immediate area of the fallen branches and formed the view the marks were left on the road by branches dragging on the surface after falling under the moving vehicle.²¹⁰²
46. LSC Wilson stated during the hearing that there was no physical evidence of any braking or evasive action after the point of impact. In his opinion, Geoffrey did not see the tree falling before impact. He did not even have the chance to do so. In his view, Geoffrey and Andrew were either knocked unconscious or killed immediately as soon as the tree impacted their vehicle.

Forensic examination of Isuzu vehicle

47. SC Jeffrey Head of the Engineering Investigation Section of the NSWPF carried out a forensic examination of the Isuzu vehicle on 8 January 2020. It was his view that before impact, there were no mechanical defects in the vehicle that may have contributed towards the collision.²¹⁰³
48. As part of the Stage 2 inquiry into the design and safety of firefighting vehicles used by the RFS and FRNSW, the Court also heard evidence from Court appointed expert Professor Raphael Grzebieta that the speed at which the crash occurred was very high and the severity of the impact would have been particularly difficult and very complex, if not impossible, to design against.²¹⁰⁴ The kinetic energy was around 47 times the minimum energy required by the relevant European standard.
49. To design a structure to withstand that falling object is not possible without substantial increases in mass and weight which may have the unintended consequence of possibly increasing roll-over propensity.²¹⁰⁵ Dr Shane Richardson working with the MUARC did not think that the fitting of any systems would have mitigated the impact. His evidence was that it was *'probably an unsurvivable event in almost all vehicles that are on the road at the moment'*.²¹⁰⁶
50. The pathologist at autopsy concluded that Andrew's cause of death was best described as being due to *'head injuries'*.

²¹⁰² Exhibit 54, Brief of Evidence at p. 96; Transcript for 11 May 2022 T 88:41-45.

²¹⁰³ Exhibit 54, Brief of Evidence at p. 226; Transcript for 11 May 2022 T 94:30-95:49.

²¹⁰⁴ Transcript for 29 March 2023 T 1244:19-21; 1244:34-35.

²¹⁰⁵ Transcript for 29 March 2023 T 1245:16-20; 1246:20-28.

²¹⁰⁶ Transcript for 29 March 2023 T 1245: 35-37.

Section 81 Findings

51. As a result of considering all of the documentary evidence and the oral evidence given at the inquest, the Findings I make under section 81(1) of the Act are:

The identity of the deceased

The person who died was Andrew Joel O'Dwyer.

Date of death

Andrew died on 19 December 2019.

Place of death

He died at Wilson Drive, Buxton.

Cause of death

The cause of his death was due to head injuries.

Manner of death

Andrew died at around 11:30pm, while on RFS duty at the Green Wattle Creek fireground after the fire truck he was travelling in was struck by a falling tree causing the fire truck to leave the roadway and rollover. Andrew's injuries were catastrophic.

52. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into the design and safety of firefighting vehicles. This is detailed in Volume 2, Part 10, Section 4.
53. On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my deepest sympathies, and most sincere and respectful condolences, to Andrew's family and loved ones, friends, and community for their loss.
54. At the conclusion of the evidence in the inquest, Andrew's wife Melissa shared a heartfelt and incredibly moving statement and photographs of Andrew and the extended O'Dwyer family. These are reproduced in Part 7 – Testimonials.

5. Ruined Castle, Kedumba Valley Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Ruined Castle, Kedumba Valley Fire.

Introduction

2. The Ruined Castle Fire is believed to have started on 25 November 2019. It burned for approximately 10 weeks before being recorded as 'Out' on 6 February 2020.²¹⁰⁷ It burned predominately in the Kedumba Valley within the Blue Mountains National Park, south of the township of Katoomba in the Blue Mountains LGA and encompassed within the lands of the Dharug and Gundungurra People.
3. The Fire destroyed approximately 17,058 hectares of National Park.²¹⁰⁸
4. Damage from the Fire was reported to a home and various residential out-buildings, a cabin and infrastructure such as fencing and bridges, in particular within the Megalong Valley area. Importantly, these statistics cannot hope to capture the reach of this Fire and the emotional, financial, and physical cost to the communities who bore the brunt.

Chronology of events

5. Between 25 – 27 November 2019, a series of storms passed over the Warragamba Catchment Area and a significant number of lightning strikes were recorded.²¹⁰⁹
6. As at 27 November 2019, fire crews were already involved in fighting another fire within the Blue Mountains National Park, being the Red Ridge Trail Fire. The Green Wattle Creek (Lake Burragorang) and Gaspers Mountain (Wollemi National Park) Fires were also both burning in close proximity to this area.
7. It was while combatting the Red Ridge Trail Fire that crews became aware of a fire near Ruined Castle, detecting smoke from the location at 3:44pm.²¹¹⁰ Ruined Castle is both a walking track through the Blue Mountains National Park and a natural rock formation which is a landmark on that trail.
8. Sometime after the smoke was first reported, Leigh Nolan, who was performing the role of NPWS AAS, was asked to fly over the area and provide a SITREP as to the status of the Fire and to take photographs.²¹¹¹
9. At this point, Ms Nolan had been working on the nearby Green Wattle Creek (Lake Burragorang) Fire. She knew that the remote location would make access difficult and that in addition to any suppression efforts involving aerial resources, it would take specialist RAFT to work on the Fire on the ground the next day.

²¹⁰⁷ Exhibit 53A, Brief of Evidence at p. 254.

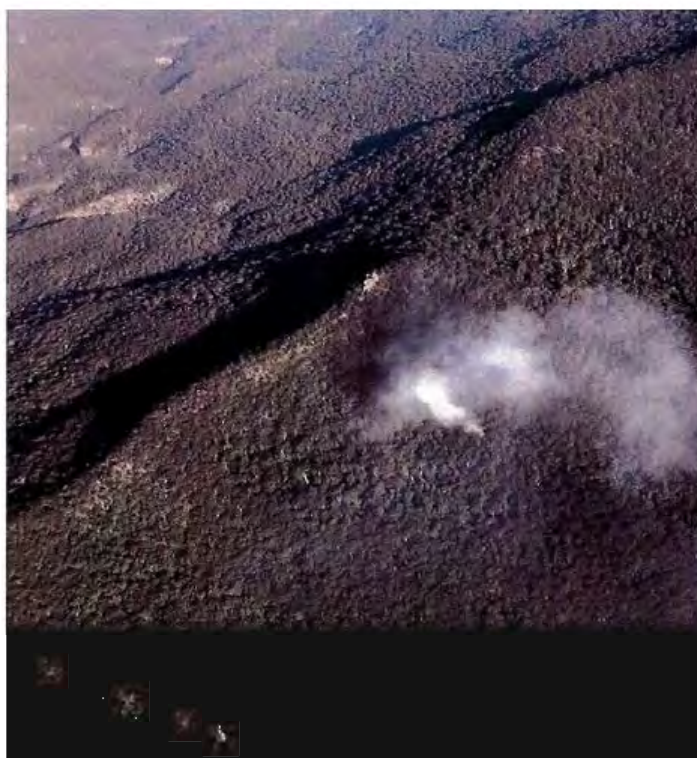
²¹⁰⁸ Exhibit 53A, Brief of Evidence at p. 254.

²¹⁰⁹ Exhibit 53A, Brief of Evidence at p. 77-16, 138.

²¹¹⁰ Exhibit 53A, Brief of Evidence at p. 58, 226.

²¹¹¹ Exhibit 53A, Brief of Evidence at p. 83.

10. Ms Nolan was able to photograph from the air the suspected ignition point for the Fire. This was in rugged country to the west of the Ruined Castle Walking Trail²¹¹² and is shown in the following image:



11. Around 4:30pm on 27 November 2019, Brendan Wilson, NPWS Senior Field Officer for the Catchment RAFT, also became aware of the Fire at Ruined Castle. Around 4:50pm, Mr Wilson attended the fire scene in a ParkAir helicopter and observed a fire about 50x40 metres in size, which he confirmed on radio.²¹¹³ At that time, and because the Fire had been detected within the Blue Mountains National Park, the NPWS were responsible for coordinating suppression efforts.
12. Around 5:35pm, Mr Wilson and a RAFT crew were winched into the fireground by helicopter. They fought the Fire with the assistance of helicopters which were bucketing water, seeking to contain it. Mr Wilson and his team were winched out at 7:15pm, at which time he observed the Fire to be very benign with no active fire.²¹¹⁴
13. On the morning of 28 November 2019, the Fire had breached containment lines overnight and fire behaviour and size had increased.²¹¹⁵ RAFT crews were again winched into the fireground and continued to fight the Fire, assisted by water-bucketing helicopters. At around 12:49pm, Ms Nolan flew over the Ruined Castle Fire to assess best options for dropping a line of retardant.²¹¹⁶
14. Aerial and RAFT ground crews continued to fight the Fire over the days that followed but encountered challenging conditions as the Fire continued to grow, including lower than expected humidity overnight on 29 November to 30 November 2019, and wind changes endangering ground crews.

²¹¹² Exhibit 53A, Brief of Evidence at p. 86.

²¹¹³ Exhibit 53A, Brief of Evidence at p. 133.

²¹¹⁴ Exhibit 53A, Brief of Evidence at p. 133-134.

²¹¹⁵ Exhibit 53A, Brief of Evidence at p. 134.

²¹¹⁶ Exhibit 53A, Brief of Evidence at p. 83.

15. On 30 November 2019, Nigel Holland, NPWS Senior Field Officer who was assisting the RAFT team in early fire suppression efforts, attended Castle Head, overlooking the fireground. He observed that fire activity had increased overnight.²¹¹⁷
16. On 1 December 2019, the Fire broke containment lines under strong westerly winds and quickly spread in all directions due to swirling winds in the valley. Efforts to bring the Fire back under control were unsuccessful. Due to the threat of Fire on properties on the southern edge of Leura, Wentworth Falls and Scenic World (where a sprinkler system and FRNSW teams were working to protect that particular asset), a section 44 declaration was made at 4:00pm to transfer the responsibility of management of the Fire to the RFS.²¹¹⁸
17. The Fire continued to grow throughout December, spreading into the Megalong Valley.
18. By 20 December 2019, fire activity had moderated, and progress was made on containment.²¹¹⁹
19. It was not until the end of 28 December 2019, that the Fire was thought to be largely contained. On 5 January 2020, the Fire was downgraded to a 'Patrol' status, and on 19 January 2020, the section 44 declaration was revoked.²¹²⁰
20. On 1 February 2020, the Fire began to stop spreading.²¹²¹
21. On 6 February 2020, the Ruined Castle Fire was authorised as 'Out.'²¹²² The final extent of the Fire is demonstrated in the fire progression map below:

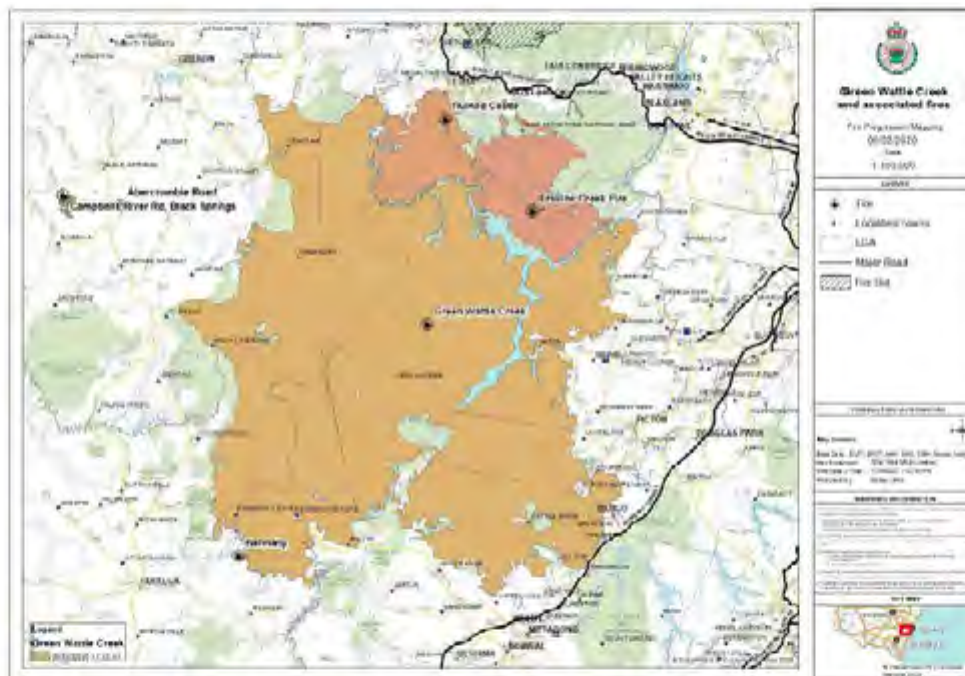


Figure 54 Fire Progression Mapping 0000, 06/02/2020 to 0000, 07/02/2020 (1:350,000 scale)

²¹¹⁷ Exhibit 53A, Brief of Evidence at p. 115.

²¹¹⁸ Exhibit 53A, Brief of Evidence at p. 150.

²¹¹⁹ Exhibit 53A, Brief of Evidence at p. 158.

²¹²⁰ Exhibit 53A, Brief of Evidence at p. 152.

²¹²¹ Exhibit 53A, Brief of Evidence at Tab 13.

²¹²² Exhibit 53A, Brief of Evidence at p. 200, 254; Tab 13.

Cause and origin

22. The NSWPF FETS did not conduct a cause and origin investigation into the Ruined Castle Fire.²¹²³
23. DSC Nicole Dunn, attached to the Blue Mountains Police Area Command, OIC, concluded that the Ruined Castle Fire commenced on or before 27 November 2019, caused by a lightning strike to a tree in the vicinity of the Ruined Castle rock formation.
24. There were a number lightning strikes between 25 – 26 November 2019 that could have started the Fire, with it only becoming visible (initially via a smoke stack) on 27 November 2019.
25. DSC Dunn provided evidence that the area of origin was remote. She was able to eliminate other potential causes of the Fire, specifically: powerlines, campfires, smoking, human activity, equipment, juvenile fire, and rail infrastructure. DSC Dunn's conclusions were largely based upon the expert evidence from the RFS fire investigator.²¹²⁴
26. In late January 2020, a cause and origin examination was carried out by AFI Darin Howell, from the RFS.²¹²⁵ He observed the scene of the Ruined Castle Fire on 22 January 2019 via helicopter. Mr Howell told the Court that this was necessary because the walking tracks into the area of origin were partially destroyed, and there was a danger of falling trees further blocking the track if an attempt was made to approach on foot.²¹²⁶ Plans to winch Mr Howell down to the ground from a helicopter were also frustrated.²¹²⁷
27. This left an aerial observation of the fire scene as the only option. This process was made easier by the fact that photographs of the Fire in its incipient stages had been taken by a ParkAir helicopter on 27 November 2019 which included GPS coordinates. One of these photographs is depicted below. Mr Howell states they *'used the GPS to locate the actual position, and then the degrees will tell you what direction you need to face and then we roughly tried to sit about the same height of – off the canopy with our aircraft as the Parkair aircraft was, and then we could project a line roughly to where the estimate place of that ignition point was.'*²¹²⁸



D007
From IC04 (Attachments), a photo taken by Park Air helicopter on 27/11/2019 showing the location of the fire when first sighted.

²¹²³ Transcript for 10 May 2022 T 48:9.

²¹²⁴ Transcript for 10 May 2022 T 39:24-30, 47:34 – 50:25.

²¹²⁵ Exhibit 53A, Brief of Evidence at p. 57.

²¹²⁶ Exhibit 53A, Brief of Evidence at p. 59; Transcript for 10 May 2022 T 52:28-37.

²¹²⁷ Transcript for 10 May 2022 T 53:24-38.

²¹²⁸ Transcript for 10 May 2022 T 54:15-19.

28. Having performed a grid search from the air, Mr Howell was then able to target an area of differential burn which *'once again could give us an indication that that's where the initial fire started.'*²¹²⁹ Otherwise there were no other macro-indicators of fire spread discernible from the air.
29. Mr Howell was eventually able to isolate a single tree that he suspected had been struck by lightning. There were no other trees with lightning damage evident from the flyover.
30. Mr Howell suggested that the Court should accept in all the circumstances, this lightning struck tree was the point of ignition of the Ruined Castle Fire.²¹³⁰
31. Mr Howell also told the Court, by reference to some of the photos he took from the air (one depicted below):

*'lightning will have a lot of effects on trees, and it'll depend on the amount of lightning that strikes the tree. It will depend on the structure and the integrity of the tree or any faults in the tree. But you can see this one, the main indicator here that we're looking at ... if this was a tree that was just burnt, it wouldn't have that unburnt timber at the top of the tree. So, this is showing that something's caused this tree to weaken very quickly, and it snapped, but if that was caused by fire, you would expect that whole trunk of a tree to actually be charring at the top. It wouldn't have clean timber where the tree snapped from some external source.'*²¹³¹



32. Further, the fact that there was no weathering on the exposed timber was significant as the wood would have been expected to decay and change colour over time.²¹³² This suggested the lightning strike was relatively recent.
33. The Court also had the benefit of photographs taken by Mr Howell of the scene, which demonstrated the remoteness of the location.²¹³³ The remoteness of the location was relevant because, firstly, the more remote the location, the less likely it was that human activity was implicated in the cause of the Fire.

²¹²⁹ Transcript for 10 May 2022 T 54:43.

²¹³⁰ Transcript for 10 May 2022 T 56:19-25.

²¹³¹ Transcript for 10 May 2022 T 57:3-11.

²¹³² Transcript for 10 May 2022 T 58:4-7.

²¹³³ Exhibit 53A, Brief of Evidence at p. 67-72.

34. On this point, the Court heard evidence from Mr Holland who had been winched into the fireground in early fire suppression efforts by RAFTs. Due to Mr Holland's familiarity with the layout of the National Park, he was able to estimate that the distance from the trail to the point where the smoke column was visible was maybe 300-400 metres with no hiking trails or fire trails linking the two spots.²¹³⁴ It followed on his view that, a person walking along the trail and wanting to reach the point where the smoke was likely to have originated, would have had to clear their way own through the bush from the trail. He also commented that there were no nearby campsites in the vicinity of the point where smoke was first observed.²¹³⁵
35. While I acknowledge that this evidence only goes so far and does not definitively exclude the possibility that the Fire was the result of human activity (whether intentional or unintentional), in the absence of a cause and origin investigation at ground level, the remoteness of the location is a relevant factor in excluding the possibility the Fire was a result of human activity.
36. Secondly and more importantly, the remoteness of the location might explain how a lightning strike to a tree might take some days for that Fire to actually ignited to a stage where it's visible and is eventually observed by humans.²¹³⁶
37. In this regard Mr Howell noted that upon his review of lightning strike data, there were two strikes on the evening of 25 November 2019 which were likely contenders for having ignited the Fire.²¹³⁷

Section 81 Findings

38. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Ruined Castle, Kedumba Valley Fire likely commenced on 25 November 2019 in remote bushland to the west of the Ruined Castle Walking Trail.

