



The 2003 Canberra Fires (A)

In the first week of 2003, the Chief Fire Control Officer of the Australian Capital Territory (ACT), Peter Lucas-Smith, confronted an outlook of high bushfire risk. A drought in the region over the previous two years had dried out the trees, grasses and undergrowth in the abundant bushland of the area. This meant there would be sufficient combustible matter to fuel a major bushfire if a lightning storm or accidental ignition due to human activity occurred in the forests. Wednesday 8 January was hot and windy, and the ACT Bushfire Service declared a Total Fire Ban, the second day in a row in which it was officially illegal to light barbeques, bonfires and other open flame activities in the ACT.

At 3.30 pm a lightning storm passed through the region. Lightning strikes ignited two fires in the bushland in western ACT and several fires in forest just beyond the ACT's western border with New South Wales (NSW). Over the next week, firefighting services from the ACT and from NSW took various approaches to combating the fires. By 14 January, the fires had not been put out and had burnt several thousand hectares. There were now three distinct fire fronts on the western perimeter of the ACT, about 30km from the suburbs of Canberra, the ACT's capital city. The forecast for the weekend was for high temperatures and for strong north-westerly winds which could potentially drive the fire towards Canberra. Lucas-Smith had responsibility for directing the firefighting effort and briefing the Chief Minister of the ACT on the situation.

This case was written by Tim Watts, Australia and New Zealand School of Government, for Professor John Alford, ANZSOG and Professor Dutch Leonard, Kennedy School of Government, as a basis for class discussion rather than to illustrate either effective or ineffective handling of a managerial situation. All quotes and descriptions are attributable to the Transcript of Proceedings, *Inquiry into the Deaths of Dorothy McGrath, Alison Mary Tenner, Peter Brooke, Douglas John Fraser, and the Fires of January 2003*, Coroner's Court of the Australian Capital Territory and McLeod, R., "Inquiry into the Operational Response to the January 2003 Bushfires", Australian Capital Territory, August 2003, except where indicated.

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Canberra: a city in bushland

Canberra, the national capital of Australia, is located within southern NSW, in a separate jurisdiction called the Australian Capital Territory (ACT). The city of 300,000 people occupies the north-eastern corner of the ACT, with the remainder of the territory consisting of mountainous bush country in national parks and other, mainly public lands (see map, *Exhibit 2*). Some 70 percent of the ACT is bushland or lumber plantations.¹ Many of the suburbs of Canberra are tightly integrated with bushland, which has given the city a reputation for being a leafy and desirable place to live.

Bushfires occur regularly in the ACT, especially during the hot and dry summer months (January-February). Major fires were fought in 1903, 1926, 1927, 1939, 1952, and 2001 (see *Exhibit 1*) This history has led to the creation of a substantial bushfire management infrastructure. In 2003, the ACT Bushfire Service within the Emergency Services Bureau of the ACT government comprised 120 staff and 450 active bushfire volunteers.² There was a separate fire service – the ACT Fire Brigade – for the urban areas of Canberra (see *Exhibit 5*).

2003: a continuing drought

At the beginning of 2003 a severe drought with rainfall significantly below the regional average had been affecting southern NSW, including the ACT, for over two years. NSW Rural Fire Commissioner Phil Koperberg said that his organisation viewed conditions across the state at the time as extremely high risk due to the dryness of the countryside and the resultant combustibility of the underbrush and fallen logs in the area: “(F)ires had already been burning in the northern part of the state for some months, commencing on the Queensland/NSW border around Tenterfield and Glen Innes... That did not augur well for the forthcoming season.”³

Koperberg said there were many reports of unusual fire behaviour in southern NSW in late 2002. Few fires were self-extinguishing, as was normally expected with drops in temperature or wind shifts. The drought had drawn moisture out of the ground and the trees and bushes, making the bush particularly prone to fire and slow to extinguish once alight.

Peter Lucas-Smith, the ACT’s Chief Fire Control Officer, said by the first week of January 2003 that ACT Bushfire Service had already responded to 92 fires since the beginning of November 2002.

“From a bushfire perspective, the quantity of available fine fuels obviously varies considerably depending on vegetation type, aspect, diurnal variation and moisture content. Heavy fuels such as logs are not normally available to contribute to the spread of a fire as they retain more moisture than the finer fuels. However in January 2003 the ACT was at the stage where heavy fuels were also dry enough to contribute to the overall fire

¹ Submission of the ACT Emergency Services Bureau to the *McLeod Inquiry into the Operational Response to the January 2003 Bushfires*, Page 65.

² *Ibid*, page 24.

³ Transcript of Proceedings, *Inquiry into the Deaths of Dorothy McGrath, Alison Mary Tenner, Peter Brooke, Douglas John Fraser, and the Fires of January 2003*, Coroner’s Court of the Australian Capital Territory, Day 23, Page 2076.

behaviour and spread. This meant that in January 2003 the ACT forest and grasslands were in a volatile state.”⁴

Wednesday, 8 January, 2003

At daybreak on 8 January, the ACT Bushfire Service announced that the fire danger index was 45 (extreme is 50+), and declared a Total Fire Ban.⁵ All barbeques, bonfires and other open flames were officially illegal for the day in the ACT. The temperature was expected to peak in the mid-30s and the Bureau of Meteorology predicted an electrical storm would sweep through the territory in the mid-afternoon.

At about 3.30 pm the electrical storm arrived and several lightning strikes were recorded by ACT Bushfire Service staff monitoring conditions from four observation towers in the west of the territory. Smoke from fires was visible from a number of ignition points along the Brindabella Range which runs along the western border of the ACT and NSW. There were five major fires, labelled the McIntyre’s Hut, Bendora, Stockyard Spur, Gingera and Mt Morgan fires. The McIntyre’s Hut, Mt Morgan and Gingera fires were thought to be in NSW territory and the rest in the ACT. All were in national parks, both the Kosciusko National Park in NSW and the Namadgi National Park in the ACT.⁶

The ACT Emergency Services Bureau, situated in the Canberra suburb of Curtin, sent a helicopter to fly over the fires to gather more information and notified the NSW Rural Fire Service (RFS) operations centre about the fires it had seen break out in NSW territory. The NSW RFS was being flooded with reports of new fires. Throughout the state, a total of 72 fires were ignited by storms on that day.

Once the helicopter reconnaissance had confirmed the precise location of the fires this information was relayed to the ACT Emergency Services Bureau, and it dispatched two response teams out to the fires. Each team comprised two tankers and three light trucks, with twelve staff. The size of these groups was determined by the standard operating procedures of the ACT Bushfire Service for high-risk fire danger days. One team went to the Bendora fire and the other to Stockyard Spur.

Both teams reached the fires by about 6pm, with approximately two hours of daylight remaining. The Bendora fire was close to a dirt access road but there was a steep embankment and 100 metres of dense undergrowth between the track and the fire edge. The team walked up to the fire edge and estimated it was around 25 metres by 20 metres in size (500 square metres). The terrain was rocky and uncertain with many ledges and fallen trees. In a report back to the Emergency Services Bureau, the team leader (known as the “incident controller”) said: “[the fire] is drawing into its[self], it’s not moving very fast. We can access the eastern side of it from Warks Road with tankers and light trucks but we will need to rake hoe lines around the top section and water-bombing on the top section as well. The fuel loads are fairly heavy...”⁷ The team began laying out water hoses from the road up to the fire edge. An ACT Bushfire Service helicopter above had begun dropping water on the fire. However after radio consultation with the

⁴ Ibid, Day 10, Page 785.

⁵ McLeod, R., “Inquiry into the Operational Response to the January 2003 Bushfires”, Australian Capital Territory, August 2003, page 16. The fire danger index is determined by an assessment of air temperature, humidity, and wind speed.

⁶ Ibid, page 17.

⁷ Ibid, page 17.

incident controller, the ESB directed him to return with his crew to Canberra. The incident controller had concerns about continuing to fight the fire overnight, fearing injuries to his crew in the fading light from falling trees and slips in the steep terrain. At the Stockyard Spur fire, there was no access road close to the fire edge. The incident controller halted his team at the Mount Ginini gate and searched for an access trail, which was thought to be overgrown, running down Stockyard Spur. After speaking with an observer in a helicopter above, the incident controller assessed the walk into the fire edge would take about an hour. He relayed this information to the Emergency Services Bureau and was advised to return with his crew to Canberra and take up fighting the fire in the morning. The helicopter dropping water on the Bendora fire also dropped several loads on the Stockyard Spur fire before returning to Canberra around 10.00pm.

The NSW Rural Fire Service and NSW Parks and Wildlife Service combined their resources and sent a team of one tanker and two light units to the McIntyre's Hut fire. This fire had spread to about 200 hectares by the late afternoon when the team arrived in the vicinity. It was assessed that direct attack⁸ on the fire would not be appropriate because of the steepness of the terrain in the region, and the amount of time it would take to deploy resources from access tracks to the fire edge. The crew focused on indirect attack which involved clearing lines in the bush to create fire breaks. The crew withdrew at dusk.

No crews were sent to the Gingera or Mt Morgan fires. Both were considered lower risk.

Thursday, 9 January

Thursday's weather outlook was relatively benign with cooler temperatures, light winds from the east and south-east and high humidity forecast for the next three days. The fire danger index was set at 18.

Helicopters were sent up to assess the fires at first light and reported that all fires had spread overnight. ACT Bushfire Service's management team met and agreed that the objectives for the day would be to use direct firefighting to keep the fires contained to the smallest possible size and to keep fire away from the Mt Franklin road, because it provided the only access route to the Stockyard Spur and Gingera fires and because it served as an effective ridge line control line.

By contrast, NSW Rural Fire Service and its partner the NSW Parks and Wildlife Service elected to pursue an indirect attack on the McIntyre Hut fire, due to the "steep terrain, difficult access and unpredictable fire behaviour".⁹ They identified trails and clearings they could use as containment lines and brought in earthmoving equipment to widen and remove undergrowth from these breaks in the scrub, to halt or delay the spread of the fire.