The Ruined Castle, Kedumba Valley Fire was likely caused by lightning strike on 25 November 2019.

39. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

²¹³⁴ Transcript for 10 May 2022 T 71:34-41.

²¹³⁵ Transcript for 10 May 2022 T 71:43-50.

²¹³⁶ Transcript for 10 May 2022 T 60:17-18.

²¹³⁷ Transcript for 10 May 2022 T 60:6-18.

6. Gospers Mountain (Wollemi National Park) Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Gospers Mountain (Wollemi National Park) Fire.

Introduction

2. The Gospers Mountain Fire started on 26 October 2019 and was recorded 'Out' on 10 February 2020.
3. The Gospers Mountain Fire, also referred to as the "Mega Fire" or "Mega Blaze", generated enormous community concern and significant media interest due to its close proximity to Sydney. It burnt an area of approximately 512,626 hectares, the largest single forest fire in Australian recorded history.
4. The Gospers Mountain Fire burnt for over 15 weeks. Fanned by strong winds and unprecedented dry conditions, it spread from the Wollemi National Park to the Gardens of Stone National Park, the Yengo National Park and beyond, through the LGAs of Lithgow, the Blue Mountains, Hawkesbury, Singleton, and Cessnock. It burnt within the lands of the Darug, Gundungurra, Awabaka, Darkinjung, Wiradjuri, and Wonnarua People.
5. Over 147 properties were directly impacted, with homes and other structures destroyed in Bell, Clarence, Colo Heights, Dargan, Lithgow, Newnes and Wolgan Valley. Fortunately, there was no loss of human life.
6. The Gospers Mountain Fire precipitated another fire known as the Grose Valley, Mount Wilson Fire. That is, in anticipation of the likely advance of the Gospers Mountain Fire, the RFS implemented a number of strategic back burns with a view to strengthening a southern containment edge for that Fire. One such back burn took place on Saturday, 14 December 2019 starting at the intersection of Mount Wilson Road and Bells Line of Road. This Fire is the subject of separate findings following in the next section.
7. Combined, the two Fires burnt over 532,546 hectares. Approximately 50,000 hectares of state forest and some 433,000 hectares of national park tenure was impacted. This included, but was not limited to, the Parr State Conservation Area, Ben Bullens, Wolgan, Newnes, Putty and Coricudgy State Forests and the Wollemi, Gardens of Stone, Yengo and Blue Mountains National Parks.
8. Reportedly over 80% or 850,000 hectares of the Greater Blue Mountains World Heritage Area was impacted by fires (not just these two Fires) during the 2019/2020 bushfire season. Successful fire suppression by RAFTs and aerial resources were critical in ensuring the remaining 20% remained unburnt. This included saving the last remaining wild stands of Wollemi Pines in the world in a remote sandstone canyon within the Wollemi National Park.
9. RFS Superintendent Karen Hodges, IC for the Gospers Mountain Fire described the Fire starting out as a 'sleeping giant' with some rainfall experienced in the early days of the burn. However, as soon as the weather turned, she stated the Fire 'reared its head'. On 12 November 2019, conditions became catastrophic with fire spread occurring on all 'points of the compass' with the sheer speed of the Fire overwhelming firefighters. It became clear that extensive planning would need to be undertaken to form an overall containment strategy to fight the fire and protect communities in the predicted path of its spread.
10. Superintendent Hodges stated that weather changes (both anticipated and unanticipated) and the ignition of fires by lightning around the perimeter of pre-existing fire created new blazes beyond containment lines and disrupted planned strategies and resourcing. This required alternate strategies to be revisited.
11. Conditions also reportedly limited the ability to undertake direct attack by grounds crews and aircraft.
12. There were many road closures across the region affected by these fires for significant periods. Major arterial roads affected included Bells Line of Road, Putty Road, the Darling Causeway, and the Great Western Highway due to fire impact, fire suppression and make safe activities.

13. Communities in remote locations became cut off from all telecommunications for weeks, making them even more vulnerable to oncoming fire. Some of these communities only had one road in and out, leaving some with little option but to shelter where they could and brace for impact. Even those that were on notice of the oncoming fire, were not prepared for its relentless ferocity and speed.

Chronology of events

14. At 11:00am on 26 October 2019, a rain event passed over a small knoll about 2 to 3 kilometres south-west of Gospers Mountain.²¹³⁸ Raw data obtained from the Australian GPATS network via MetraWeather, showed a potential lightning strike at 10:55am in the vicinity of the knoll.²¹³⁹ At the time, the wind speed at the closest AWS was 14.8 kilometres per/hour, wind direction was 300 degrees (being from the north-west), and wind gusts of up to 31.3 kilometres per/hour.²¹⁴⁰
15. At 12:54pm that day, a RART in a helicopter near Turon, saw smoke in the vicinity of Gospers Mountain (depicted in the photograph below). They arrived at the site of the bushfire at 1:07pm. At that time, the Fire was in its infancy. Crew member Andrew Benson recorded that he saw an active 1-2 metre flame which was burning in thick bushland and that by the time the helicopter completed its first overhead circle of the Fire, the Fire had increased in size from about 1½ football fields to 2 football fields. The Fire was being blown by westerly and north-westerly winds to the east and south-east.²¹⁴¹



16. Crew member Dalit Hazell captured the helicopter's coordinates at the edge of the Fire. Those coordinates were Latitude 33° 3' 27" S and Longitude 150° 23' 2" E, Grid Reference 557 393.²¹⁴²
17. On the following day, 27 October 2019, six NPWS officers, including Mr Benson, were winched to the ground near the Fire. Mr Benson gave evidence that on that afternoon, he saw a *'stringybark that had been hit by lightning'*. It was about two stories high, *'the top had been hit which I believe by lightning, so the tree had been split and a limb was laying down to the south'*. The foliage at the top of the tree was not intact but was intact on the limb on the ground.²¹⁴³

²¹³⁸ Exhibit 55A, Brief of Evidence at p. 133, 136.

²¹³⁹ Exhibit 55A, Brief of Evidence at p. 134.

²¹⁴⁰ Exhibit 55A, Brief of Evidence at p. 73.

²¹⁴¹ Exhibit 55A, Brief of Evidence at p. 559.

²¹⁴² Exhibit 55A, Brief of Evidence at p. 587.

²¹⁴³ Transcript for 16 June 2022, T 167:19-38.

18. In the limited time available to Mr Benson to make any observations, he stated he saw burn patterns in the form of narrow tracks that fed away from the tree to other ground that had been completely burnt. Mr Benson estimated that the tree was located about 100 metres north-west of where he entered the fireground.²¹⁴⁴ He entered the fireground at the team's anchor point, Latitude 33° 4' 5" S and Longitude 150° 23' 6" E.²¹⁴⁵
19. A further NPWS officer Lenni Smiles-Schmidt, who did not give evidence, informed the NSWPF that earlier on that same day, he saw a stringybark tree with its top section 'blown out' and stringy bark spread around its base. He told the NSWPF that the tree was north-west of the team's anchor point.²¹⁴⁶
20. The Gospers Mountain Fire proceeded to spread primarily to the east and south-east over the following 15 weeks and combined with numerous other fires.
21. The Fire was declared 'Out' on 10 February 2020.²¹⁴⁷ The final extent of the Gospers Mountain Fire and associated fires is demonstrated in the figure below:



Cause and origin

Evidence of trees affected by lightning

22. On 22 January 2020, RFS AFI Peter Jones conducted a field inspection of the suspected area of origin of the Fire, being the previously mentioned knoll located in the vicinity of Gospers Mountain.²¹⁴⁸
23. Later, on 15 June 2020, a further cause and origin investigation was commenced on the ground by DS Pieter Buining, NSWPF. Mr Jones was in attendance at that time.²¹⁴⁹
24. On 8 July 2020, Adjunct Associate Professor Trevor Blackburn, on instructions from DS Joshua Holgate, Police OIC of the cause and origin investigation, attended Mudgee Police Station to examine samples of trees collected from the suspected area of origin, Associate Professor Blackburn later provided the Court with an expert report.²¹⁵⁰

²¹⁴⁴ Transcript for 16 June 2022, T 170:3-7.

²¹⁴⁵ Exhibit 55A, Brief of Evidence at p. 560.

²¹⁴⁶ Exhibit 55A, Brief of Evidence at p. 576.

²¹⁴⁷ Exhibit 55A, Brief of Evidence at p. 933.

²¹⁴⁸ Exhibit 55A, Brief of Evidence at p. 26.

²¹⁴⁹ Exhibit 55A, Brief of Evidence at p. 86.

²¹⁵⁰ Exhibit 55A, Brief of Evidence at p. 138.

25. While there was agreement that at least one tree on the knoll was hit by lightning, and that this ignited the Gospers Mountain Fire. There was difference as to what tree was hit:
- a. Mr Jones identified a single tree as the likely point of origin (**'Tree 1'**), depicted in the photograph below:



- b. DS Buining, who was not available to give oral evidence, identified a second tree as the point of origin, about 16 to 25 metres west of Tree 1 (**'Tree 2'**), depicted in the photograph below:



- c. Associate Professor Blackburn, who did not give oral evidence or attend the site, concluded that the main lightning strike hit Tree 2 with a side flash to Tree 1.

26. This evidence does not align with the observations of Mr Benson the day after ignition. Mr Benson was shown photographs of Trees 1 and 2, as well as another tree on the fireground that was photographed by Mr Jones (**'Tree 3'**), depicted in the photograph below:



27. Tree 3 was about 150 metres to the south-east. Mr Benson's evidence was that the tree he saw:
- 'definitely' did not resemble Tree 1, which in his view was not a stringybark;²¹⁵¹
 - was a little bit smaller than Tree 2, and the top was not as high standing;²¹⁵² and
 - more closely resembled Tree 3.²¹⁵³
28. Irrespective of these discrepancies, all the evidence points to a lightning strike to one of three trees within a radius of 150 metres.
29. Mr Jones was the first expert investigator to attend the knoll after ignition. On 22 January 2020, he travelled by air to the general area that was first identified by NPWS officers on 26 October 2019 as having been affected by fire. Mr Jones walked across the area in a serpentine motion, following the fire path indicators, including foliage freeze, angle of char, and soot deposits, to an area where there was the least damage.²¹⁵⁴ All those indicators, in his view, pointed to the Fire having ignited towards a higher point on the knoll, and specifically the base of Tree 1. Mr Jones identified a split in Tree 1 that was consistent with that tree being hit by lightning. At the base of the crack was low scorching consistent with a point of ignition. The tree was located within RFS GR 558 382.²¹⁵⁵
30. Mr Jones also located Tree 3 during that investigation. The fire indicators that Mr Jones followed did not originate from Tree 3.
31. Mr Jones did not identify Tree 2 during his initial investigation. That tree was first identified as potentially having been struck by lightning by DS Buining on 15 June 2020. By that time, most fire path indicators were no longer present.

²¹⁵¹ Transcript for 16 June 2022, T 171:1-7.

²¹⁵² Transcript for 16 June 2022, T 167:46 – 168:10.

²¹⁵³ Transcript for 16 June 2022 T 168:12-40.

²¹⁵⁴ Transcript for 15 June 2022 T 154:44 – 155:22.

²¹⁵⁵ Exhibit 55A, Brief of Evidence at p. 26.

32. On 15 June 2020, DS Buining carried out a survey of the area surrounding Trees 1 and 2 within a 50-metre radius. The damage to Tree 2 was in stark contrast to that to the surrounding trees. In his view, all other trees were not deeply charred, and their upper branches and foliage were intact. Mr Buining concluded that Tree 2 was the only tree in the area that sustained major fire damage and indicated a significant lightning strike. He surmised that Tree 2 was struck by lightning which ignited a fire that consumed the tree in the upper sections, which fell to the ground and continued to burn ground cover. He did not rule out the possibility that Tree 1 was also struck, but there was no evidence at the time of his inspection in the upper tree or immediate surrounds that Tree 1 was the area of origin.²¹⁵⁶
33. Mr Jones stressed that he did not just go to the obvious tree showing damage but followed the fire indicators. He disagrees that Tree 2 was the source of ignition, as the colouration of the trunk of the tree indicated that it had been killed some time earlier, and there were no fire indicators suggesting that the fire spread from that tree in June 2020. Mr Jones did not conduct a ground-based examination for fire indicators around Tree 2 during his first investigation.²¹⁵⁷
34. Both Tree 1 and Tree 2 were cut down for forensic analysis. That analysis was carried out by Associate Professor Blackburn. Associate Professor Blackburn found de-lamination and cracking in the samples of Tree 1 and Tree 2. Those features are the main indicators of a tree having been struck by lightning; the current vaporises the moisture within the tree causing cracking, and the peeling of some of the outer bark or wood. On that basis and having regard to the photographs of the damage caused to both trees, Associate Professor Blackburn's opinion was that both trees were struck by lightning, with the main flash striking the tree with the more significant damage, Tree 2.²¹⁵⁸
35. The discrepancies in the evidence are not easy to reconcile. The fire indicators identified by Mr Jones, along with the testing by Associate Professor Blackburn, show that Tree 1 was most likely struck by lightning and ignited. However, Tree 1 did not correspond with the description of the tree identified by NPWS officers the day after ignition, nor did it display the major lightning damage of Tree 2.
36. The Court does not have the benefit of an expert investigation of fire path indicators proximate to Tree 2. These indicators had disappeared by the time that tree was identified in June 2020. In those circumstances, the opinions of Associate Professor Blackburn and DS Buining cannot be discounted.
37. Whilst it can be concluded based on the evidence that Tree 1 was hit by lightning and was a point of origin of the Fire, the Fire may also have ignited by a lightning strike to one or two other trees within a radius of 150 metres.

Lightning strike data

38. Lightning strike data does not assist in resolving the discrepancies between the evidence and identifying a specific point of origin of the Gospers Mountain Fire.
39. Raw data obtained from MetraWeather shows a likely lightning strike at 10:55am on 26 October 2019 in the vicinity of the knoll. Although this strike was originally discounted by MetraWeather, the evidence indicates that not only was it an actual lightning strike, but it could possibly have been the strike that affected either Tree 1 or Tree 2.
40. The strike was initially disregarded by GPATS due to conflicting recordings from network sensors. Weather data shows the potential strike occurring at the leading edge of a rain event that crossed over the knoll at about 11:00am on 26 October 2019. Rebekah Lo, Meteorologist and Account Manager formerly at MetraWeather, gave evidence that it was her view, given the presence of the rain event, there was a *'high likelihood'* that the recording was of a lightning strike.²¹⁵⁹ No other strikes were identified in the immediate proximity of Tree 1 or Tree 2 during October 2019.

²¹⁵⁶ Exhibit 55A, Brief of Evidence at p. 88.

²¹⁵⁷ Transcript for 15 June 2022 T 157:1-26.

²¹⁵⁸ Exhibit 55A, Brief of Evidence at p. 150.

²¹⁵⁹ Transcript for 17 June 2022 T 201:47-49.

41. The strike was recorded as about 1 kilometre north-east of Tree 1. That area was not identified by any of the experts as the source of the Fire. It does not correspond with the fire indicators recorded by Mr Jones, nor images of the early movement of the Fire, which indicate that the Fire was blown by westerly and north westerly winds to the east and south-east.
42. Ms Lo's evidence was that the location accuracy of the GPATS data depended in part on the number of sensors in the surrounding area, as well as the number that were online at the time. In the Gospers Mountain region there would usually have been an expected accuracy of 200 to 250 metres. However, at the time of ignition, two sensors were down. Ms Lo's opinion was that, because of this, it was quite possible that the strike occurred closer to the trees identified by the expert investigators, and that the location accuracy of the network on that day in the vicinity of Gospers Mountain was up to 1 kilometre.²¹⁶⁰ This appears to be likely given the evidence on the ground and of the movement of the Fire in its early stages.
43. The area first identified by the NPWS as having been affected by Fire is remote. It is situated in dense vegetation in the Wollemi National Park. There are no established bushwalking tracks leading to the suspected area of origin. The closest areas of human activity are a decommissioned airstrip some 1.7 kilometres to the west, a former army road, and some small structures 2 to 3 kilometres to the north-east on Gospers Mountain itself. The closest town is Glenn Davis, over 11 kilometres to the west.²¹⁶¹
44. According to NPWS officers, it is not an area commonly traversed by bushwalkers. Mr Jones could not find any evidence of human activity in the suspected area of origin. Nor were any signs of human activity reported by the NPWS officers who responded to the Fire on 26 and 27 October 2019. No natural substance has been identified by anyone that would be capable of spontaneous combustion.
45. On the evidence set out above, and the surrounding circumstances, on the balance of probability the most likely cause of the Fire was a lightning strike.

Section 81 Findings

46. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Gospers Mountain (Wollemi National Park) Fire commenced on the morning of 26 October 2019 on a small remote knoll in Wollemi National Park about 2 to 3 kilometres south-west of Gospers Mountain at the location of RFS GR 558 382.

The Gospers Mountain (Wollemi National Park) Fire was likely caused by a lightning strike to a tree on 26 October 2019.

47. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

²¹⁶⁰ Transcript for 17 June 2022 T 202:7-17.

²¹⁶¹ Transcript for 15 June 2022 T 150:20-30.