⁸ "Indirect attack" refers to fighting the fire through back-burning to reduce available fuel, as opposed to attacking the flanks or the head of the fire directly with water. "Back-burning" refers to an indirect method of firefighting where fuel ahead or to the flank of a fire is deliberately burnt in an effort to control the fire's spread and reduce the available fuel. Back-burning requires a mineral earth break.

⁹ NSW Rural Fire Service Submission to the McLeod Inquiry, page 5.

ACT Bushfire Service crews at the Stockyard Spur and Bendora fires were directed by new incident controllers who had been rostered on that day. They found direct attack on the fires ineffective and the fires' size increased fairly steadily throughout the day. Two helicopters were used during the day to water-bomb the fires. Some ACT personnel and light trucks were deployed to assist the NSW Rural Fire Service at the McIntyre Hut fire. The ACT Emergency Services Bureau contacted the NSW Rural Fire Service operations centre in Sydney to request additional helicopter assistance to fight the McIntyre's Hut fire but was not successful. There were a large number of other fires burning in NSW which required resources at the time.

The ACT Bushfire Service and the NSW Rural Fire Service had a good working relationship, said Peter Lucas-Smith. "Our co-operation and liaison with NSW was very good and very cordial. And this had been [the case] for many years beforehand, over many incidents."¹⁰

Some at the ACT Bushfire Service were not satisfied by the NSW response on 8 and 9 January. Neil Cooper, the Emergency Services Bureau's liaison officer with NSW, said he was "frustrated" by the approach at the McIntyre's Hut fire.

"Conditions were cooler and so were conducive to achieving good results from back-burning. Back-burning operations were commenced but the NSW authorities were concerned about the southerly winds pushing the fire north toward Yass before northerly containment lines were established. Therefore all burning out operations were halted while the trails (to the north) were upgraded. In my role as liaison officer I vigorously voiced my concerns and strongly opposed the decision to halt this back-burning, pointing out at one of the incident management team meetings that there was considerable distance between the northern boundary and the southern edge where the fire front was located. And based on the distance the fire had already travelled you did not have to be Einstein to see that even under severe conditions the fire would not reach the northern edges for at least two or three days before control lines would need to be reinforced. I also clearly enunciated that we should be taking advantage of the cool south-easterly conditions forecast for the next three or four days."¹¹

Overnight, one light unit was left at each fire to monitor conditions.

Friday, 10 January

At 9.30 am, Peter Lucas-Smith attended a planning meeting at the NSW Rural Fire Services office in Queanbeyan to discuss the approach to the McIntyre's Hut fire. Eight ACT firefighting units were presently directed to the McIntyre's Hut fire where they were under the command of the NSW Rural Fire Service.

Lucas-Smith said his objective was to ensure that the focus of efforts continued to be on the southern and eastern edges of the fire – i.e. the parts closest to the ACT. He said some consideration was given to shifting resources to the northern edge of the fire but that was not decided.

"I advised the meeting that I would continue to provide resources at this stage as agreed but I would not be providing any additional resources for fighting the McIntyre's Hut fire

¹⁰ Coroner's Court of the Australian Capital Territory, Day 11, page 931

¹¹ Coroner's Court of the Australian Capital Territory, Day 11, page 953

as my own fires were building in momentum and the threat to Mt Franklin Road was increasing.”¹²

Apart from some limited water bombing from helicopters, no firefighters were deployed to the Stockyard Spur fire during the day because it was considered a lower priority than the Bendora fire. One monitoring unit was deployed to the Gingera fire. All remaining resources were deployed to the Bendora fire. A total of 110 personnel were deployed at the fires.

At 2.00pm, a press release was issued by the Emergency Services Bureau:

“The three bushfires in the ACT have grown in the past 24 hours,” Chief Fire Control Officer of the ACT Peter Lucas-Smith said today. “Crews are working on containing the three ACT fires, but we expect these to continue burning for the next few days. We are focusing the majority of our resources on the fire at Bendora but we are continuing to monitor and attend the other fires. We are also keeping informed about the fires that are close to the ACT borders, one at McIntyre’s Hut and one at Mt Morgan.”

By the end of the day the Bendora fire had spread to cover 200 hectares, the Gingera fire was about 40 hectares, and the Stockyard Spur fire had burnt 84 hectares.

Saturday, 11 January

On Saturday there was a continuation of mild weather conditions with low temperatures and light wind. The fire danger index was 14.

Neil Cooper, an incident control officer at the Emergency Services Bureau in Curtin said he was concerned by the apparently chaotic manner in which earthmoving equipment, brought in from the Department of Defence and from a range of private contractors to assist with building containment lines, was being deployed.

“It was obvious to me the numerous requests for heavy machinery had been fulfilled. However, there was an overall lack of any system to track these resources and ensure that they were being allocated strategically. In my opinion, it was obvious that there was a lack of realisation that these resources needed to be managed the same way as any other resource such as tankers and light units.”

Press releases issued throughout the day reported that:

- The three bushfires in the ACT had continued to expand during the last 24 hours with the Bendora fire now at 320 hectares, Gingera at 100 hectares, and Stockyard Spur at 160 hectares.
- Crews were focused on Bendora and Gingera and monitoring Stockyard Spur.
- Mountain trails in the Tidbinbilla Nature Reserve were closed and motorists were advised to avoid the Brindabella Road.

Several staff including Neil Cooper expressed concern at the lack of a clarity in the process:

¹² Coroner’s Court of the Australian Capital Territory, Day 11, page 929

“I was not given any maps to take into Bendora when I was nominated as the incident controller for the night of January 11, nor was I given any incident action plan which normally sets out the strategies and tasks for the next shift. I independently developed the strategies for overall control of the fire and the tactics that were implemented overnight to achieve those strategies in consultation with the previous controller, Tony Bartlett. ...I had no support in the form of an incident management team. ...I had no idea where the Bendora fire fitted in relation to all the other fires and whether any actions that I may have implemented would affect those other fires.”¹³

Lucas-Smith said: “The incident management team in the field is generally the team responsible for the development of incident action plans. That occurs in the field and is exactly the right place for it to occur. That’s where the day-time tactics and strategies are relayed to the night-time teams to be implemented and put in place.”¹⁴ Lucas-Smith did not leave the Emergency Services Bureau headquarters in Curtin until 10.00pm.

At around 1.00 am on 12 January, Neil Cooper contacted Simon Katz, the NSW Rural Fire Service representative managing the team combating the McIntyre’s Hut fire.

“(We) contacted them to see how they were going and were told they had ceased burning at shift change-over that evening, around 5.00pm and had not undertaken any burning activities since that time. This further frustrated me, as it appeared that the NSW RFS were again wasting valuable time before the next weather change.”¹⁵

Cooper was also unhappy about resources to be allocated to Bendora after his shift ended:

“My message radio into the ESB communications centre that morning about 5.30am clearly stated that I felt that they would have difficulty holding the fire that day and would require a lot of resources. So I was very surprised when I found out that very few resources had been allocated – a good example of the implications of not having a well-thought out and planned incident action plan. Again, no overnight incident management team to prepare this document.”

Sunday, 12 January

Mild conditions continued on Sunday and the fire danger index was 15. A vehicle accident involving a NSW Rural Fire Service truck blocked traffic to the access road for the Gingera fire for most of the day, but apart from this, the firefighting effort continued in the same vein as the previous few days.

Peter Lucas-Smith unsuccessfully sought more helicopters for water-bombing from NSW.

“I decided to seek more aerial support from NSW RFS. At about 1.30 pm I made a telephone call to Phil Koperberg at Rosehill (NSW RFS headquarters), but could not get through as he was not available. I rang Rosehill again and spoke with Alan Brinkworth, duty officer for the day. I asked about the current status of his aerial resources and whether we could access their resources for water bombing the remote parts of the Bendora fire. However, Alan Brinkworth was unable to provide any rural resources at that

¹³ Coroner’s Court of the Australian Capital Territory, Day 11, page 951.

¹⁴ Ibid

¹⁵ Ibid, page 953

time, and advised that he would get Marian Carmichael, the Air Operations Officer Manager, to give me a call back. Unfortunately I did not hear from Marian Carmichael, which left us in an awkward position in terms of aerial resources.”¹⁶

Lucas-Smith did not make a second call to Carmichael to follow up his request.

Koperberg said: “There is no formal procedure for following up a request of this kind.”¹⁷ In January 2003 there was no formal memorandum of understanding between the ACT and NSW in regard to fires. NSW had formal agreements with other states outlining the form and process of collaborations.

At 3.00 pm, Tony Graham, an operations officer at the Emergency Services Bureau, received a troubling report from crews at the Bendora fire.

“I received a report that the Bendora fire broke its lines requiring new fallback positions to be identified. The fire continued expanding throughout the day and crossed the Mt Franklin road north of Bendora Hill and into New South Wales later that day. With the fire now on both sides of Mt Franklin road, considerable safety concerns were evident for any crews working south of the crossover point, with access and egress routes now compromised.”¹⁸

There was no reference to this report in a press statement released at 6.30pm by Mike Castle, Executive Director of ACT Emergency Services Bureau. It read as follows:

“While the three fires in Namadgi National Park have continued to grow during the day requiring heavy resourcing, firefighters have managed to reduce the rate of spread... While we have been successful in reducing the growth rate of the three fires, we are still expecting all three fires to continue burning for some time. If they are not contained, they could threaten the Cotter catchment system, and in particular there is some risk to water quality in Bendora and Corin water storages.”¹⁹

By the end of the day a total of four helicopters had been deployed in water-bombing the fires and there were 110 personnel committed. Bendora had reached 590 hectares, Gingera 480 hectares, and Stockyard Spur, 500 hectares.