7. Grose Valley, Mount Wilson Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Grose Valley (Mount Wilson) Fire.

Introduction

2. The Gospers Mountain (Wollemi National Park) Fire precipitated the Grose Valley (Mount Wilson) Fire.
3. On 14 December 2019, a strategic backburn was implemented to the west of Mount Wilson Road and north of the Bells Line of Road in Mount Wilson, by firefighting authorities under the control and direction of the RFS (**Grose Valley, Mount Wilson Strategic Backburn**). This strategy was implemented in response to the southern perimeter of the Gospers Mountain Fire burning to the north and of some distance away from the communities that were ultimately heavily impacted by the backburn.
4. The Grose Valley, Mount Wilson Strategic Backburn ultimately spotted to the east of Mount Wilson Road and impacted upon properties in Mount Wilson and went on to impact communities including Berambing, Bilpin, Mount Tomah and Mount Wilson, the next day, 15 December 2019, and in the subsequent days.
5. The Grose Valley Fire burned for approximately seven and a half weeks until it was declared 'Out' on 4 February 2020.
6. Combined, the Gospers Mountain and Grose Valley Fires burnt 532,546 hectares. Approximately 50,000 hectares of state forest and some 433,000 hectares of national park tenure was impacted. This included, but was not limited to, the Parr State Conservation Area, Ben Bullens, Coricudgy, Wolgan, Putty, and Newnes State Forests and the Blue Mountains, Gardens of Stone, Wollemi and Yengo National Parks.
7. Over 80% or 850,000 hectares of the Greater Blue Mountains World Heritage Area was impacted by fires (not just these two Fires) during the 2019/2020 bushfire season. Successful fire suppression by RAFTs and aerial resources were critical in ensuring the remaining 20% remained unburnt. This included saving the last remaining wild stands of Wollemi Pines in the world in a remote sandstone canyon within the Wollemi National Park.

Chronology of events

8. During 15 December 2019, the Fire in the vicinity of the intersection of Bells Line of Road and Mount Wilson Road commenced a significant run to the east and spread 8.5 kilometres to the east-northeast. This resulted in structural damage and destruction to properties situated in Mount Wilson, Mount Tomah, Berambing and Bilpin in the subsequent days. On 15 December, the Fire also progressed well into the Grose Valley, south of the Bells Line of Road.²¹⁶²
9. On 19 December 2019, the Fire crossed the Grose River.²¹⁶³
10. On 20 December 2019, this extension of the Gospers Mountain Fire south of the Grose River was annexed to the Blue Mountains IMT. From this day, the fire originating from the Mount Wilson Strategic Backburn became known as the Grose Valley Fire.²¹⁶⁴

²¹⁶² Exhibit 55A, Brief of Evidence at p. 1104, 1108.

²¹⁶³ Exhibit 56A, Brief of Evidence at p. 765.

²¹⁶⁴ Exhibit 56A, Brief of Evidence at p. 769.

11. The Grose Valley Fire was recorded as 'contained' by 2 January 2020 and was authorised as 'Out' on 4 February 2020.²¹⁶⁵ The final extent of the Fire and associated fires is demonstrated in the figure below.



Cause and origin

12. On 21 January 2020, a joint agency investigation was conducted by the NSWPF FETS, RFS, and FRNSW. The following persons were present:
- Mr Darin Howell, RFS AFI, Macarthur FCC;
 - SSGT Neil Welschinger, NSWPF Sydney Crime Scene Section; and
 - Ms Susan Bayliss Fire Investigator, FRNSW.
13. This investigation examined the scene where the Fire, suspected to have commenced as a result of a spot over from a strategic backburn along Mount Wilson Road, crossed the Grose River and spread into a new LGA and thereafter took on the name of the Grose Valley Fire. A scene examination of the point to the east of Mount Wilson Road, where the Fire commenced was not ultimately undertaken. This matter was the subject of the Stage 2 hearing into the investigation of fires by the RFS (this is addressed separately in Volume 2, Part 10, Section 1).
14. DS Laura Harvey attached to the Hawkesbury Police Area Command, OIC, found no evidence to suggest that the Fire that spotted to the east of Mount Wilson Road, might have actually spotted from the Gaspers Mountain Fire, then burning some kilometres to the north and on that basis, excluded that as a potential cause of the Grose Valley Fire.²¹⁶⁶
15. DS Harvey was further able to exclude other potential ignition sources in the course of her investigation; she found no evidence to suggest that powerlines or electricity infrastructure might be implicated in the Grose Valley Fire, nor evidence to suggest lightning, camp-fire, smoking, debris burning, equipment usage, and juvenile fire play or any other evidence pointing to suspicious circumstances leading to the ignition of this Fire.²¹⁶⁷
16. DS Harvey accepted that the conclusions she expressed excluding the above potential ignition sources were based on the absence of any evidence, rather than the physical examination of the scene which would definitely exclude things like camp-fires and cigarette smoking.²¹⁶⁸

²¹⁶⁵ Exhibit 56A, Brief of Evidence at p. 814.

²¹⁶⁶ Transcript for 16 June 2022 T 181:44-47.

²¹⁶⁷ Transcript for 16 June 2022 T 181:49-182:28.

²¹⁶⁸ Transcript for 16 June 2022 T 182:30-34.

17. DS Harvey agreed with the proposition that the cause of the Grose Valley Fire can reasonably be recorded as arising as a result of spotting to the east of Mount Wilson Road, from a strategic backburn lit in an attempt by the RFS to strengthen a southern containment line in response to the Gospers Mountain Fire.²¹⁶⁹
18. Mr Howell and SSGT Welschinger were not able to proffer an opinion as to the cause and origin of the Grose Valley Fire given that the scope of their joint agency investigation, was directed to determining where and why Fire had crossed the Grose River and spread into a new LGA.²¹⁷⁰
19. Mr Matthew O'Donnell, RFS Capability Manager with Hunter Area Command conducted a factual investigation into the backburning operations on 14 December 2019, during the Gospers Mountain Fire.²¹⁷¹
20. The scope of Mr O'Donnell's factual investigation into the Gospers Mountain Fire was limited to the circumstances and sequences of events that were related to the loss of containment of the backburn around Mount Wilson. It was not within the scope of his investigation to determine cause and origin based on a physical fire investigation. However, following a review of the evidence he surmised that the impact on the communities was understood to have originated from spot overs from the backburning operation in the Bell Division on 14 December 2019 and their subsequent spread. He agreed with DS Harvey's view, that the spot fires were a significant distance, from the Gospers Mountain main fire front and he was not aware of any other potential ignition sources.
21. He estimated that the southern edge of the Gospers Mountain Fire on 14 December 2019 was approximately 12 kilometres to the north of the Mount Wilson northern interface. On his view, while it's not impossible for embers to travel that distance, it would be abnormal, and he didn't believe that the conditions on the day were conducive to spotting of that distance, nor in that direction, because at the time of the spot overs, the wind was coming from a south-south-westerly position. Accordingly, he opined it is extremely unlikely that the Fire to the east of Mount Wilson Road resulted from spotting from the Gospers Mountain Fire.
22. Mr O'Donnell further clarified that no other evidence was advanced by the IMT, nor any witnesses during his investigation, that suggested the Grose Valley Fire was caused by '*juvenile fire play, lightning activity, et cetera.*' All the evidence he reviewed in the course of his investigation pointed to the Fire that commenced on 14 December 2019, to the east of Mount Wilson Road, as originating as a result of spot overs from a backburn within the Bell division anchored off Bells Line of Road and Mount Wilson Road.

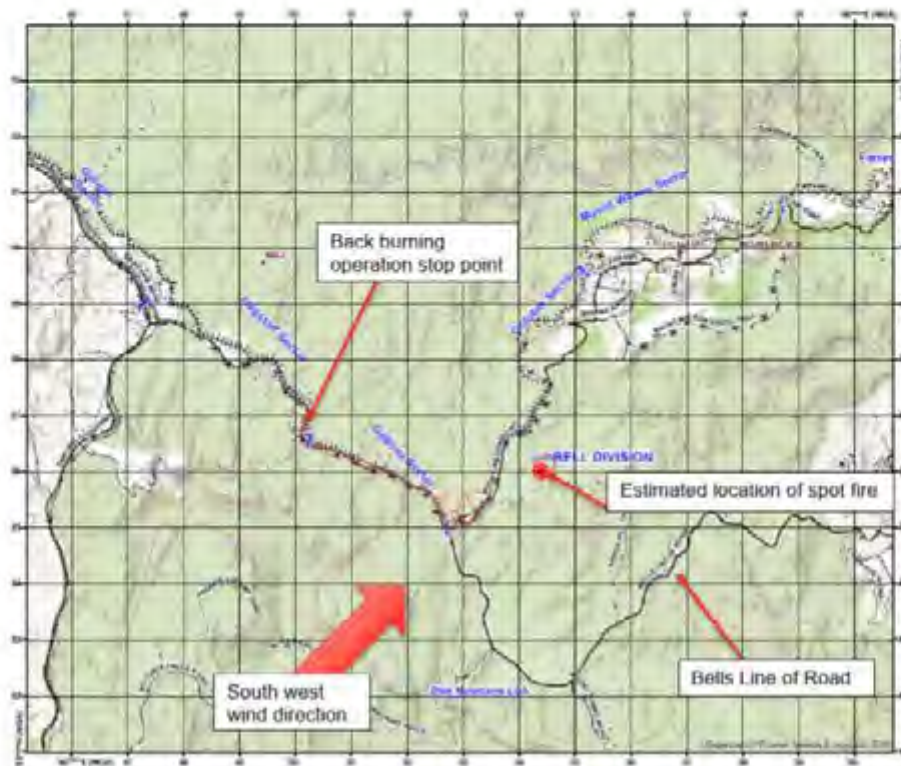
²¹⁶⁹ Transcript for 16 June 2022 T 182:36-42.

²¹⁷⁰ Transcript for 16 June 2022 T 188: 21:23; Transcript for 17 June 2022 T 205:14-17, T 206: 43-49, T 207:27-30.

²¹⁷¹ Exhibit 56A, Brief of Evidence, Tab 11.

23. Finally, Mr O'Donnell maintained the following conclusion in his Factual Investigation Report:

*'The investigation was unable to determine the precise origin of the spot overs, based on physical evidence or a review of operational records and witness testimony. Based on the evidence at hand, it is likely that the spot overs originated from the back burn along Mount Wilson Road spreading rapidly based on terrain and escalating weather conditions and outflanking the crews. However, a spot over originating from the back burning along Bells Line of Road cannot be ruled out.'*²¹⁷²



Section 81 Findings

24. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Grose Valley Fire commenced on 14 December 2019 in dry sclerophyll forest with shrubby understory of heavy fuel load situated on steep terrain, in an area inaccessible by foot, to the east of Mount Wilson Road.

The Grose Valley Fire was caused by spotting from a strategic backburn in the Bell Division implemented by firefighting authorities under the control and direction of the RFS on 14 December 2019, along the intersection of the Bells Line of Road and Mount Wilson Road. This strategy was implemented in response to the southern perimeter of the Gospers Mountain Fire burning to the north.

25. The matter of whether it is necessary or desirable for any recommendations pursuant to section 82 of the Act to be made will be addressed separately in respect of findings for the Stage 2 hearing into backburning operations. This is detailed in Volume 2, Part 10, Section 5.

²¹⁷² Exhibit 56A, Brief of Evidence at p. 145.

8. Little L Complex, Laguna Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Little L Complex, Laguna Fire.

Introduction

2. The Little L Complex Laguna Fire is believed to have started on 22 November 2019 and was declared 'Out' on 24 January 2020.²¹⁷³ It was originally called the Stockyard Creek Fire due to its proximity to Stockyard Creek.
3. Stockyard Creek is located in the Yengo National Park, north-east of an area called Finchley Lookout. The Yengo National Park stretches from Wisemans Ferry to the Hunter Valley within the Blue Mountains World Heritage Area.
4. The Little L Fire, and other fires with which it merged, burnt across the Cessnock and Singleton LGAs, encompassed within the lands of the Wonnarua People.
5. The Little L Fire was later included within a "complex", or grouping, of related fires. This group of fires was renamed the Little L Complex Fire. Some of the fires within the complex physically merged as the fires burnt. Other fires in close proximity might not have physically merged but were managed by the RFS as part of the Little L Complex Fire.
6. The fires comprising the broader Little L Complex Fire were the:
 - a. Stockyard Creek Fire, later renamed the Little L Fire;
 - b. Paddock Run Fire;
 - c. Milbrodale Road Fire, later renamed the Drews Creek Fire;
 - d. Vault Creek Fire;
 - e. Blue Gum Fire;
 - f. New Found Fire; and
 - g. Werong Creek 2 Fire.
7. The Fires ultimately comprising the Little L Complex Fire were merged or amalgamated into the Little L Complex Fire on various dates between 1 to 22 December 2019.
8. The Little L Complex Fire burned for approximately nine weeks, damaging an area of approximately 171,400 hectares.²¹⁷⁴ It destroyed or damaged at least 27 structures, including many homes in Laguna, Wollombi, and Paynes Crossing, although the precise number of homes, out-buildings and other structures impacted by the Fire is not known.

²¹⁷³ Exhibit 57A, Brief of Evidence at p. 138.

²¹⁷⁴ Exhibit 57A, Brief of Evidence at p. 138.

Chronology of events

9. Between 22 – 25 November 2019, a series of storms passed over the Yengo National Park and a number of lightning strikes were recorded within 2 kilometres of the suspected point of ignition of the Little L Fire, in the vicinity of Stockyard Creek.²¹⁷⁵ This is evident from Bureau lightning strike data. Other evidence obtained from the Bureau shows that whilst there were numerous lightning strikes, there was only minimal rainfall recorded in the AWSs closest to the area where the Little L Fire was first observed.²¹⁷⁶
10. At around 8:00am on 25 November 2019, NPWS AAS Paul Sandilands was responding to the Gaspers Mountain Fire by aircraft. He told the Court he was working on six different fires and supervising firefighting activities on all those fires at the time, which says something about the broader context within which the response to the Little L Fire was placed.²¹⁷⁷
11. At some point during that morning, while at the IMT location in Bulga, Mr Sandilands was alerted to the possibility of a new fire in the vicinity of Stockyard Creek.²¹⁷⁸
12. It is unknown who first reported this Fire or what they saw to alert them to its presence.
13. Mr Sandilands responded and investigated the scene from the air. He mapped two small fires in the vicinity of Stockyard Creek on his iPad and communicated it to the FCC to organise a firefighting response. He identified a third fire in the general area (but it was not mapped on the same map providing details of the location for the Stockyard Creek Fire).
14. The other fire mapped at the same time as the Stockyard Creek Fire was in the vicinity of Howes Trail, also within the Yengo National Park. Mr Sandilands estimated the fires were about 4 kilometres away from each other in a direct line.²¹⁷⁹ The progression of these Fires during 25 – 26 November 2019 is demonstrated in the figure below:



Figure 52 Fire Progression Mapping 0000, 25/11/2019 to 0000, 26/11/2019 (scale 1:600,000)

15. On 26 November 2019, the Stockyard Creek Fire was renamed the Little L Fire. Water-bucketing helicopters were deployed to attempt to contain the Fire in remote reaches of the National Park. Wind conditions prevented RAFTs from being winched into the scene and there was no vehicular access. Later in the day, wind conditions and storm activity grounded all aircraft.²¹⁸⁰

²¹⁷⁵ Exhibit 57A, Brief of Evidence at p. 14.

²¹⁷⁶ Exhibit 57A, Brief of Evidence at p. 13.

²¹⁷⁷ Exhibit 57A, Brief of Evidence at p. 37 – 38; Transcript for 20 June 2022 T 248:2.

²¹⁷⁸ Exhibit 57A, Brief of Evidence at p. 38.

²¹⁷⁹ Transcript for 20 June 2022 T 250:42-44.

²¹⁸⁰ Exhibit 57A, Brief of Evidence at p. 104.

16. Fire activity increased across the coming days, and, by 29 November 2019, a section 44 declaration was made to transfer the responsibility of management of Fires to the RFS.
17. In the Cessnock LGA and parts of the Singleton LGA, which included the Little L Fire.²¹⁸¹
18. In addition to the group of fires that would ultimately become the Little L Complex Fire, some localities were being threatened by more than one fire, and on more than one front including the Gaspers Mountain Fire, the Thompsons Road Fire and the Kerry Ridge Fire. The Fires had the potential to heavily impact upon communities at Bucketty, Congewai, Laguna, Murrays Run and Wollombi. Approximately 2,500 structures were expected to come under threat over the following weeks. The complexity of the threat was heightened by the fact that containment lines previously prepared had been breached and firefighters were forced to fall back to main roads, villages and towns.²¹⁸²
19. On 1 December 2019, wind gusts increased erratic fire activity. Smoke eventually grounded aircraft. The Little L Fire had spotted across the Stockyard Creek track. On this day, the Little L Fire and the Blue Gum Fire were amalgamated and renamed the Little L Complex Fire.²¹⁸³
20. On 3 December 2019, the New Found Fire was amalgamated into the Little L Complex Fire.²¹⁸⁴
21. On 4 December 2019, the Little L Complex Fire continued to burn in an easterly and south-easterly direction and was expected to encroach upon properties in the Wollombi and Laguna areas, such that crews were tasked to prioritise the protection of life and property.²¹⁸⁵
22. On 6 December 2019, the Paddock Run Fire made an extreme and anomalous 11 kilometre run and coalesced with the Little L Complex Fire.²¹⁸⁶
23. Between 6 and 7 December 2019, the Vault Creek Fire, the Drews Creek Fire, and the Werong Creek 2 Fire were amalgamated into the Little L Complex Fire.²¹⁸⁷
24. On 23 January 2020, the section 44 declaration encompassing the Little L Complex Fire was revoked.²¹⁸⁸
25. At 12:15pm on 24 January 2020, the Little L Complex Fire was recorded as 'Out'.²¹⁸⁹ The final extent of the Fire is demonstrated in the figure below:

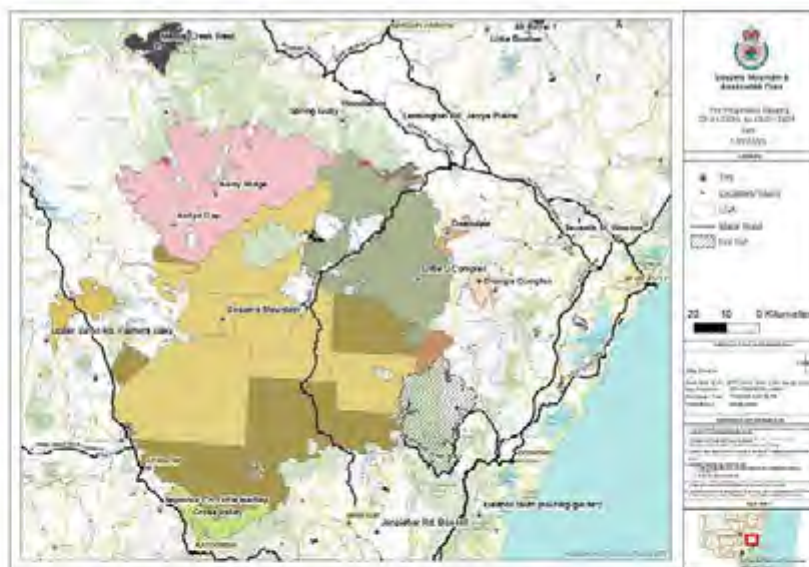


Figure 16 Fire Progression Mapping 0000, 22/01/2020 to 0000, 29/01/2020 (1:600,000 scale)

²¹⁸¹ Exhibit 57A, Brief of Evidence at p. 4, 96.
²¹⁸² Exhibit 57A, Brief of Evidence at p. 45.
²¹⁸³ Exhibit 57A, Brief of Evidence at p. 111, 187.
²¹⁸⁴ Exhibit 57A, Brief of Evidence at p. 187.
²¹⁸⁵ Exhibit 57A, Brief of Evidence at p. 117.
²¹⁸⁶ Exhibit 57A, Brief of Evidence at p. 218
²¹⁸⁷ Exhibit 57A, Brief of Evidence at p. 186
²¹⁸⁸ Exhibit 57A, Brief of Evidence at p. 97–98.
²¹⁸⁹ Exhibit 57A, Brief of Evidence at p. 138.