Monday, 13 January and Tuesday, 14 January

Humidity slowly fell and temperatures and wind speed picked up throughout Monday the 13th. The Gingera and Stockyard fires joined up early on Tuesday morning and burnt into NSW under the influence of an easterly wind.

Press releases issued during Monday and Tuesday reported that the ACT’s Chief Health Officer had issued a health alert due to the high smoke levels. Personnel deployed to fight the fires had been doubled from the weekend to around 250. Four helicopters had been requisitioned from the Department of Defence to assist in water-bombing operations. Although smoke levels in the air over the ACT had reduced aircraft

¹⁶ Coroner’s Court of the Australian Capital Territory, Day 11, page 963

¹⁷ Ibid, Day 23, page 2083

¹⁸ Ibid, Day 11, page 973

¹⁹ Ibid, Day 11, page 969

visibility and made estimating fire size difficult, reports from the field suggested that the fires were continuing to spread east.

At 9.30am on Monday 13 January, Peter Lucas-Smith briefed the Chief Minister of the ACT, Jon Stanhope, on the situation for approximately 45 minutes. The briefing focused on the strategies in place to construct containment lines around the fires. No mention was made of Lucas-Smith's difficulties in obtaining additional support from NSW authorities.

Lucas-Smith invited Stanhope to join him on a reconnaissance flight over the fires by helicopter around noon. They took the flight, and were alighting from their helicopter, when a nearby helicopter engaged in water-bombing crashed into the Bendora dam, severely injuring the pilot and a passenger. Stanhope and others swam out to rescue the injured from the dam.

On 13 January, ACT Emergency Services Bureau Executive Director Mike Castle was interviewed by ABC Radio:²⁰

“Interviewer: When we have been reporting that these fires have been burning out of control, is that a worry? I mean, when they are out of control, does that mean larger catastrophes lie ahead?”

Mike Castle: Well, not to be too alarmed, Kerry, but they are serious. They are uncontained, so out of control sounds a little more dramatic, perhaps than the terminology we use – uncontained. We have resources on it – we look at particular outbreaks and that is where we use the aircraft to water bomb them. But we don't have a continuous containment line, nowhere near that potential yet around any of those fires..... we have been getting winds mainly from the easterly direction... but our most prevailing wind is from north to north-westerly, and that gives us 180 degrees, and would bring the fire back into us and back onto us in a much wider front. So, that's a concern that we actually have.

Interviewer: If that wind does swing around from the north west, could it come as far as Canberra? Could it threaten Canberra?

Mike Castle: I wouldn't want to be that dramatic. What we actually try to do is establish a series of containment lines between that. But you are talking about fairly significant fires, and at the moment, of course, while people can see them as smoke, the smoke is going away from us. So they don't look particularly large from down in the urban areas, but they could present quite a significant impact, but that is a long way from where they currently are and the urban edge.”

Phil Cheney, Senior Principal Research Scientist at the Canberra office of the Commonwealth Science and Industry Research Organisation (CSIRO), and a noted fire behaviour expert, called Peter Lucas-Smith on 13 January. “I rang Mr Lucas-Smith and advised him that I was going to be asked about the fires in an interview (which was scheduled later that day with WIN Television). I expressed my opinion to Peter that, if they asked me, I would have to tell them that in my opinion it was a very dangerous situation and that those fires were likely to burn into Canberra.”²¹ WIN Television ultimately decided not to interview Cheney.

²⁰ Coroner's Court of the Australian Capital Territory, Day 11, page 994.

²¹ Coroner's Court of the Australian Capital Territory, Day 11, page 984.

Lucas-Smith says that he considered the possibility of fires burning into Canberra but did not believe it was a “realistic prospect”.²² By sunset on 14 January, the Bendora fire had reached 950 hectares, Stockyard, about 1360 hectares, and Gingera about 800 hectares. The forest fire index had risen to 19 on Monday and stayed at that level throughout Tuesday. The weather forecast for the coming days was for higher temperatures, lower humidity and stronger winds.

²² Ibid, page 983.

Exhibit 1: A History of Fire in the ACT²³

South-eastern Australia has been a regular victim of bushfire. Throughout the preceding century fire events have regularly affected South Australia, Victoria, Tasmania and NSW. Fires have affected Canberra, invariably on the western side, many times in the last 100 years, mostly during summer (January–February). Major fires occurred in 1903, 1926, 1927 and 1939, three times in 1952, and in 2001 and 2003. The 1927 fire occurred in spring, but all the others were in summer. Most of the fires were started by lightning strikes during dry seasons that followed a warm, dry winter and spring and most were accompanied by very strong winds. On this basis alone, it can be considered that the 2003 fires were not a one-in-100-year event. Details of some of the major and inner city fires that have occurred in the ACT follow.