Cause and origin

26. There was ultimately no scene investigation for the Little L Fire undertaken by the NSWPF or the RFS.
27. In June 2020, DSC Katie Platt, attached to the Muswellbrook Police Station, OIC, requested Police Aviation Command, commonly known as PolAir, to winch a fire investigator into the scene. Although, this was some months after the fire had commenced, it was possible that some macro indicators might have survived at the scene and the investigation might have been able to rule out human activity as a potential cause for the Fire.
28. Unfortunately, but understandably, the helicopter was diverted mid-flight to a critical incident (a police shooting) and no further physical scene examination was attempted.²¹⁹⁰
29. In these circumstances, I place particular weight upon the evidence of Paul Sandilands, NPWS AAS, who gave oral evidence.
30. At around 8:00am on 25 November 2019, Mr Sandilands flew over the area of the Stockyard Flat Fire. He recorded the location of both the Stockyard Flat Fire and the Howes Trail Fire.
31. I accept that the Little L Fire was first recorded by about 8:00am on 25 November 2019 and had been first observed some time prior to that. DSC Platt endorsed this proposition during her oral evidence.²¹⁹¹
32. In terms of human activity being implicated as the cause of the Little L Fire, Mr Sandilands was asked to consider the possibility that someone could trek from the scene of the Howes Fire (located on or near an open trail within the National Park) to the scene of the Little L Fire. Mr Sandilands told the Court:

*'The vegetation that I saw there is it's typical sandstone country, which is quite steep and difficult to walk around in. There was an old, or there appeared to be an old trail marked on an old map that I looked at,...however that trail is long overgrown and hasn't been used by, you know, anyone using a motor vehicle for quite a long time, years, many years. ... When I say "vehicle trail" I just mean that like the cuttings for the trail are still there, however there's full vegetation growing on the surface of the trail, so it's impossible to drive a motor vehicle along it...The trail is on a ridgeline. A person could with, you know, skills and experience could walk along that area, but I believe it would be highly unlikely.'*²¹⁹²
33. In the absence of an examination into the suspected point of origin for the Little L Fire, this is important evidence in excluding human activity as a possible cause for this Fire. Whilst it can never be definitively ruled out, there is simply no evidence to rule it in.
34. Lightning strike data obtained from the Bureau showed a number of strikes in the vicinity of the area where Mr Sandilands first plotted the Little L Fire. At the request of DSC Platt, these strikes were then plotted onto a map of the suspected area of origin by Acting SSGT Jost Preis attached to the NSWPF Operations Mapping Unit.²¹⁹³ This evidence showed that several of the lightning strikes in the vicinity of the suspected area of origin occurred *after* Mr Sandilands first plotted the presence of the Little L Fire. Hence, those strikes might have ultimately introduced more fire into the environment, however it can be concluded they did not cause the Little L Fire. The lightning strike data did however demonstrate the presence of a lightning strike within 2 kilometres of the point where Mr Sandilands first plotted the Little L Fire, occurring on 22 November 2019 at 3:12pm.²¹⁹⁴
35. Mr Sandilands gave evidence that a fire initiated by lightning strike could smoulder undetected for a couple of days before starting to smoke and take a run. In remote country such as the Yengo National Park, a fire might burn for a period of time before becoming visible to humans.²¹⁹⁵

²¹⁹⁰ Exhibit 57A, Brief of Evidence at p. 19.

²¹⁹¹ Transcript for 20 June 2022 T 240:5.

²¹⁹² Transcript for 20 June 2022, T 251:9-30.

²¹⁹³ Exhibit 57A, Brief of Evidence at p. 31-34.

²¹⁹⁴ Exhibit 57A, Brief of Evidence, Tab 19.

²¹⁹⁵ Transcript for 20 June 2022, T 253:9-14.

36. In Mr Sandilands' opinion, the mere fact of a lightning strike on 22 November 2019 causing a fire to start, unnoticed until 25 November 2019, did not detract from the theory that the Little L Fire was caused by lightning.
37. Finally, I note that in April 2022, DSC Platt requested a cause and origin statement from the NSWPF FETS. DS Alexander Gill attached to the Newcastle Police Crime Scene Section provided a statement to the Inquiry in May 2022.²¹⁹⁶ DS Gill did not undertake a scene examination but offered his opinion as to the cause and origin of the Little L Fire on the strength of a paper review. He concluded that it was unlikely that there was human involvement causing the Little L Fire, having regard to Mr Sandilands' observations. He concluded that all information and evidence indicated that the Fire was caused by lightning strike, based on lightning strike data and his own training, knowledge, and experience, that this is a common cause of bushfires in the right conditions.²¹⁹⁷

Section 81 Findings

38. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Little L Complex Fire, Laguna most likely commenced on the afternoon of 22 November 2019, in bushland in the Yengo National Park near Stockyard Creek. The existence of this Fire was first validated by NPWS by way of aerial reconnaissance, on 25 November 2019.

The Little L Complex Fire, Laguna was most likely caused by a lightning strike on 22 November 2019.

39. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

²¹⁹⁶ Exhibit 57A, Brief of Evidence at p. 28-3.

²¹⁹⁷ Exhibit 57A, Brief of Evidence at p. 28-7, 28-8.

9. Palmers Oaky, Upper Turon Fire

Why was an inquiry held?

1. An inquiry was held under section 30(1) of the Act to determine the cause and origin of the Palmers Oaky, Upper Turon Fire.

Introduction

2. The Palmers Oaky Fire ignited on 4 December 2019 and burned for approximately 58 days before it was recorded 'Out' on 31 January 2020.²¹⁹⁸ The Fire burnt an area of approximately 17,414 hectares on the lands of the Wiradjuri People within the Lithgow and Mid-Western Local LGAs.²¹⁹⁹
3. During its run, the Fire impacted the Capertee National Park and several communities including Palmers Oaky, Running Stream and Brogans Creek. 10 homes were destroyed along with 14 outbuildings and a further 2 homes and 4 outbuildings were damaged.²²⁰⁰ Additionally, parts of a number of large, privately owned Pine Plantation were destroyed. Fortunately, there was no loss of life.
4. Firefighting efforts were hampered by inaccessible terrain, extreme weather conditions, and limited resources. Despite this, 45 homes were saved by the efforts of the RFS. Fourteen members of the Palmers Oaky RFS Brigade received Premier Citations for their efforts.

Chronology of events

5. The Palmers Oaky Fire ignited at about 11:30am on 4 December 2019.
6. At that time, Jamie Edwards and Mark Turner were carrying out fencing work at the boundary of two adjacent properties in Upper Turon. The properties were 'Eldracam Springs', at 1620 Upper Turon Road, Upper Turon, and the adjacent property to the north, 'Bingletree', at 1616 Upper Turon Road, Upper Turon. Mr Edwards had been hired by part-owner of Eldracam Springs, Charbel Tannous, to erect a series of fences on Eldracam Springs. Mr Turner was contracted by Mr Edwards.
7. The fencing work involved the use of a welder. Strainer and star picket posts were inserted into the ground, pegged down, with stays running diagonally between the strainer and the nearest star picket post. The stays were welded near the top of the strainer posts using a stick welder.
8. It was Mr Turner's first day on the job. He was asked by Mr Edwards to weld. Eager to impress his new boss, and to secure further work, Mr Turner agreed to operate the welder. He had welded before in Western Australia. That welding was done in a shed and '*not so much*' in the field.²²⁰¹
9. Mr Edwards tasked Mr Turner with welding a stay to a strainer post in the field, where a new fence intersected at a perpendicular angle with the boundary fence separating Eldracam Springs and Bingletree. Metres to the west was the Tobins Oaky Trail. About 50 metres to the east was a dry creek bed known as Tobins Oaky Creek.
10. At the time, Mr Edwards was aware of the risk of fire. He knew that the property, like the surrounding area, was affected by drought. The conditions were hot and dry.

²¹⁹⁸ Exhibit 58A, Brief of Evidence at p. 812.

²¹⁹⁹ Exhibit 58A, Brief of Evidence at p. 812.

²²⁰⁰ Exhibit 58A, Brief of Evidence at p. 85.

²²⁰¹ Transcript for 22 June 2022 T 308:32-38.

11. Whilst Mr Turner was welding, Mr Edwards was acting as a spotter. His task was to identify and put out any ignition caused by the welder. Mr Edwards had no firefighting equipment with him.²²⁰² Before the start of the weld, he did not arrange to:
 - a. wet down the area around the strainer post;
 - b. put down a tarpaulin;
 - c. clear an area around the post;
 - d. ensure a fire extinguisher was present; or
 - e. ensure that he had with him a spray pack or other firefighting unit.²²⁰³
12. There was only one operational firefighting unit on Eldracam Springs. The evidence of the part-owner, Mr Tannous, was that there was a 1,000-litre pod on a trailer on the property. However, the trailer was defective and could not be moved. The jockey wheel was broken. This left a weed sprayer in the tray of a Ute as the one operational firefighting unit on the property.²²⁰⁴
13. Spencer Morgan, an employee of the owners of Eldracam Springs, gave evidence that on the morning of 4 December 2019, he had the weed sprayer on a paddock that he was ploughing using a bulldozer. The paddock was over a rise about 500 metres away from the fencing work being carried out by Mr Edwards. There was no line of site to that work.²²⁰⁵ Mr Edwards claimed that the unit was significantly closer; although I note Mr Edwards drove to Mr Morgan to secure the use of the weed sprayer after the start of the Fire.²²⁰⁶
14. The evidence differs as to who first spotted the Fire. Mr Turner gave evidence that he smelt ‘burning’ whilst welding a stay to the strainer post that intersected the northern boundary fence.²²⁰⁷ He looked up and saw a fire in the serrated tussock on the opposite side of the boundary fence, on Bingletree. Mr Turner jumped the fence with Mr Edwards and began putting out the fire with their boots. Although Mr Edwards was acting as spotter, he did not alert Mr Turner to the fire.
15. Mr Edwards’ evidence was that at around 11:30am, he saw the welder arc and drop bits of hot metal. The metal hit dry serrated tussock on the other side of the existing fence, and the Fire ignited. Mr Edwards says he then pulled up Mr Turner, and they both jumped over the fence to try to put out the Fire.²²⁰⁸
16. Regardless of who saw the Fire first, both Mr Turner and Mr Edwards gave evidence that serrated tussock ignited on the opposite side of the boundary fence to where Mr Turner was welding. Mr Turner said it was ‘not even a metre’ away.²²⁰⁹ Mr Edwards marked the point of ignition as on the Bingletree side of the fence, at the bottom of the strainer post. Both candidly gave evidence that the Fire was started from sparks from the welder.
17. Shortly after the start of the Fire, Mr Edwards drove his Toyota Hilux to alert Mr Morgan of the Fire. Mr Morgan’s evidence was that, after driving to the Fire with the weed sprayer, he saw another individual (likely Mr Turner) trying to put out with a shovel ‘a regular little grass fire. It had just gotten a little out of control’.²²¹⁰ The Fire was about 30 square metres in size. Mr Turner said, ‘it seemed like it was, it had started somewhere towards the front gate’.²²¹¹ There was a gate mere metres to the west (left) of the strainer post that Mr Turner was welding.²²¹²

²²⁰² Transcript for 22 June 2022 T 318:11-17; Transcript for 22 June 2022 T 354:15-25.

²²⁰³ Shane Bryant, James Ferguson, and Michael Grabham from the RFS all gave evidence that a combination of some of these measures would have been appropriate to minimise the risk of fire.

²²⁰⁴ Transcript for 22 June 2022 T 393:43 – 394:26.

²²⁰⁵ Transcript for 22 June 2022 T 295:9-14.

²²⁰⁶ Transcript for 22 June 2022 T 353:44 – 354:12.

²²⁰⁷ Transcript for 22 June 2022 T 320:5-10.

²²⁰⁸ Transcript for 22 June 2022 T 354:27-50.

²²⁰⁹ Transcript for 22 June 2022 T 320:36-38.

²²¹⁰ Transcript for 22 June 2022 T 292:41-44.

²²¹¹ Transcript for 22 June 2022 T 293:27-30.

²²¹² Exhibit 58A, Brief of Evidence at p. 972.

18. Neither Mr Edwards, Mr Turner, nor Mr Morgan knew how to properly operate the weed sprayer. They could not operate the pressure valve which resulted in less-than-optimal water flow and pressure. None of them had previously been shown by the owners of Eldracam Springs how to operate the pressure valve. As a result, they could not extinguish the Fire, and it continued to spread.
19. At 12:06pm, after a period of at least half an hour from the start of the Fire, Mr Edwards attempted to contact Mr Tannous.²²¹³
20. At 12:24pm, Mr Tannous phoned 000 and reported the Fire to FRNSW.²²¹⁴ A further 000 call was made by Mr Turner at 12:31pm.²²¹⁵

Observations of RFS personnel

21. James Ferguson and Captain Michael Grabham were two of the first members of the RFS to arrive at Eldracam Springs on 4 December 2019. Both gave evidence about the origin of the Fire consistent with Mr Edwards, Mr Turner, and Mr Morgan.
22. Mr Ferguson arrived at the site of the Fire at about 1:15pm.²²¹⁶ He saw that vegetation had '*all burnt out heading from the boundary fence*' that separated Eldracam Springs from Bingletree.²²¹⁷ The Fire had progressed about 300 metres easterly up a hill on the opposite side of the creek. Mr Ferguson proceeded to fight the Fire using a weed sprayer on the back of a ute.²²¹⁸
23. About 15 minutes later, Captain Grabham arrived on the first official RFS appliance to reach the site. He identified from the wind direction and the path of the Fire that the Fire had ignited near the fence line adjacent to Tobins Oaky Trail. He saw three individuals working on a fence and asked them where and how the Fire started.²²¹⁹ Those individuals pointed to the general location that Captain Grabham had identified on arrival, at the northern boundary fence adjacent to the Tobins Oaky Trail.²²²⁰ This corresponds with the location where Mr Edwards and Mr Turner were welding.
24. The following day, on 5 December 2019, Captain Grabham attended the area that he had identified as the likely point of origin. He '*deduced that the fire had started around where the fencing works had been undertaken, specifically a strainer post right on the boundary where the new fence was coming up*'.²²²¹
25. These views on the point of origin are consistent with photographs taken by RFS Group Captain Brenden Cole of the juncture between the boundary fence and the new fence in the days after ignition.²²²² The photographs showed a concentration of burnt tussock from the strainer post to the north of the boundary fence. Almost no fire damage was evident to the south.

Fire Progression

26. In the days and weeks that followed, the Palmers Oaky Fire continued to burn despite the best efforts of the RFS.
27. On 11 December 2019, the Palmers Oaky Fire jumped the Turon River. At that time, it was brought within the Section 44 Declaration that included the Upper Hunter, Mid-Western, and part of the Muswellbrook LGAs.²²²³

²²¹³ Exhibit 58A, Brief of Evidence at p. 484.

²²¹⁴ Exhibit 58A, Brief of Evidence at Tab 32.

²²¹⁵ Exhibit 58A, Brief of Evidence at Tab 33.

²²¹⁶ Exhibit 58A, Brief of Evidence at Tab 30; Transcript for 22 June 2022 T 362:50 – 364:5.

²²¹⁷ Transcript for 23 June 2022 T 405:20.

²²¹⁸ Transcript for 23 June 2022 T 405:10 – 406:15.

²²¹⁹ Likely to be Scott Middleton, Aaron Middleton, and Roy James.

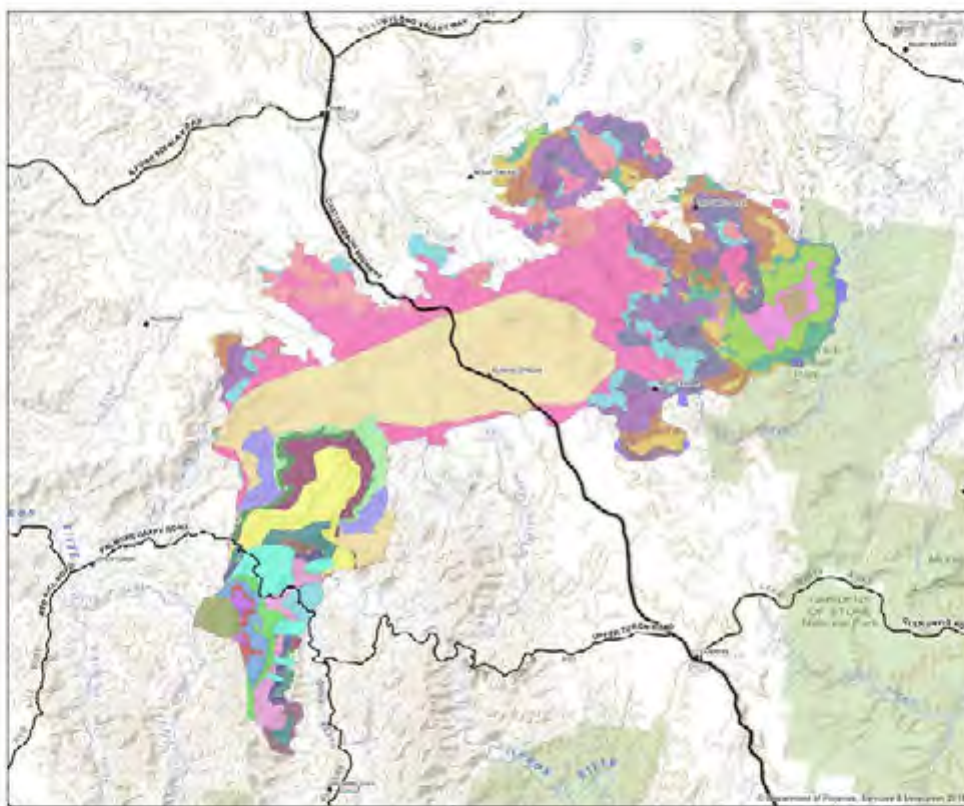
²²²⁰ Transcript for 23 June 2022 T 415:5-28.