1939: The summer of 1938–39 was the driest since 1918. The Black Friday bushfires, in January, in southern NSW and the ACT resulted in the deaths of six people. Fires also devastated the Victorian town of Noojee, where 71 lives were lost. A thousand homes were destroyed. In heatwave conditions a fire broke out across the border in the area behind Uriarra Station; it reached the ACT on 13 January, in three tongues around Mount Franklin, Mount Coree and Horseshoe Bend. By early 14 January winds gusting up to 70 kilometres an hour started numerous spot fires, and by afternoon fire had created a front of 72 kilometres along the Murrumbidgee River and had crossed it in several places. The Mount Franklin fire burnt right across the Territory, with serious outbreaks at Tidbinbilla, Cuppacumbalong, Booroomba and Lanyon. The fires were put out by a cool, moist change that moved across the region on 15 January. Although no lives were lost and stock losses were relatively small, there was considerable loss of property: 60 750 hectares of timbered and grazing land (including 1100 hectares of pine plantation) were destroyed.

Mount Stromlo, 1952: Fire followed a remarkably similar path to the 2003 fire on 25 January 1952. Started by a lightning strike in scrub near Walker’s Hill, it moved quickly towards Mount Stromlo, fuelled by thick undergrowth and fallen pine needles and driven by strong westerly winds. The fire was brought under control in Kambah after having destroyed several observatory buildings and equipment at Mount Stromlo, 310 hectares of mature pines, and burning 2385 hectares of grassland. Two people died. Until the 2003 fires this event was the last time houses in the vicinity of Canberra were destroyed by bushfire. Subsequently, between 7 February and 4 March, over 6000 hectares were burnt in the Mountain Creek area, again as a consequence of lightning strikes.

Gudgenby, 1983: The 1982–83 fire season was among the worst in the ACT’s history. There was a severe drought, and the winter of 1982 had been one of the driest recorded. Firefighters attended fires as early as August and the fire danger season was declared two months early, on 1 September. Forest fuels were extremely flammable and there was a higher than usual number of forest fires. On 9 January fires in the Gudgenby area burnt out 36 000 hectares of forest and grazing land.

²³ Source: The McLeod Report.

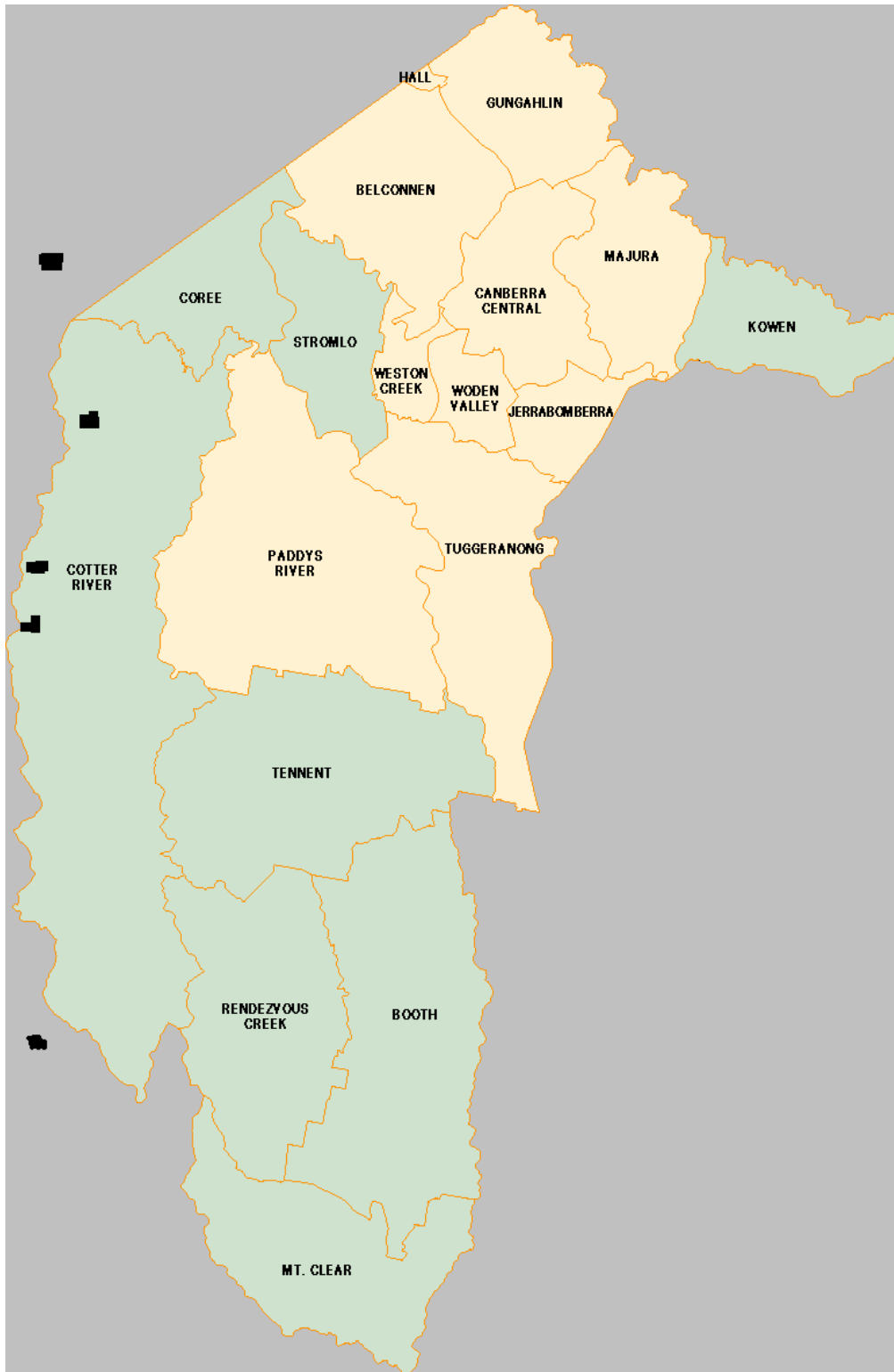
Mount Majura, 1985: After a relatively wet spring and summer, which resulted in prolific growth of vegetation, particularly grass, the ACT experienced one of its driest summers on record. This meant that the fire season was unusual, with strong potential for both grass and forest fire. There were several big fires during the season, but the most significant were those that occurred on 2–4 March: 6000 hectares were burnt at Mount Majura and 5500 at Tharwa. These fires started under extreme weather conditions and burnt out of control into NSW, causing several million dollars' worth of damage to property. A total of 28 000 hectares of pasture and bushland (10 000 hectares in the ACT) were burnt and 7000 head of stock were lost.

Black Mountain and Pierce's Creek, 1991: A fire started on the north-eastern side of Black Mountain. The fire burnt in a north-easterly direction, eventually crossing Barry Drive and threatening residential property along Dryandra Street. Minor damage was caused to front yard properties and the Koomarri School. An area of 135 hectares was burnt. A fire started in the Pierce's Creek pine plantation in the early afternoon on 21 April. Under worsening weather conditions the fire burnt in an easterly direction, eventually reaching the crest of the Bullen Range. Spot fires ignited grasslands east of the Murrumbidgee River. The total area burnt was about 870 hectares, which included about 457 hectares of pine plantation.

Curtin, 1994: A fire started at about 3.30 pm on 5 January on the eastern side of the Tuggeranong Parkway near the junction of the Cotter Road. It burnt in a south-easterly direction across the Illoura Community Horse Holding Paddocks to eventually reach Munro Street, Munro Place and Bavin Street, threatening residential properties and an ActewAGL substation. Gardens, backyard fences and sheds and pergolas were affected but no houses were destroyed. About 80 hectares were burnt in total. In addition, a fire on Mount Taylor came close to jumping Sulwood Drive and threatened houses before it was contained.

December 2001: On Christmas Eve 2001 a series of fires threatened central Canberra. Fire outbreaks occurred at Huntly, Stromlo, Bruce Ridge, Red Hill, Oaks Estate and Wanniasa Hills. It is thought that an arsonist lit fires on Uriarra Road and Coppins Crossing Road during the early afternoon, and they burnt rapidly through areas of grassland. The Uriarra Road fire was halted just short of the Stromlo pine forest. The Coppins Crossing fire raced across grazing land down to the Molonglo River and very soon threatened parts of Duffy, Holder, Weston, Yarralumla and Curtin. ESB issued the Standard Emergency Warning Signal to the community for the first time and advised residents of the affected suburbs to take steps to ensure their own safety. The fire crossed the Tuggeranong Parkway and burnt to the shore of Lake Burley Griffin and the edge of Curtin. Millions of dollars' worth of plantation pines were destroyed and many hectares were burnt out. On Christmas Day new fires flared, threatening major thoroughfares and suburbs and burning to the lawns of the Australian Mint. Large areas of Stromlo forest were lost: in the event, however, this proved a valuable firebreak for the January 2003 fires and arguably protected Black Mountain and central Canberra.