²²²¹ Transcript for 23 June 2022 T 416:16-19.

²²²² Exhibit 58A, Brief of Evidence at p. 954–962.

²²²³ Exhibit 58A, Brief of Evidence at p. 656.

28. Up until 21 December 2019, the RFS' efforts to protect property had been successful. On that date, however, in extreme fire conditions, the Fire breached containment lines and commenced a significant run. The Fire spotted over the Castlereagh Highway and was mapped as spreading approximately 8 kilometres to the east-northeast, before subsequently spreading a further 3 kilometres to the north. It is extreme and abnormal for a fire to spread in excess of 8 kilometres in a single day.²²²⁴
29. A strategy was developed for a LAT drop to reduce the fire intensity and therefore the easterly spread of the Fire. Despite this, 10 homes were destroyed, along with 14 outbuildings, in Running Stream. Privately owned pine forests were destroyed, and the Fire was reported to be approximately 2,307 hectares in size.
30. Over the coming days, the Fire grew significantly. By 27 December 2019, it was reported to be 12,891 hectares.²²²⁵
31. The RFS gradually gained control of the Fire in the lead up to the new year. On 1 January 2020, the Fire's status was downgraded to 'being controlled.'²²²⁶ On 31 January 2020, the Palmers Oaky Fire was recorded as being 'Out.'²²²⁷ The final extent of the Fire is demonstrated in the figure below:



²²²⁴ Exhibit 58A, Brief of Evidence at p. 694 – 4, 879.

²²²⁵ Exhibit 58A, Brief of Evidence at p. 881.

²²²⁶ Exhibit 58A, Brief of Evidence at p. 705.

²²²⁷ Exhibit 58A, Brief of Evidence at p. 884 – 5.

Cause and origin

32. The evidence of fire investigators from the RFS and the NSWPF aligns with the eyewitness accounts provided above on the cause and origin of the Palmers Oaky Fire.
33. RFS Fire Investigator Shane Bryant attended Eldracam Springs on 21 January 2020. He examined the ignition site and saw a newly installed fence post on the northern boundary with signs of welding, as indicated in the image below. He identified the area of origin as the base of that post.²²²⁸
34. Mr Bryant did this by walking from Tobins Oaky Creek to the west, using a serpentine pattern to track the movement of the Fire. He identified the angle of char on serrated tussock north of the boundary fence that showed the Fire moving in a north-easterly direction from the fence line. This can be seen in the images below:



D016
Photo from Kevin Pearce - Base of Post showing stamped out tussock



D006
Overview of fire indicators showing progression from right to left.
Strainer post in centre of photo is SAO

²²²⁸ Exhibit 58A, Brief of Evidence at p. 97; Transcript of 21 June 2022 T 276:45-47.

35. Mr Bryant concluded that the area of origin was the fence post at Lat/Long - 33° 8' 15" S, 149° 48' 43" E, located along Tobin Oaky Trail between 1616 and 1620 Upper Turon Road.²²²⁹ Mr Bryant identified no other potential cause of the Fire other than sparks from a welder or grinder. The wide pattern of the Fire near the fence line was, in his view, consistent with broad spatter off a pipe which would be produced by a welder on a galvanised pipe.²²³⁰ This is demonstrated in the images below:



D016
Overview of AOO with indicator flags showing fire progression away from Strainer post and fence.



D021
Photo from Kevin Pearce - Strainer post that has been welded at the origin area

²²²⁹ Exhibit 58A, Brief of Evidence at p. 100.

²²³⁰ Transcript for 21 June 2022 T 279:33-46.

36. That opinion was shared by DS Pieter Buining, who carried out an inspection on 9 January 2020 but was not available to give evidence. DS Buining identified:
- a. signs of welding where 2 poles met on the northern boundary;²²³¹ and
 - b. angle of char on serrated tussocks to the north and east of the strainer post, and sooting, which indicated that the Fire moved in a northerly direction away from the fence line.²²³²

Section 81 Findings

37. As a result of considering all of the documentary evidence and the oral evidence given at the inquiry, I make the following Findings under section 81(2) of the Act:

The Palmers Oaky, Upper Turon Fire commenced on the morning of 4 December 2019 at the base of a strainer post at Latitude -33° 8' 15" S and Longitude 149° 48' 43" E, on the property known as Bingletree at 1616 Upper Turon Road, Upper Turon.

The Palmers Oaky, Upper Turon Fire was an accidental ignition caused by and started by a spark from welding equipment being used to perform fencing work and operated by Mark Turner, under the direction of Jamie Edwards, on the adjoining property, at Eldracam Springs, 1620 Upper Turon Road, Upper Turon on 4 December 2019.

38. It is neither necessary nor desirable for any recommendations pursuant to section 82 of the Act to be made.

²²³¹ Exhibit 58A, Brief of Evidence at p. 155–158.

²²³² Exhibit 58A, Brief of Evidence at p. 136.

Part 7

Testimonials

7

The following pages contain testimonials provided at my invitation by the families of:

1. Laurence Andrew
2. Colin Burns
3. John Butler
4. Vivien Chaplain
5. Michael Clarke
6. Rick DeMorgan Jr
7. Julie Fletcher
8. David Harrison
9. Geoffrey Keaton
10. Robert Lindsay
11. Ian McBeth
12. Samuel McPaul
13. George Nole
14. Andrew O'Dwyer
15. Ross Rixon
16. Robert Salway
17. Patrick Salway
18. Christopher Savva
19. John Smith
20. Richard Steele

I would also like to acknowledge the assistance and contribution throughout these proceedings provided by the families of:

1. Russell Bratby
2. Michael Campbell
3. Paul Hudson
4. Gwendoline Hyde
5. Barry Parsons

1. Laurence Andrew



Laurence Alan Andrew, or as everyone called him Laurie, was born 24th February 1949 at the family home in the fishing village of Maidens, Ayrshire on the southwest coast of Scotland.

He was the youngest of four boys, and brother to Brian, Les and Ian. His family moved to Australia in 1960 when he was 12 and he couldn't believe his luck when they arrived at a place that overlooked Freshwater beach. His family then settled in the Sutherland Shire and it was there that he found his love of the surf and made many lifelong friends.

In 1971, Laurie bought a fishing shack in Killarney on Lake Conjola. It looked directly over the lake with its own jetty. He and Lesley would spend weekends out of the city renovating. Laurie fell in love with Conjola.

In 1980, Laurie and Lesley moved to a property they built together on Egans Farm Lane, Yatte Yattah followed by moving to the adjacent property across the gully in 1984 at Myrtle Gully, Yatte Yattah and together built their home. Laurie loved his home in Myrtle Gully. It was a place that he'd built, raised his family – it was his sanctuary, and he didn't often venture far from there.

Laurie loved his family above all else. Family was most important to him, and he gave love, help and support without question whenever it was needed. He was most excited for his two new grandchildren that came along in 2019 - having travelled days by car from Myrtle Gully to Port Hedland, and back, to visit his new granddaughter, Bonnie, as soon as she was born.

Laurie was very humble, but his family remember him for his bravery. In 2005 he was awarded a Bravery Medal for rescuing two children from Conjola Entrance on New Years Eve in 2001.

Laurie was going for a surf at Green Island, Conjola Beach. The surf was very big that day. On his walk along the beach to the island, he spotted 2 kids in an inflatable boat being dragged out of Lake Conjola entrance on the outgoing tide. Without a second thought, Laurie immediately jumped into the entrance with his board and paddled out to rescue them. By the time he reached them they were in the break zone, they had lost their boat, Laurie's board had snapped off and he had to balance a kid on each shoulder while treading water well beyond the break zone out to sea. He managed to pull them into shore about a kilometre down the beach, returned them to the search party, then picked up his board and returned to the car without being noticed.

Laurie loved the surf, football and music.

He was a hard worker and was always busy with a project.

He was a good friend to many –and would help anyone who needed it.

Forever missed and forever loved by his family.

Information provided by Laurie's family – Lesley, David, Kate, and Arthur, Lyndsay, David, and Bonnie.

2. Colin Burns



Threlly has been in Australia for nearly 40 years –she grew up in the Philippines. She had a long career as a nursing sister. She met Colin in 2005 and they were together for 14 years. She lived in Sydney.

Favourite thing to do with Colin? –going camping, going out to dinner when they were together. “We loved to be with each other.”

When they were together, they did everything together. Threlly wanted to convey three main things to the Court about Colin:

1. Colin loved the bush. She often spent time at the farm with him. She said “I love helping him on the farm when I am there I do all the weeding for the wattle.” As much as she loved the farm, she much preferred to stay in the main house, rather than the small shack that Col would live in when he was by himself.
2. His love of running. He was a member of a long-standing running group – they all had nicknames for each other. Col’s name to most of his running friends was Rover. He was very fit.
3. Colin was passionate about the RFS.

Whenever Colin was in Sydney – Kaye, Evan’s wife would sometime call if there was an RFS meeting and Colin would return back down to attend the meeting as he is very passionate about it. The drive was about 6 hours –and whenever he drove back, Threlly packed him a thermos and a snack. He always called her on his return to the farm.

I miss Colin every day, all the time. I am moving on very slowly. Colin is still in my heart – I am very teary eyed.



Information provided by Colin's partner, Threlly.

3. John Butler



John Ronald Butler “Butt” was born in Milton NSW on 17 March 1944. He was the third child of John and Rubie Butler and the younger brother of Elizabeth (9) and Ruth (7). John grew up in Conjola on the Martin’s Ridge Road farm.

Sadly John aged three lost his Dad to a silica rail truck accident at Redhead Bendalong in 1947. John was brought up by his widowed Mum, Rubie and his older sisters, with the assistance of his grandparents Bill and Mary Martin. From a young age John had his own pony and then horse and became an accomplished bush horseman. John attended school at Milton Public School 1950–1959.

After leaving school he worked in a dairy, was a log cutter, owned his own log truck business, ran cattle in the bush, worked in an orchard as feral animal control, owned a farm at Braidwood on which he ran cattle and worked on a couple of farms in the Milton district. Butt had a jovial and friendly disposition with a cheeky sense of humour which endeared him to many. He was easily recognised by his black Akubra.

John had lived at Conjola, Aruluén, Braidwood, and then back to Conjola and Yatte Yattah. John was an accomplished horseman and a crack shot. He had been employed when living at Aruluén to remove feral animals from some properties in the area.

John became the father of Johnny Butler Jnr in 1984 with his partner Myrlene. John enjoyed horse racing and often travelled to Moruya to watch the races.

In his 70’s many people around Milton knew Butt, as he had a daily routine of going to Milton Bakery for his morning coffee and custard tart. He would then go to the service station for a chat and then to IGA for some groceries. He would then make his way back home where he was residing at the Old Yatte Yattah School House.

John had worked on fires in the area with backburning fires in the Winter months to provide food for cattle in the bush and was familiar with bushfires in this area.

The bushfires of 2002 on January the 7th created havoc in Conjola. John helped to fight the fires. John was familiar with fires in the bush and their unpredictable nature dependent on weather conditions. 2019 December 31st our ‘Black Day’. The bush was tinder dry and the ground was parched from our driest Spring in 100 years. The wind strengthened and swirled on a very hot 40^o C day. Fire came from the Pointer Road direction. The extreme heat and wind became a cataclysmic fire tornado; a Pyrocumulonimbus storm.

Vince and Maria Ingold fought the fire to protect their business and home from a wall of 30m flames in the bush next to their property on the upper Pointer Road. The fire rapidly advanced down the road heading to Lake Conjola and Yatte Yattah area. The fire destroyed several homes including the Lewis's and fireballs from this fire destroyed the homestead at "Currowar" on Bulgatta Flat. Adrian and Linda Bell defended their home on Roger's Road, twice from two different fire fronts. The southern front came from Pointer Road and jumped the Princes Highway and smashed into Yatte Yattah School and the Nursery.

Butt had spoken with Ken (his nephew) around 11.30am and then Andrew Wheatley around 12.10pm, when he said "do not worry about the house, just get out!" Butt being familiar with other fires, probably did not realise the ferocity of this particular fire and the minute window of time he had to evacuate. He must have hesitated, then seeing the smoke decided to leave. However whilst driving down the road the smoke smothered his exit road and he became disoriented and stopped unable to see ahead. The smoke must have rendered him unconscious before the intense fire engulfed the area.

Later that night Ken and Brett went to look for Butt, but could not find him. Had he made it to Milton or did he go down to the Lake? The catastrophic damage of the area left fires and buildings burning into the night and the next day.

Andrew Wheatley and a friend went to look for Butt on the Wednesday morning and found him still in his Holden Rodeo ute where he had been forced to stop and had perished in the fire. Andrew contacted the Police. Ken went over to Tierney Road with Andrew to see Butt. A policeman told them it was a crime scene. The tragedy unfolded when they assessed what probably happened.

When he was found, Butt was still wearing his iconic Akubra.

Vale our Uncle, John Butler, "Butt", father of Johnny and a "loveable larrikin".

Information provided by John's nephew, Ken and wife Trish.

4. Vivien Chaplain

Vivien Christine Chaplain was born 12/1/1950 to parents Les and Winifred Chaplain, little sister to Kay.

Vivien was an amazing person, mother, wife & grandmother. She was a typical Australian with a deep love of the bush and the simple way of life that comes with living in Australia. Her love of the bush and being surrounded by the native flora and fauna stemmed from her upbringing and camping trips around the Sydney area with her family as a child.

As mum (Vivien) grew up she developed a strong love for animals and got involved in showing dogs. During this time mum (Vivien) met dad (Dennis) and shared many common interests such as animals, motorbikes and a love for the bush, this created a bond over the desire to move away from the hectic city life to raise a family. It was not long after their meeting mum (Vivien) had a serious motorbike accident leaving her fighting for her life in a coma. Dad (Dennis) would visit to sit with her every other day, helping her recover and making plans for their future move.

Mum and Dad (Vivien and Dennis) moved away from the city to the new England area with a now young family and a few goats in tow until finally settling at Wyaliba in 1983. There they quickly engaged with the community and became heavily involved with the school, p&c & rural fire service.

They raised us at Wyaliba until it was time to start thinking of high school and decided it was in our best interest to move to Armidale to better our education with more opportunity for growth, while dad (Dennis) continued at Wyaliba giving us boys the best of both worlds. It was during this time in Armidale mum (Vivien) enrolled herself into UNI to complete a degree in psychology while also working part time and raising a family as a single mum. This opportunity gave her a wide range of skills and she began volunteering with many well-known community organisations in the local Armidale area.

Once high school for us had finished we were presented with the opportunity to purchase the 1,500-acre property adjacent to Wyaliba, so we did. Here mum and dad (Vivien & Dennis) made plans to live, retire and watch grandchildren grow and learn, it quickly became THE FAMILY FARM. Over the years we all slowly worked fencing, collecting materials, building the farm up while holding down local jobs or studying and now raising young families of our own. It was our weekend paradise.

When eventually our grandparents sadly passed, mum was able to start building a permanent dwelling at Cristy's and could finally live their full time. Mum put everything into making this little piece of paradise her home and creating a future for her family meant everything to her. Even after a hip replacement surgery her opinions and dreams never changed, so I chose to live with her part time becoming a carer, modifying her building to better suit her accessibility issues, running errands saving her long trips into town, we continued to live this way until the 2019 fire storm.



Vivien, Reuben & Aaron playing in the river at Wyaliba Approx. 1986



Christmas 2008 Right to left: Vivien, Nanny Betty, Dennis, Aaron, Chrystal & Reuben

Information provided by Vivien's son, Aaron.

5. Michael Clarke

Michael Stanley Clarke was born in Newcastle, Australia in April 1960. He was the second born, and first son, of Mum, Jan, and Dad, Charlie's five children, arriving just 19 months after first-born sister, Shelley, and 20 months before the next child, David. Carolyn followed in 1964 and, much further down the track, Shane joined us in 1975.

Growing up, Michael was honestly good at everything. He sang in the Cathedral choir in Adelaide, he played three codes of football, he was dux of his primary school, and he was good natured through all of it.



Like the rest of us (apart from our youngest sibling, Shane) Michael attended many schools in a bunch of different states, finishing up in the first Year 12 to graduate from the brand new Hawker Senior Secondary College in Canberra. Such was the life of this Air Force family.

Michael was intelligent, kind, affectionate and generous. He loved his music and his dancing, his reading and his races, his land and his house, his woodworking and his shed, his friends and his family.

Michael was a truly nice guy. Many people liked and loved him, enjoyed his company and really cared how he was doing, especially during some of those extremely difficult times of his life, for example when his beloved Pam was dying of pancreatic cancer.

Mum and, in fact, our whole family, was showered with sympathy and kindness and condolences and support both at the time and since Michael's appalling death. There just isn't any way to thank everyone enough for their love and compassion.

To give you a flavour of the sentiments, here are some phrases from condolence messages:

Michael was very kind and found the positive in everyone.

I always thought Mick was a great guy. He was always kind and friendly to me.

I always thought he was a very nice man. He was such a beautiful guy. A warm and caring friend to everyone.

Great memories of Michael in our younger days down at Broulee.

Mick was a very special man. Even [when going] through some tough times himself, [he] still remained gentle and kind.



Sensing something of a theme here??? I continue.

A gorgeous soul.

Will always have special memories of Michael.

Lovely manner and gorgeous smile.

He was just a really nice guy. Kind, thoughtful and respectful. The world definitely needs more people like him. He will be missed.

There are many different measures of success in life, aren't there? To be known as a nice guy isn't a bad start, is it?

But here's the bottom line.

To love, as Michael did, and to be loved, as Michael was, is the best epitaph we can ever hope for.

Michael loved and was loved. And it has been devastating for us to have to say goodbye to our lovely son, brother, brother-in-law, nephew, cousin, uncle, great-uncle and friend.

Information provided by Michael's sister, Shelley.

6. Rick DeMorgan Jr



I would like to thank you for the opportunity to give a statement today. However, I couldn't bring myself to once again put into words, the life of my brother and what a devastating loss it has been not only for me personally, but for my family and his friends as well.