Exhibit 2: Map of ACT Showing Ignition Points on January 8, 2003

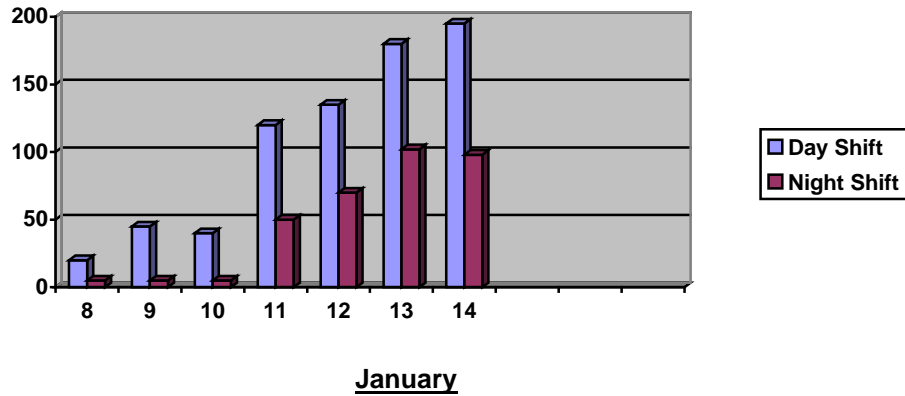


◀ ■ Ignition Points

Map: Location of the ACT

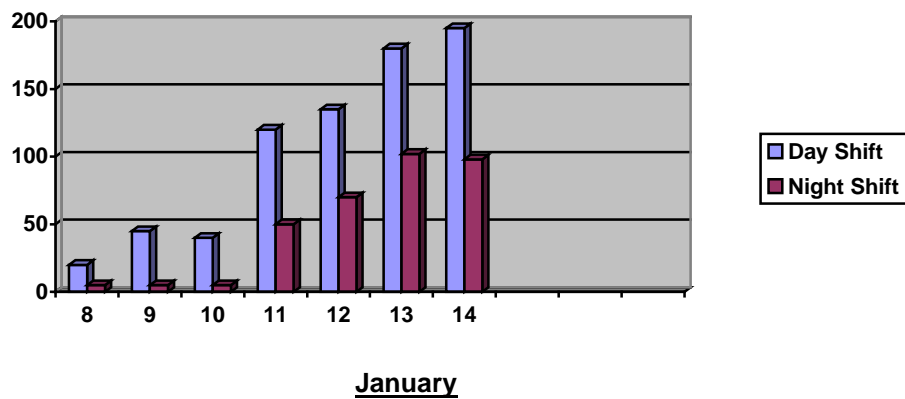


Exhibit 3: ACT Bush Fire Service response to the fires, 8-14 January, 2003:
 Personnel Committed, by shift; flying hours by shift; plant resources committed, by shift



(Source: McLeod, R., "Inquiry into the Operational Response to the January 2003 Bushfires", Australian Capital Territory, August 2003. Pages 48-50)

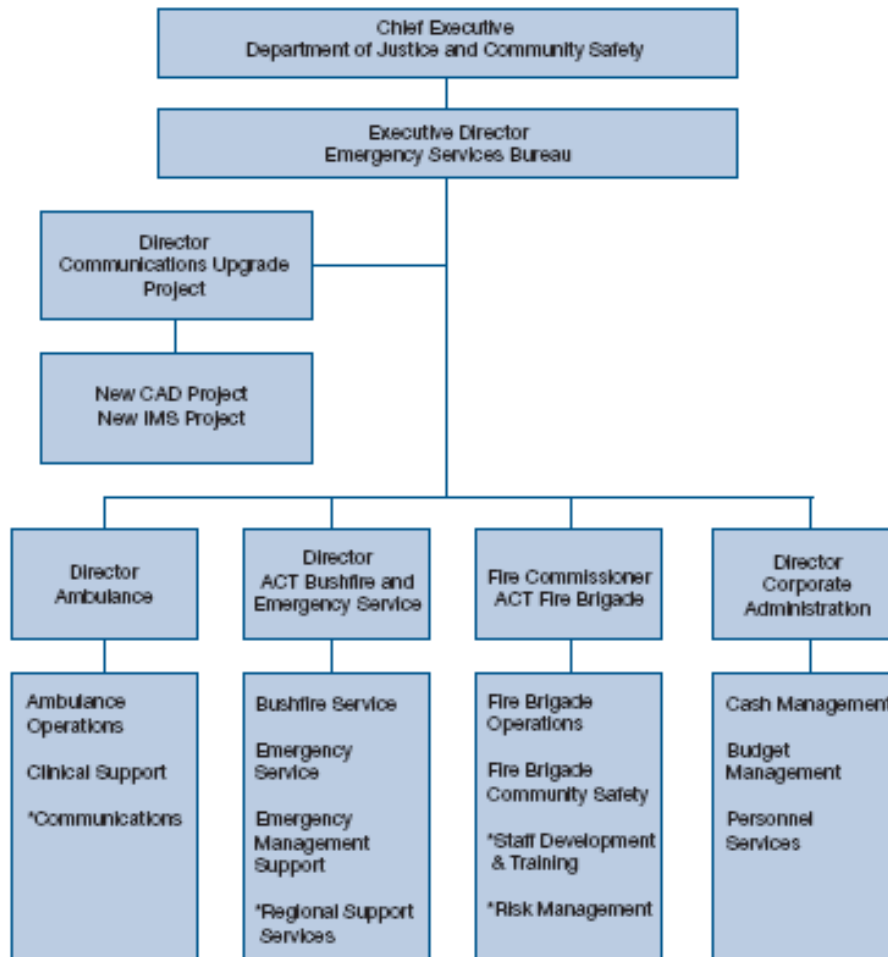
Exhibit 4: NSW Rural Fire Service response to the McIntyre Hut Fire, 8-14 January, 2003:
 Personnel Committed, by shift



(Source: McLeod, R., "Inquiry into the Operational Response to the January 2003 Bushfires", Australian Capital Territory, August 2003. Page 51)

Exhibit 5 – ACT Emergency Services Bureau Organisational Structure

(Source: McLeod, R., "Inquiry into the Operational Response to the January 2003 Bushfires", Australian Capital Territory, August 2003)



* Denotes Bureau portfolio function.