So with a heavy heart, filled full with grief, (and now guilt for asking) I asked my mom if she would mind doing so... because I just couldn't bring myself to once again attempt to capture with words the life that was my brother. She sent the following:

Thank you for giving our family the opportunity to make a statement today. It is important for us to share the person that Rick was with you.

Rick Allen DeMorgan Jr bounced into this world on October 13th 1976, larger than life... quite literally at 9lbs 3 ozs, he was a bundle of joy and happiness, with a loving soul and a kind heart right from the very start.

Growing up Rick was an adventurous child right from the start. As a young boy, he decided he would attempt flying by jumping off the patio roof. When that didn't work, he and his sister decided trees would be better. Much to my dismay Rick began riding a small motorcycle his father Rick Sr. brought home for him at the age of 5. The first time Rick dumped the bike, he stood up... dusted himself off, and got right back on. This began the beginning of his mastery of motorcycles, as well as every other thing he decided to take on in life, no matter the challenge. As a matter of fact, the more challenging the better.

Rick developed a very unique personality. You always knew where you stood with him, right or wrong, good and bad. He had a sense of humor that was both funny beyond belief, incredibly infectious to those around him, and filterless. You couldn't help but to be laughing hysterically at something when Rick was around.

Rick was a good student in school, he never got into much trouble, with the exception of his junior year of high school, where he discovered cow tipping with a friend, and buried my car up to the axles in mud. Then there was the one time he decided to try mailbox bashing... karma was delivered swiftly and a valuable lesson was learned. The bat bounced back and whacked him upside the head... I would've paid to have seen that. :)

Our family would attend the local air shows at all of the surrounding military bases in the area and at age 8 Rick announced, “when I grow up I want to go into the Air Force and fly planes.” Rick indeed joined the Air Force at age 18, and pursued his dream of flying. Not long after joining the military Rick married and had two beautiful children, a boy and a girl, Lucas Allen, and Logan Grace.

Like everything else he undertook in life, Rick became an expert in his field, and on his aircraft. Rick spent 24 years in the Air Force and was still on active duty at the time of his death. Rick was a highly decorated aviator, and during his time as a U.S. Airman, not only did he lead and mentor others, and facilitate special programs, he amassed 4000 total flight hours, nearly 2000 hours of which were in combat during 13 deployments in support of Operation Enduring Freedom, and Operation Iraqi Freedom. Upon his death, not only was he honored on the floor of the United States Congress, but also by the National Fallen Firefighters Association, and Rick was the first-ever member of AFSOC (Air Force Special Operations Command) to be chosen by NASCAR to be honored in their yearly 600 Miles of Remembrance race. Words cannot express how proud our family is of him.

Rick meant many different things to his family,

- He was a son to Rick and Linda DeMorgan
- He was a brother and best friend to Virginia



- He was a father to Lucas Allen
- He was a father to Logan Grace
- He was an Uncle to Alex and Max
- He was a very much loved part of our family
- Rick also was a Friend, colleague, and mentor to all he served with over his career

The loss of Rick has been devastating for our family, some of the heartbreaking and lasting effects are:

- His sister sends flowers every month to his grave and is struggling a great deal to work through her grief.
- His father refuses to go to the Cemetery.
- His nephew Alex, on his way to work, would have to drive by a C130 bone yard every day and holds in his grief.



- His nephew Max will sit in his room and hold the challenge coins Rick gave him. He too wants to fly one day.

We now depend on our memories of love, laughter, photographs, and the many tributes Rick has received from both your country as well as our own.

Thank you for letting us share with you the funny, dedicated, and beautiful soul that was Rick Allen DeMorgan Jr.

Information provided by Rick's mum, Linda.

7. Julie Fletcher



My sister Julie was -Compassionate, Caring, Considerate and Capable. Julie had sensitivity, vulnerability, and strength.

Today, on Julie's behalf I want to acknowledge the role that all Julie's extended family and friends have played in her life and the especially the support given to Ian and I and our family on her passing. Julie loved her nieces and nephews Tess and Fletcher, Justin, Olivia, and Julia, she embraced their wives and husbands and their children – Adam, Rose, and Samuel, Erol and Oscar and Willow and Damon.

I also acknowledge the deep friendships which were central to Julie's life – her many girlfriends and their families, her friends, neighbours, and work colleagues. She was a great asset to her employers from early days at Braithwaite's Dentist in Taree, to the Commonwealth Bank in Taree and Lismore, to NSW Maritime to most recently TAFE in Port Macquarie. Whilst living in Lismore, she attained a Bachelors Degree in Legal and Justice Studies. Julie persisted through many a workplace restructure and loved to support her workmates and clients. TAFE NSW extended their condolences with this comment ... *'Julie was not only a team member, she was a friend, a colleague and a mentor to so many members her presence, insight and wisdom will be missed.'*

Julie was the middle sister of 3 – Robyn our eldest, sadly passed away in May, 2019. I have deep memories, from where my memories start as a child, and Robyn and Julie have always been there throughout life's journey. Our family connection to this area is strong and long, starting with grandparents settling at Passionfruit Creek, north of Johns River and running a small dairy. We grew up on that same dairy farm and attended school at Cundletown and Taree Catholic Schools.

As children our chore on the Passionfruit Creek farm was often 'bringing in the cows' – this actually included rowing across the river to the property we called 'the marshes' – now the north side of Wharf Rd, rounding up the stragglers, supporting calves in their first swim back across the river and walking them home to the dairy some considerable distance 1-2 kms – Mum would often say *'no doubt we had the cleanest cows around'*.

Brian and Athelie, our parents, sent Julie and I on a great adventure when the dairy farm was sold – Julie 16 and I 13 went on a Rural Youth Bus Tour (full of strangers to us). We went through the Red Centre, we climbed Uluru, cruised Katherine Gorge, slept under the stars at Devils Marbles – Julie was even proposed to by a Yugoslavian opal miner at Coober Pedy!!! This may well have been the start of Julie's love of travel and exploring – from bushwalking in Tasmania, to backpacking through Europe and travelling the Greek Islands and New York with friends.

We often joked with Dad that Wharf Rd was the 'centre of the Universe'. Wharf Road, was formed by Brian on his Fiat 600, in post dairying days during the late 70's and early 80's. Lots were subdivided and homes were built and lives lived amongst a peaceful landscape.

Julie, Dad, and I had a strong 'sense of place' with 'the farm', which had been in the family since the 1970's and we nurtured it with a focus on preserving and reconstructing habitat for wildlife – Ospreys nest there, wildlife abounds, Koalas have frequented the house garden as they ranged the locality foraging on Swamp Mahoganies, Tallowwoods and Forest Red Gums. Our father Brian built an expansive home on this property in the later years of his life upcycling many timbers from the original cottage built in the early 1900's. The farm was Julie's peaceful space. Family and friends, past and present, enjoyed this tranquil tidal reach of the Stewarts River, the finger of agricultural land bounded by river, by lake and national park estate.

Julie was challenged by a series of health issues which she confronted bravely and persisted through.

Julie loved all creatures great and small. In spite of the devastating drought conditions in 2018-19 dear Julie managed to have the fattest cattle around. Her cattle, all named of course, Garry the bull, Nick the retired trotter and Mr Big the adopted vagrant mischievous miniature horse were an important part of her life, they were pets and given a very, very happy life.

For those of you who knew Julie well ... she felt people's pain and misfortune deeply – she empathised and supported people with many kind acts. In many a conversation she would fill me in on people's illness, deaths, accidents misfortunes and remark 'Oh my God! this is a disaster!!!'

But my words to Julie now are ... 'THIS is a disaster Julie you left us too abruptly ... you were not ready ... your family and friends will miss you greatly.' Julie's death was a traumatic event – she lost her life to an apocalyptic combination of fire and wind. We would like to express our sincere gratitude to the NSW Rural Fire Service and importantly the volunteer fire fighters who assisted us in the Johns River area and acknowledge the invaluable work done over that harrowing period.

The brigades, to my knowledge, that attended Wharf Road on that fateful Friday night and Saturday and the aftermath include – Harrington, Wootton, Kundle Moto, Johns River, Hannam Vale, Camden Haven, Sancrox and Thrumster.

Julie loved her family, her friends, her animals and being on the family farm with the comfort of family possessions and memories in all that surrounded her. Amongst the sadness, we celebrate Julie's life – 'A girl', I still think of us as 'girls', and a woman who touched so many lives.

Information provided by Julie's sister, Daintry.

8. David Harrison

David Andrew Harrison was the youngest of 4 boys born to Janet Harrison and Robert Cramp.

Unfortunately Dad left us when we were little and Mum did a super human job of raising 4 boys on her own aged 7,6,& 5, plus a newborn, young Dave with no money coming from Dad and very little support from the Govt back then. She was our Guardian Angel and we owe our lives to her. Sadly, she passed away in 2003 from Bowel cancer and is sorely missed.

We grew up in a small fibro housing commission home in Goulburn with no room to swing a cat, let alone a fist. But it had a big backyard and with 4 brothers, a street full of kids, a park over the back fence and a river across the road, we were never short of things to do.



We played every sport under the sun and Mum said she got us into sport to keep us off the streets and out of mischief (a wise woman) And we got pretty good at most sports, with 2 of us going on to become PE teachers.

Growing up in Goulburn, David, was to some degree raised by the wolfpack (his 3 older brothers). We had some incredibly fierce battles in the backyard playing cricket and footy. Dave being 5yrs younger than the rest of the pack had to quickly learn to adapt and stand on his own 2 feet –because we gave him no quarter in the backyard cauldron. We like to believe this baptism of fire helped prepare him for the real-world challenges he would have to face later in life –it certainly honed him into a very handy football player and cricketer. But despite the sibling rivalry and fights over who was the alpha male, we have always been a tight nit brotherhood and have remained best mates to this day. Which makes the loss of our little cub so much more devastating.

Dave loved all sports but particularly his rugby and played for many clubs including; St. Pat's College 1st XV, ANU rugby 1st grade, Goulburn Dirty reds 1st grade and the Tumut Bulls. He was great to watch too –a hard running loose forward -he could really skittle a defence when he pinned his ears back.

Dave was blessed with many talents. He was handsome, charming, funny, athletic and intelligent. We all agree he was the smartest in our family, with daylight a distant second. This is Dave when he was elected junior mayor of Goulburn. In fact he was something of a maths genius and topped his class in 4 unit maths, physics, chemistry and Engineering but despite his brain power he was never academically snobby with it and never let on that he was usually the smartest person in the room. He tried his hand at a few engineering degrees but he found it hard to settle at Uni and away from home, so his spirit of adventure soon called him in new directions and his affinity for numbers saw him find work in logistics management.

Dave would be considered a “maximiser” who took his role as **‘facilitator of good times’** very seriously. With no wife or children of his own he just loved creating opportunities to bring his friends together.

Dave really loved and looked forward to all our family get togethers, but he was especially fond of Christmas time. Whether in Newcastle, Berrima or Mona Vale he would rock up early with his swag and his presents and that big Cheshire cat smile of his, that would instantly light up the room. He was definitely the favourite uncle to his 9 nieces and nephews who all loved him dearly.

Our last Christmas together in December 2019, just 10 days before he died, was extra special. Our eldest brother Michael brought his entire family over from Ireland and we all gathered at Peter’s place in Mona Vale to celebrate a Christmas from the very top shelf. From sailing on Sydney harbour on boxing day, to playing golf & backyard cricket, eating too much food, laughing, playing cards, singing and just generally enjoying hanging out together. These will be cherished memories for us all.



Dave was probably the most laid-back bloke I ever met. He enjoyed the simple things in life the most – sharing time with friends; camping, fishing, having a beer and a laugh, smiling as the world raced about him. His spoken word was measured with a generous dash of country boy twang that he picked up whilst living on the Purcell family farm near Tumut. He loved it down there and it’s fair to say the Purcell’s became his second family. He would take every opportunity he could to visit and catch up with his Tumut ‘valley’ friends.

As you know, Dave tragically lost his life helping to protect the farm, that was such a big part of his life, from the Dunn’s road fires near Batlow. Together, Dave and his great mate Geoff, managed to save the houses and most of the cattle. He could easily have left earlier, as his brothers had encouraged him to do the day before, but he would not leave Geoff on his own. This is typical of Dave – loyal, brave and ready to help.

We will always remember Dave for his kind and gentle nature, his sunny disposition and his uncomplicated approach to life. He was never a burden to anyone, and nothing was ever too much trouble. Dave was a friend to all who met him – he loved people and would always take the time to see how you were and he really listened to you in conversation.



Sometimes in life we come across people who aren't famous or don't stand out in any obvious way, but there is just something about them that draws you in – perhaps it's the manner in which they live their lives or the strength of their character. Whatever that intangible quality is they create an indelible impression that stays with you forever – long after they've gone. Dave was one such person.

In many ways he was an ordinary Aussie bloke but to his family and those who knew him well, he was anything but he was extraordinary.

We will miss our little brother, our uncle and our friend more than words can convey.

Rest in Peace Dave

You're a true hero to us see you down the road.

On a final note our family want to express our sincere thanks and admiration to Geoff Purcell and the Police, particularly the first responders senior constables Greg Christlo and Aimee Zwickl as well as the other police, firefighters and ambulance officers on the day who tried desperately and tirelessly to save our little brother's life in such difficult conditions. We won't forget your selfless efforts. Thank you.

Information provided by Dave's brother, Peter.

9. Geoffrey Keaton



21 September 1987 – 19 December 2019

First born to parents Wesley and Diane. In 1991 he became a big brother to Phil. Becoming the big brother was something he was proud of. He was protective and always eager to help. It was Geoff who introduced his little brother as a young man to Rachael, who is now his wife.

Geoff had a sweet nature and he loved to please.

He attended St Francis of Assisi primary and then Loyola College for his senior years. He completed an intermediary HSC which was a pathway into his apprenticeship as a shopfitter. He did this for many years, but it was a career that he did not continue because he just wanted to drive trucks.

Growing up sport was a big part of Geoff's life. He played soccer, football and baseball in his teens and returned to soccer in early adulthood. During his schooling Geoff participated in the Duke of Edinburgh Awards and from this grew a love for outdoors. He loved fishing and camping and four wheel driving. Geoff enjoyed being part of a team and the mateship that came with it. Every opportunity he could, he would be having an adventure. He was a larrikin and enjoyed a beer with his mates.

He joined the RFS as a cadet around age 12. As a young boy he wrote in his journal about the importance of volunteers and why they play a big part in our everyday life and I quote from his journal '*Volunteer firefighters give up their time, even during the night. Some firefighters give their life in bushfires*'.

As soon as he was old enough, he became a full member. When not at work he was spending his time as a volunteer fire fighter. He completed many qualifications while a member of the RFS and took pride in his achievements. He participated in training many of the new younger members and took this role seriously and with pride.

Geoffrey was kind and generous, always willing to lend a helping hand. He was there to help those around him that couldn't always advocate for themselves. Geoff had many mates and made an impact to many lives.

In May 2018 Geoff became a Dad - The proudest moment in his life. He loved his little boy who he referred to as his buddy. He had many plans and dreams for what he was going to be able to teach him as he grew and the adventures they could have together. He'd purchased Harvey's first fishing rod and was eager to take him fishing, something he never got the opportunity to do. We will honour Geoff's memory always and will include his memory in our lives everyday so Harvey will know that Geoff was the best dad he could ever have wanted.

Our hearts are broken and we will forever miss Geoff's smiling face and beautiful blue eyes.

Information provided by Geoff's family – Dad (Wes), Mum (Diane), Phil, and Rach.

10. Robert Lindsay



Robert Lindsay was born on 1 September 1942. He was the oldest child of George and Ivy Lindsay of from Lindsay Road at Larnook. He grew up with siblings Janice, Margaret and Thomas on the family farm at Larnook on the farm and went to Larnook Public School and Lismore High School.

When he was a teenager, Robert helped his family on the farm -growing bananas on the farm, milking in the dairy or the mechanic side of things. He was always willing to lend a hand.

In his spare time he would go out to the local dance at Rock Valley hall – that’s where he met his wife, Maureen Fromuller. After a few years, they married but still called Larnook home. They soon started a family and had three kids, Michael, Leesa, and Anthony.

Once things started changing on the farm, Robert’s parents started up a fuel depot in South Lismore. Robert followed and moved there, too. Along the way they owned and ran 2 to 3 service stations and workshops and Robert worked as a mechanic as well.

As time went by Robert and Maureen welcomed their son in law, Allen, and daughter in laws, Julie and Rebekah, into the family. Soon after that, grandchildren came along: Eric, Kieran, Rodney, Colin, Troy, Benjamin, Trent, Tahlia, Jessica, Mitchell and Lachlan. Robert loved his grandchildren greatly. His favourite thing to do was take them to the beach and then home for a BBQ. He loved a surf with his old board. He also loved the old ‘potting mix fight’ –he would say, “look out here comes poppy with a bucket of dirt” and pour it straight over their head! These were the good times that his family will always remember.

Robert and Maureen moved to Teranora and went into a wholesale nursery business, purchasing Gunnadoo Nursery, and supplying plants to all the major shopping centres. Robert stuck it out for a few years but would always call into Kirra Beach for a surf on his way home from a delivery – even if it was only 10 minutes! He would still grab his surfboard and off he would go to catch a wave.

Robert and Maureen eventually decided to sell and move back closer to family and moved to Casino.

After mum passed away in 2015, Robert later met Gwen and moved to her farm, where he was back doing farm work that he loved doing. That was where the fire tragedy happened, and Robert and Gwen lost their lives. Robert’s family hope that wherever Robert is the surf’s up and there are good waves!

Information provided by Robert’s son, Michael.

11. Ian McBeth



Let me start out by saying that until this point I have avoided standing up and trying to sum up Ian and in turn our life. I also wanted to make sure I was careful to speak from my heart instead of the hurt that I have felt for the last 3 years. This has taken a lot of soul searching and finessing. But I think it's important for you all of you to understand that my husband was and is not just the number 134.

I met Ian when I was 19 years old. In my friend group it was known that I planned to travel the world, and not once did I think for a second I was going to "settle down", but then I met Ian. Ian was the type of person that had so much energy, so much that when you touched him it was palpable. I often tell people that Ian lived 45 years, but in human years that is 110. He had a way of living, loving, doing, adventuring, caring, and working that dulls most of our lives in comparison. We had been married 20 years when he passed away. We had in fact just celebrated our anniversary by traveling around in a small Rv. And I remember thinking that's when you know you're happy when you spend 10 days together is a tiny tv and you think to yourself that it could have happily been 10 more. In our 20 years together we brought 3 children into this world. If you were to ask me how old they are I would struggle because in the last 3 years they have gone from 17,13, and 10 to ages he wouldn't even recognize. He's already missed so much! Our oldest Abigail graduated high school and has become a beautiful adult doing life and giving to others, our son Calvin has started driving and is constantly tinkering on his truck" without his mechanical minded father there to help him" and our youngest Ella just won state championship in wrestling, which was one of his main high school sports. How do you make that alright for them? I've been asked a few times since Ian passed whether if I knew that he would pass so young would I marry him again? I can say without a doubt 100% yes, but would I have children and have them have their father taken away? He was their mentor, an adventure partner, a teacher and their pin! I don't know! I'm not sure of much in the end besides that to myself and my children Ian was/ and is more than 134. He was our life!

I also want to include a little something that his father sent over.

Hi Bowdie! Safe travels to Australia. You had offered us the opportunity to express our thoughts on the loss of Ian and what it meant to us. Thank you so much! For me personally, this is a topic that I address every single day and will likely until the day I pass away. I visit him everyday I am in Wray and hoot and holler to the sky. Ian was a very pragmatic person in many ways, and I think would likely say "Hey Dude I am gone! Don't be fritzing around thinking of me! Get on with fixing stuff!!" That may be Ian, but one of the first feelings I always have is what Ian lost! His life and the dreams he had for his family which meant so much to him! When I see his family struggle and triumph, without him there to coach and cheer them on, and revel in those experiences, I feel so sad for him.

My thoughts then turn to you Bowdie and Abigail, Calvin, and Ella. Knowing how I feel every day, I cannot begin to feel the grief that must engulf you all many times over. I then think of Ian's Mom who misses him dearly every day as do I. Out of the blue she will be crying when something reminds her of Ian. And then Ian's brother and sisters who miss him so much! No number of Ian stories they all tell will make up for the real thing. He was such a driver for good things in their lives.

And then Ian's friends, of which there were many come to mind! He was someone who impacted all around him with countless acts of service. All have come forward with stories of his selfless deeds of kindness, which were so characteristic of him. Even as a little boy, Ian had a huge soft spot for the underdog which only grew as he matured. Ultimately, Ian lost his life on that terrible day doing what he did best – serving others and his mates. He did not have to be there.

And then I think of Ian's country and what it meant to him and he to it. Ian was not an outwardly patriotic person, but service was his life, and he did it so well in so many places – Afghanistan and Iraq just to name a few – in such a quiet and competent way.

Lastly, and I hope this does honor to Ian's selfless approach to many things, my thoughts go to my personal feelings of loss. I am surrounded by reminders of him. When I go to his old school gym for a wrestling match or basketball game, I see his name on the wall as the holder of the school record for the mile run, a record that is unlikely to fall any time soon, if ever. When I go to a football game, I wear his old jersey. Ian's first boss and mentor when he was 14 was my cousin Buck, who managed a ranch that Ian went to work at in the summers. Ian loved Buck and his wife Joan and loved working on that ranch. Buck is now 82 and dying slowly of cancer. I call him weekly, and our conversation invariably turns to Ian and what an incredible young man he was. And it makes me so sad because the stories that Buck shares are stories that only Ian and I could fully appreciate, and Ian is gone from me and from us forever.



Information provided by Ian's wife, Bowdie.

12. Samuel McPaul

Samuel Ian McPaul was born on Friday 25th January 1991 at Moruya Hospital. Throughout my pregnancy and at the time of Sam's birth I was confined to a wheelchair so this meant Sam had to get used to a unique lifestyle and doing everyday things a bit differently. This had its challenges at times, because from a very early age Sam was full of energy and always on the go.

Although Sam was an only child, he had a second mum in his 'Aunty Gaye' and he considered her six children his much loved brothers and sisters. They were a band of adventurers and spent many hours exploring the surrounding bushland. Sam also loved reading and was rarely without a book in his reach. In Year 6 he won the Dorothea McKellar Poetry award for his recital of 'The Man from Ironbark', and in 2003 won the Taronga Foundation Poetry prize for his poem 'Perente,' which was published in an anthology of poems by Young Australians.

Sam moved from his coastal hometown Moruya in 2011 to attend Charles Sturt University graduating in 2014 with a Bachelor's Degree in Animal Science.

Sam loved all types of animals. Over the years he raised over 100 chooks, ducks, geese and turkeys. He became an avid poultry breeder winning many class and champion ribbons. During his primary school years Sam had a pet pig he called 'Duchess,' who he regularly played hide and seek and football with.

Not being able to find employment in the Holbrook area in his chosen field, he worked long hours on numerous properties around the area doing farm work, and when a new career opportunity arose he took up a Mechanical Apprenticeship in Culcairn, completing it in under 2 years. This was no surprise to close family members as he came from a long line of vintage car enthusiasts. Sam enjoyed his work environment and those he worked with at Fitzy's in Culcairn.

Sam's other passion was playing Basketball. He played at local level in Moruya, Wagga and Holbrook, and for Wagga in the state basketball league. Sam always wanted to give back to the sport he loved so much, becoming a coach of mini-ball and under 12 teams while refereeing local competitions and participating on the Wagga Basketball Board. In 2006, Sam was awarded the Pierre de Coubertin Award presented by the Australian Olympic Committee recognising his sporting achievements.



Sam had a very close relationship with his nan and grandad, and kept in touch with them regularly even when he moved away for university and to set up a home with his soul mate Megan. Sam met Meg at university, and they married in a romantic ceremony in April 2018.

Sam cherished his family. He always made the time to connect with family when he returned to the far south coast on his breaks and on weekends. He stayed in touch with his uncle Alan through cryptic text messages that usually related to the latest car project or home renovation he was undertaking.

His family remembers him in their own special way.

Jennifer recalls Sam being the greatest friend, more like a twin brother and in the 29 years they shared their lives, they never missed a birthday, christening, wedding or family celebration. He was always the first to arrive at family functions with his big smile and boisterous infectious laugh; and the last to leave after helping to clean up when all the guests had gone. He would make contact like a text or phone call at just the right time, even when you didn't realize you needed it and completely brighten your mood. Sam often put others needs before his own ... even strangers. His goofy smile and corny jokes are missed every day.

Laura also remembers Sam's warm smile, and loud laugh; his fearless singing and very distinct deep voice. He was there through her teenage years when she needed an ear; he was a good listener. She lovingly remembers his casual, cool and calm manner, his love for animals of every kind, and his addiction to everything about basketball. She misses him everyday and will always remember him.

Jacob recalls ... Sam was the most confident, strong-headed, honourable, caring and righteous person I knew. He set high standards for himself and was a loyal friend and loving family member. He was a great man, which has had a big impact on who I am as a husband, father, son and man. Sam was, and always will be the big brother I look up to. Daniel remembers ... Sam is a true brother and friend. He is, and always will be a hero I will look up to, and the man I strive to be like. I will pass down stories about Sam to my children, so they too will know that he was a selfless, loving and courageous person who ultimately gave everything to help those in need.

Rebekah says ... my heart is filled with love and pride as Sam's 'big sister'. I watched him grow from an awkward, fun loving, clever little book worm, into a responsible, kind and generous man who had big dreams and hopes for his young family. But my heart also aches everyday that Sam's best friends and brothers will never experience being husbands and fathers together. Our family now has a huge hole that was once filled with Sam's cheeky smile and loving personality. But despite our deep grief we continue to reminisce about the wonderful years we shared together. Our children will know their uncle Sam as a hero and we honour his name by living our lives with honour.

Aunty Gaye recalls ... the day you were born was a wonderful summer's day and your presence filled our lives with joy and love the moment you were born. You adapted quickly to balancing on your mum's lap in a wheelchair; a skill that probably helped hone your sporting skills. You were a 'busy' child with a creative and inventive mind. You always dreamed big, pressed on towards your goals and touched many lives with your compassion and courage.

Anyone who knew Sam never forgot their connections with him, whether school friends, team mates, work colleagues or community members.



I am proud to have shared such a deep and close relationship with my son Sam. He was my only child, my best friend ... my entire world. He had grown into an amazing, hardworking and talented young man with a wonderful future ahead of him. Just one year before the accident, Sam and Meg moved me from Moruya on the south coast to my new home in Culcairn, where I bought a 'renovators dream' as Sam called it; he had many ideas and grand plans for its improvement. Sam and Meg planned to start a family and I was eager to become a grandparent. Sam was so excited and couldn't wait to become a dad in May of 2020. It breaks my heart that he never met his longed for and beautiful boy.

Sam was the sunshine in my days and the wind beneath my wings – he was always there for me.

I miss him every minute of every day!

Information provided by Sam's mum, Cristine.

Sam is unlike anyone you would have met before. In a crowd of people, he seemed so confident and engaging. He was able to put a smile on anyone's face, no matter how long he had known them. He was someone who would really listen and help whenever possible, however, he was always offering up his own opinion whether you wanted to hear it or not.

Sam would be the first to offer up his weekends or his free time after work to help people move house, to teach them basketball or catch up. He had a huge heart and was always helping everyone out.

Sam was wildly crazy about his sport - not just one sport, but ALL sports. His favourite times were when the Olympics were on and also when it was NBA playoff time. Basketball was his passion, as was (but by no comparison) his family.

Sam's love for our little family only grew as each day passed. We had two dogs and a cat and had a bub on the way. Sam was super excited and he would never stop talking about our future and where our family would end up. He envisioned owning his own mechanic shop whilst I continued with the embryology work, and a basketball team of our own kids following us around. Sam felt that our opportunities were endless because all our little family needed was someone to believe in them and support them. That person was Sam.

His infectious smile, his heart of gold, his loud voice and, most of all, his love is missed each and every day by those who were closest to him.

Information provided by Sam's wife, Megan.

13. George Nole

George Nole was born on 25 January 1934 in Greece.

He moved to South Africa for a period of time before migrating to Australia. He built his timber house in Wyaliba himself and this was his home for many years. George was single, never married and did not have any children. George's brother and sister still reside in Greece.

George's brother, Panagiotis Kokkinakis, advised the last time that he saw his brother was around 10 years ago when George visited him in Greece. He didn't see his brother or visit his brother's home in Australia, but their younger brother did. Mr Kokkinakis kept in touch with George regularly by telephone and although they lived on opposite sides of the world, they were very close.

In his early days, George always wanted to go off by himself. He wanted to educate himself and see the world. Mr Kokkinakis described his brother as being "close to himself" and that he lived a quiet life "with not too many distractions". However, George did have friends and he enjoyed their company.

According to Mr Kokkinakis, George was pretty tech savvy and knew how to use the internet and was able to communicate in many different ways. He was previously an electronic technician and was good at repairing radios. He then went into other fields of electronics and would check and fix items such as hard drives.

Mr Kokkinakis expressed the view that George may not have appreciated the scale of that approaching fire, but in any event, he thinks that it would have been his brothers' preference to stay and protect the home that he had built for himself.

Information provided by George's brother, Panagiotis.

14. Andrew O'Dwyer



A son, a husband, a brother, a father, an uncle, a friend, a mentor, a photographer, and a dedicated RFS Volunteer, this is who Andrew was - yet the true character of Andrew was always his ability to capture the best of every element of life and share it with everyone. Andrew's optimism, enthusiasm and vibrant nature inspired everyone around him to make the most of every moment, every day. Andrew was hardworking and he dedicated much of his life giving back to the community.

Andrew was passionate about everything he turned his hand to - he always gave 110% to everything he was involved in. Andrew was inclusive and caring, and involved everyone in conversations, games, camping trips and social events. His warmth and kind nature was felt by anyone who crossed paths with Andrew. I am proud of the beautiful person that he was and the positive impact he had on so many people.

As a talented photographer, if he was not behind his camera, he was leading the celebration as the life of the party. He was the king of the kids, where he helped them explore and empowered them with knowledge and a sense of wonder that still lives on in our nephews Xavier & Nixon, in all his friend's children and, most importantly, the apple of his eye, his daughter, Charlotte.

Andrew would always have Charlotte, Xavier, and Nixon in stitches of laughter - running down the halls, making them think they could fly. Andrew loved seeing the kids posing for funny faced photos, he created and captured so many special memories that will live on with us. Andrew's presence and his love for his family was felt by everyone and his great sense of humour made every moment, big or small, memorable.

Every weekend with Andrew was an outdoors adventure - not a second went to waste. We loved being in the great outdoors and would take Charlotte exploring, bush walking or road tripping up the coast to visit my sister's family.

Andrew truly lived life to the fullest, and inspired everyone around him to do the same. His love of the outdoors and spending time with family and friends was one of his best qualities.

Andrew longed for years to be a father and when Charlotte was born, he devoted everything into ensuring she was happy, loved, and safe. He managed to instill his cheekiness, stubbornness and adventurous nature into his little girl who misses her hero every day. It is truly devastating that Charlotte won't get to know her father in her own special way, but I take comfort knowing the best of him lives on in the memories and love for him that we all share and seeing his beautiful nature in her reminds me of the amazing person he was. Andrew was the true definition of a fantastic father to Charlotte.

I met Andrew in 2010 and from that day, he became my partner in every adventure and then my loving husband.

We shared the highs and lows of life together and created so many perfect memories that will never be forgotten.

Andrew always made me laugh, and made me appreciate beauty in the simple things in life. He inspired me to be the best version of myself every day and his loyal, kind, and caring attitude towards Charlotte and myself made us feel so loved.

Andrew instantly became a support to my family ensuring mum's house was well presented with a beautiful garden and decorated for Christmas. After my father was confined to a wheelchair Andrew became the handyman and assisted Mum in maintaining the house. This continued even after we built our own house and somehow, he still managed to create and maintain an Australian Native Garden for us, which draws wildlife to our doorstep, making us feel he is sending them to ensure we continue to see the world's beauty.

Andrew tragically passed away on 19 December 2019-selflessly helping others while volunteering to serve in the RFS. That day we all lost the shining light of the party, the photographer who captured the happiest moments of every element of life, the king of the kids, my best friend and Charlotte, at only 19 months old, lost her beloved Daddy.

Andrew and I only got to share 9 years of what would have been a lifetime together. I miss my husband, my partner, my best friend, my future, and my daughter's father. On that day, Charlotte and I lost our everything, our shining light.

Information provided by Andrew's wife, Melissa.

15. Ross Rixon



21-06-1935 – 18-01-2020

An Iconic Australian Bushman

Ross was born to Spencer and Annie Rixon. Spencer was in the RAAF as a stores officer but had a total belief that it was paramount that his sons have some time working on the land to upskill them and educate them to hard work. Ross left school at 14 and was sent to work as a cooper at the brewery. After gaining a good concept of this skill (Barrell Making) Spencer sent him to Queensland to work as a drover. He had been relinquished as an altar boy for drinking the holy wine so his mischievous attitude was already shining bright. He worked as a drover eventually settling in western Queensland in a beef, sheep and cropping town of Mitchell. It was there he met a lovely widow with 4 children, they married and had another 3 children.

Dad bought a truck and started his own trucking business eventually going broke after a horrific bout of pneumonia. He then took up fencing contracting where he worked for many of the large grazer owned stations. His hard-working ability was well noted and he was never out of work.

In 1972 By now there were still 4 children at home and he got word his father was dying so he loaded Dawn his wife, 4 children and a dog called yippee bean into the old land rover Ute and made the 1500-mile trek to Milton NSW to see his dad. Spencer didn't pass as quick as first thought so Ross got a job cutting mine props in the forestry. His employer provided him with a 041 Stihl chainsaw and a tea20 Massey Ferguson tractor. Ross went and bought a 20 x 20 Birkmyre tent and the family moved into the bush and ended up staying here forever. The children cut timber as well not attending school from that time on. I am writing this document and I am the youngest and at that time I was 10.

We continued to cut mine props all the way down the coast finally arriving in the bush at Wandella 15 kms from Cobargo, still living in a tent but basically having a hard but great life. Ross loved hard work, He never differentiated between a boy or girl, he taught us all to drive dozers, tractors and use chainsaws.

Ross and Dawn were a great team and very welcoming to anyone, opportunity to have a yarn. On one occasion a young woman and her partner and child moved into a shack near the camp and she was in a troubled state. They came up to the work dump where dad talked to them asking them a million question as he always had a thirst for knowledge. A great friendship developed and the young woman spent many hours talking to dad or mum really just appreciating the fact they would listen. Eventually she made a full recovery and when she was doing a course at uni, she done a study on portraits. She asked could she take photos of dad which she did and it is her photo of dad that you see of him in his bush clothes and Akubra at work in the bush.

Ross had an incredible knowledge of the bush, its flora and fauna and had a very high level of observation. Something he drilled into us kids. He often had a lengthy debate with a hippie as he called them and to their face when they wanted him to fall a tree so they could build a dwelling. If it was a precious seed tree, he would never fall it or allow them to fall it and make them choose a different one on their land.

He only ever read factual books and would read all different styles of books from history to biographies. He could read a huge book and retain most of the info. He had a battle with bowel cancer and had a large part of his bowel removed and had ileostomy bag and once he got used to it, he still worked on just as hard. He was a type 1 diabetic and his biggest hurdle with that was pricking his very calloused fingers to test his sugar levels. All the medical staff loved him because he was so vibrantly fit.

Dawn passed in 2011 which was a very tough time for him. She left him her little dog to mind and when the little dog passed, he eventually got another little dog called "Bella" whom he adored.

Ross was well liked around Cobargo; he always tipped his hat to all the ladies when he said hello even if he knew them or not. In his funeral attendance book, there were over 500 signatures. At his funeral I insisted to the priest we would have a 21-chainsaw salute. We started all the saws, family members and bush friends followed suit creating the Mexican wave as I revved the saw lifting it to face the sky to bid him farewell. The fire was such a horrific event for all of us some stayed and saved like us but it was terrifying to be in. When we got up at 1am in the morning I immediately rang Dad and said "Dad get up, get Bella and get out there, this is really bad". Sadly, I rang 3 times and I never got him he was already out waking neighbours up from a deep sleep which in the end saved their lives.

A story of great bush skills which is so dad and I cherish is that he loaded his two Utes up with his chainsaws and block splitters and parked them up on the ridge away from his house. He then got in his little town car and went around and around the Utes doing burn outs tearing up the grass so the earth was bare around the utes so the fire couldn't burn them. They both were saved.

We were like zombies trying to sort euthanise stock, milk 300 cows with no power just a tractor, no water and rebuild fences etc.

It was a dreadful day when we got the news that he had passed from a heart attack. He is sadly missed by all his family and the entire community. He was known as Ricko the Legend.



Information provided by Ross' daughter, June.

16. Robert Salway



Robert was a fifth-generation dairy farmer, who's family farmed in the Cobargo area. He loved the land and was content with his chosen life. He was a devoted father to six children, 3 boys and 3 girls, who also inherited the love of the land. In his later years, after the boys taking over the dairy farm, he bought himself a beef farm, where in 2018 he started, 'Wingrove Limousin Stud'. Retirement was not on his agenda. He loved to get outside and work his land. Working with cattle was his passion.

Robert was a simple lived man, he was most content sitting having a cuppa on the verandah overlooking his much loved farm.

He never felt the need to travel. But he was very community minded serving almost 50 years as a committee member for the Cobargo Show Society. People often said he had "the eye" for good cattle, be it, dairy or beef and was often asked to judge at shows up and down the coast.

He often was heard saying his greatest achievements in life were his children and doted over his grandchildren. He loved watching them play sport, ride and swim, and his favourite day of the year was Christmas day, when all our family come together. There was always so much fun + laughter.

Robert enjoyed nearly 43 years of marriage with Janelle, and everything was done together in that time.

Robert's death has left the family and community numb as we all learn to solider on without him, every day is hard.

He taught us all to face each day with stretch and stay strong, because there is nothing more resilient than a united family.

My one thing, is that I hope his life has not been taken with no resolution to the way National Parks are being managed. His life and death needs to bring change and I hope this is the outcome of his inquiry.



Information provided by Robert's wife, Janelle.

17. Patrick Salway

Patrick was born 9/1/1990, he was a very lovable child and had 5 older doting Brothers + Sisters. He was a super happy child and later in life a wonderful young man. He had a very caring nature and would help anyone who needed help.

Patrick was a talented engineer and also a dairy technician and the two qualifications moulded together, made his business very lucrative. He had a wonderful work ethic, and most days worked 18 hrs per day, making the time he got to spend with his wife Renee, and son Harley very special.

He was a talented young man, who loved his horses, bull riding, football, fishing and X country motor bike riding. Anything he put his mind to, he would do.

Patrick won the prestigious award of being the Grand National Champion Rider of the year, for 2 years in a row, on two different horses, which was something that I will never forget.

Anyone who meet Patrick instantly became a friend, he also was community minded and worked tirelessly for the Cobargo Show Society. His death has left an empty space in his families' lives, and none more than his beautiful son Harley, who now has no father.



Information provided by Patrick's mum, Janelle.

Patrick James Salway

The baby of the family, the joy & humour, the brightest light.

He completed Robert & Janelle's family and made it whole.

A dedicated hard worker who lived fully for all those he loved.

I think the depth of a loss deepens with what they gave out to the world, how many hearts they touched,
The good they did.

Patrick gave so much to our lives.

Meeting him when I was 15, both of us starting & completing our apprenticeships, later on establishing our own company & often travelling around competing together with our much loved show-horses.

Now leaving behind our little boy who he adored and our life we had created together.

Life was beautiful, life was simple, we were happy.



Information provided by Patrick's wife, Renee.

18. Christopher Savva

Chris Savva, my father, was born on 17 November 1955. He grew up in Randwick, he was the cherished and only son of Nikos (deceased 2021) and Zena Savva and, brother to Kyria.

My Dad, he was one of a kind, a truly unique, was a very proud Greek man, family meant everything to him, he was the best pop to his grandkids, he had a big heart and always saw the good in people.

In 1976, my dad met my mum, Karen Griggs. They fell in love, and soon after, my brother Nikolas was born in 1980, followed by me, Amanda Griggs in 1982 and then my sister Bianca in 1983.

Despite their relationship ending in 1986, my mum and dad remained best friends. Dad continued to be a significant part of our lives, stepping into a role like a stepfather for my mum's other three children – Scott, Joshua, and Elisha.

Over the years, he embraced being a grandfather to Jacob, Braiden, Riley, Cooper, and Lilly (though he never got to meet Lilly, as she born in January 2021). He also lovingly became a grandfather to Scott's 3 kids, Lucas, Jordan, Tamika, and Elisha's 2 kids Harper and Roman. These connections showed that family bonds go beyond blood, highlighting the deep and lasting relationships he built.



[Chris playing with his grandson, Riley. Amanda says her Dad was always playing with his grandchildren, he was the best pop a child could ask for] and [Chris Savva and his grandchildren at his property. From back to front: Jordan, Jacob, Braiden and Riley]

In 1986, Dad moved from the Central Coast to South Arm on the Mid north coast of NSW, where he purchased a property, a home he lived in until his passing in November 2019. In the middle of dad's house there was a pole, we used the pole to record our heights, from us being small children and growing into adults.

Throughout the years, at different times Scott Nikola, Bianca, Josh, Lucas, and Jordan resided with Dad, his door was always open to all. From 2010 to 2013 Nikolas, and his children Jacob, Braiden, and Riley lived within a 5-minute walk to dad's house.

Dad (and us) cherished the school holidays, when he eagerly awaiting the visits of us kids and then later on grandchildren. Our younger selves, along with the grandkids, absolutely loved spending time at Dad's place during those breaks. The days were filled with adventures, riding motorbikes, driving cars in the paddock, going to the beach, go karting, or swims in the creek adjacent to his house.

Even though Dad lived 400 kms away, he was still very much involved in all our lives. Dad would regularly come down to the Central Coast and stay at my mum's house. He would come down on our birthdays, Christmas, and any other special occasions.

I have so many wonderful childhood memories with my dad, from the times he would take us to Darling Harbour or to Manly on the Ferry, and going to the toy shops or when I was older when he took us to Jenolan caves, taught me to drive or when he took me to buy my first car. Dad was creating the same memories with his grandkids when his life was tragically cut short.

We deeply feel the absence of Dad, and his passing has created a significant void among us. The reality of his absence weighs heavy on our hearts, He was so special to us.

Chris parting this world was a great loss to all his family especially his children and beloved grandchildren who he loved beyond words. He was adventurous, fun, loving, kind, happy, generous, and a bit of prankster, always making people laugh. His absence is felt in the everyday moments and milestones, a poignant reminder of the love and support he once provided. We face this journey of grief as a family, finding solace in the cherished memories and the enduring impact he had on our lives -Karen Griggs

“Dad, your presence lingers in every corner of my heart. Though you left in 2019, your love and laughter are timeless. I carry your spirit in every step, finding strength in the beautiful memories we shared. Miss you endlessly, Dad.” Love Bianca Waters

Even though you’re not with us any more Dad, I remember the good times we had together. You didn’t get to meet Lilly, you would love her, she would be your fairy princess. Missing you a lot, Dad -Nikolas Griggs

I can’t explain my love for Chris and the things that he did for me in one short paragraph, too many to name, It would take a whole book. There’s not 1 moment that I can put into words about the adventures Chris took me on and the fun that we had together growing up, too many to name. His sense of humour would make anyone smile and laugh especially me and family members who just knew what Chris was like. Soooo many good times together that I miss dearly today. I could rely on Chris for many things. Sadly missed but NEVER forgotten -Scott Griggs

As a child, I was always called his fairy princess, he would call every day to tell me stories about the fairies on his property. He was a father figure to me and poppy to Harper and Roman by choice, we miss him greatly- Elisha Griggs

I had the best time throughout my childhood spending time at Chris’s property. Even he was not my bio-logical dad, he still treated me like his bio-logical son -Joshua Griggs

My favourite memory with Pop was going to beach with him and motorbike riding -Braiden Griggs

Pop used to play with me, he called me a fairy princess like he called my mum. Pop was funny, caring and nice, and I miss him very much -Harper Buhajiar

My Pop used to be really funny and play with me for hide and seek. I miss Pop -Roman Buhajiar

Some of my favourite’s memories with Pop, he taught me how to speak Greek.

He used to call me his teacher and we would play pretend classes.

He always told me I would become a barista, and he would open up a coffee shop. I would run it for him, and he would drink Greek coffee all day.

When he got into the car, he would not drive until everyone said “check”, then he would drive.

The time he took me go-karting for the first time, I will never forget that.

All the times we played board games went on for hours and hours — so much fun.

All the times we went to Luna Park, and we would go on the Ferris wheel, he would pretend to act scared but you could tell he was actually not scared.

He never left anyone out, he was the best Pop anyone could ask for -Tamika Williams

I miss the sleepovers and how Pop used to take us to Luna Park all the time -Riley Griggs

Information provided by Chris’ daughter, Amanda.

Chris was the love of my life, he meant the world to me. From the day we met we were inseparable. He was a wonderful partner, stepfather and friend to all who knew him. Chris was well loved by all in the community of South Arm and Bowraville.

Known for his happy disposition, caring nature and kindness to others. I treasure the memories and all the years we had together before the terrible firestorm came and claimed his life. Words fail to describe the pain and trauma of losing my partner in such terrible circumstances as on the day of the fire. He loved life on the farm.

We miss him dearly. Life will never be the same without him.

Information provided by Chris' partner, Mandy.

19. John Smith



First of all, I would like to quote my uncle once who stayed at our house for a month who said “John is the nicest person that I’ve ever known in my life”. With other people who know John deeply, I totally agree what my uncle said. I’ve known John since year 2006 and considering that we had different culture, different personality and started with a communication gap because English is my second language, we established a strong and happy relationship and a harmonious family. He always respected me as a person and encouraged me to show the best in me.

John had a Civil Engineering degree and worked some projects in Sydney and built a community building in UK. He stopped working as engineer and he retired as an employee at TAFE in Moruya.

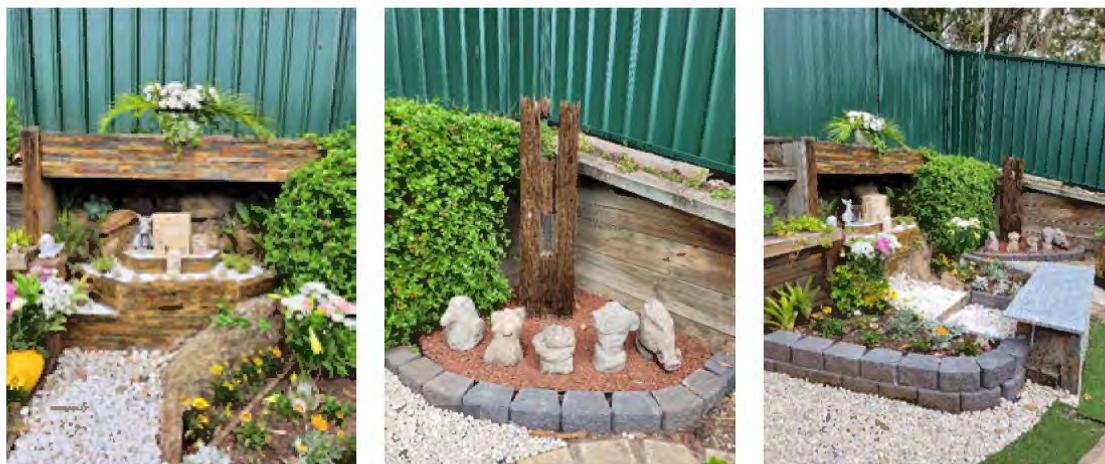
His family, friends and colleagues know how intelligent John was. He was a man who could talk anything under the sun, with full of knowledge and confidence. He loved researching and learning about anything. He knew a lot about politics, religion, culture, places, people and even cars. My daughter even said that her daddy John could be a very good prime minister.

John was the friendliest man that I’ve ever met. He always wore a smile and greeted people and talk to them. My friends, family and relatives in the Philippines loved him because even if they don’t know how to communicate with him because of lack of English, his friendly gestures would make them comfortable around him.

I’ve never encountered a father as dedicated as John when we had our daughter Emerald in November 2009. He supported me in any way he could, he was a very hands-on Daddy. He was an amazing father. He taught Emerald many things in life since she was a baby. And today, as I look at Emerald, at 11 years old, she’s a living legacy of her father. Her strength, her grandeur, her positive attitude, her wisdom, her caring and loving nature resonate of John’s.

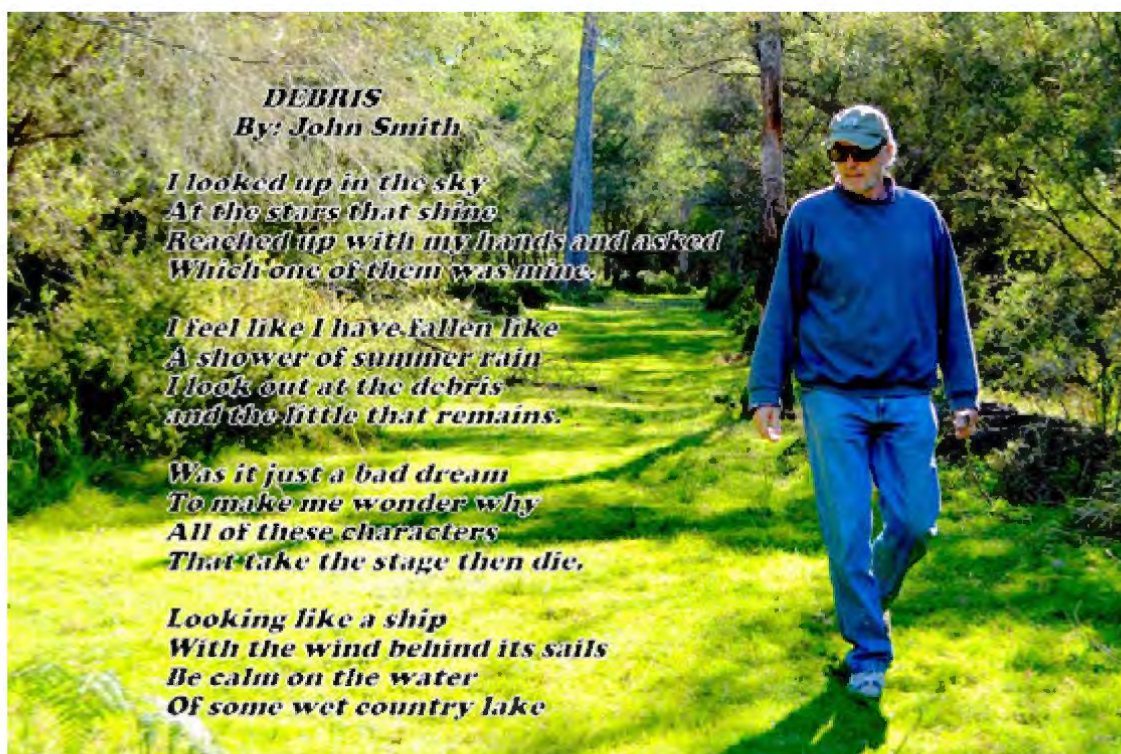
John’s very good friend and colleague Debbie describes him as “a true gentleman, sincere, generous, kind and witty. Always thoughtful of others and their needs. He was a jack of all trades and master of the pen”.

John was a man of many talents. He was a musician, composed his own songs and he was good at arts. We lost everything in the property in the bushfire but among the debris were his 5 sculptures that went black but survived. I have them in my garden now as memorial, with the old fence post from the property that was half burnt.



They represent the 2019 summer bushfire, with the sculpture of a torso of a man and a woman as the men and women who lost their lives, the sculpture of the eagle and a wild boar as the wildlife that died in the fire, and a sculpture of a fist that reminded me of the strength that people had after going through a traumatic experience and loss. The timber post represents the trees that were burnt and survive during the fire.

I call this part of my garden as John's corner. I built it myself, to honour the most amazing husband and the greatest father of my daughter. And to value what survived from the bushfire and the story behind.



Information provided by John's wife, Josie.

20. Richard Steele

My brother Richard Steele, lovingly known as Rick by all that knew him, died tragically on the 31st of December 2019 in the Badja Forest Fire.

Today I have chosen to read part of the eulogy that I wrote for my brother for his funeral.

Rick was a few years older than me and growing up he was very protective of me. I looked up to him with much love and admiration. When I was born, he renamed me Miss Priss after the scrawny girlfriend from the old cartoon character Foghorn leg horn. And from that day on the name stuck.

We shared a passion for the Essendon Football club and we often shared text messages and calls during the footy season either cursing their losses or celebrating their wins. Although I think he had a soft spot for Carlton like his grandfather, Frank.

Rick was very close to his grandparents, Frank and Myrtle. Myrtle passed away long before Frank did. Right to the end Rick made sure that Frank was looked after, his affairs were in order and that he could stay in his home in Melbourne until it was time for Frank to move to a care facility.

Rick was a character; he had a great smile and an easy-going relaxed nature. He had a knack of making you feel comfortable in his presence by giving you his full attention with his large smile.

Rick had moved away from the rat race of outer region of Sydney after a few years to the South Coast and I believe that he finally found a place that he could grow and nurture his plants that became a very important part of his life. Whilst it may not have been exactly where he thought he would be in life; he was getting close. He developed a passion for growing orchids and elk horns and created beautiful timber arrangements. He took so much pride in his creations.

Whilst Rick was content with his own company most of the time, he did have a small group of friends down the coast, and I would like to thank them for offering their friendship and support to him.

I believe that Rick was finally seeing the light at the end of a very long tunnel and finding his place in the world surrounding himself with people he loved, respected and cared for.

I guess he accidentally fell into his cleaning/caring role, but he got enjoyment with what he was doing because he felt that he was making a difference in people's lives by making life a little easy for them.

Life hasn't always been easy for Rick, but his resilience, determination and strength to put one foot in front of the other each day is something I admire, and I am so deeply proud of.

I would also like to take this opportunity to offer my sincere thanks to Philip Shipton and the Shipton family from Coolagolite who responded to my comment on Facebook when searching for my brother and who gave my details to the Bega Police. In what was such a devastating time for that family, they were able to answer and assist in my plea for help when my options were exhausted.

My heart goes out to the two RFS gentlemen who discovered my brother after the fire had passed. I cannot even put into words the lasting impact that that discovery would have had and will have on them moving forward.

I would also like to thank Detective Clinton Oxenbridge from the Bega Police Station. You showed care and compassion in what would have been a difficult phone call for you to inform me of Rick's passing and for keeping me informed as much as you could during such a disastrous event.

To Ernie, I cannot begin to imagine what you went through that day, thinking that Rick should have been right behind you as you escaped only to find out that he didn't make it. I hope that you have found some peace and comfort knowing that there is nothing more you could have done.

I miss my brother greatly, more than words can say. There isn't a day that goes by where I don't think of him. My heart is broken for the time that we will not have and for his life that is lost. Rick was a wonderful person and I know that his memory will continue to live on in the hearts of all who knew him.

Information provided by Rick's sister, Martine.

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