



Your details

Submission details

I am making this submission as	A resident in a bushfire-affected area
Submission type	I am submitting on behalf of my organisation
Organisation making the submission (if applicable)	Friends of the Mongarlowe River (Incorporated)
Your position in the organisation (if applicable)	Committee member (the submission is approved by the Committee, including President & Secretary)
Consent to make submission public	I give my consent for this submission to be made public

Share your experience or tell your story

Your story	I am a resident of Mongarlowe and a Committee member for the Friends of the Mongarlowe River, an environmental group established by the Australian poet and activist Judith Wright-McKinney and others in 1986. The attached eight page submission from the Friends of the Mongarlowe River has been approved by all the Committee, including President [REDACTED] and Secretary [REDACTED]. Two supporting files
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are also attached. One is a simple chronology of the Currowan fire in the Mongarlowe area that I prepared, published in a local magazine (together with a brief chronology of the North Black Range fire to the west of Braidwood by Scott Hart, captain of the Braidwood RFS). This chronology complements the Fires Near Me app image of the Currowan fire on 26 December that is appended as p 8 of the FMR submission. The other file is the article by David Lindenmayer et. al. referred to in para 15 on p 5 of the FMR submission. By viewing figure 1 of that article at 400% magnification the salience of the point made in that paragraph can be seen.

Terms of Reference (optional)

The Inquiry welcomes submissions that address the particular matters identified in its [Terms of Reference](#).

1.1 Causes and contributing factors	Please see paras 4 and 5 on p 2 of the Friends of the Mongarlowe River submission. Note that the North Black Range fire to the west of Braidwood also started by lightning at the same time as the Currowan fire. For a brief chronology, see attached file containing p 23 of Autumn 2020 issue of a local magazine in Braidwood, the BWD magazine.
1.2 Preparation and planning	Please see paras 6 to 11 on pages 2-4 of the Friends of the Mongarlowe River submission, regarding appropriate hazard reduction policies following the 2019-20 wildfires and future use of Indigenous fire management practices (covered by term of reference 6). Please see paras 14 to 16 on pages 4-5 of the Friends of the Mongarlowe River submission, regarding practices by other government agencies that contributed to the severity of the Currowan fire near the Mongarlowe River's source (covered by term of reference 7).
1.3 Response to bushfires	Please see paras 12 to 13 on p 4 of the Friends of the Mongarlowe River submission, regarding the need particularly for additional remote area fire-fighting resources.
1.4 Any other matters	Please see para 17 on pages 5-6 of the Friends of the Mongarlowe River submission, regarding what should be done to explain to landowners any tree felling necessary for public safety once a wildfire has been contained.

Supporting documents or images

Attach files	<ul style="list-style-type: none"> Friends of the Mongarlowe River submission to NSW Bushfire Inquiry.docx BWD magazine Autumn 2020 p 23 fire chronology.pdf Lindenmayer et. al. 2020_Fire +logging_NEE-1.pdf
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Secretary: [REDACTED]

Submission to the NSW Independent Bushfire Inquiry May 2020

Introduction

1. The Friends of the Mongarlowe River (FMR) was created in 1986 to preserve the integrity of the Mongarlowe River and its environs. A vital part of FMR's activity has been to protect the Monga forest, where the river has its source. FMR took part in the campaigns that led to the creation of the Monga National Park. This park contains many special places, including Penance Grove, that were devastated by the wildfires in this area during the past summer.

2. The scale of the fires that spread from the Currowan fire, which started by lightning on 25 November 2019, was much greater than any previous wildfires in this area. Historically, the largest previous fire in this area occurred from 9th-15th January 1939, burning a large area between the Mongarlowe River and the Clyde River at Nelligen on westerly winds (Duggin 1976 p 4). The wildfires that spread from the Currowan fire covered a much larger area, lasted for much longer, destroyed much more forest, and impacted directly on many more properties. FMR members were directly affected by the fires in Mongarlowe and Reidsdale. Several FMR members participated in fire-fighting with local RFS brigades, while others were active in informal network of local landholders and residents who used coordinated small fire-fighting vehicles known as 'slip-ons' (for their stories see Moss 2020 and Ansara 2020).

Overview

3. This submission focuses on several matters identified under the terms of reference for the NSW Bushfires Inquiry, using experience from FMR members in the areas around the Mongarlowe River, on the southern tablelands east of Braidwood. The particular matters addressed include:

- the main climatic factors that caused the unprecedented fires in this area;
- the need for a focused approach to fuel reduction without arbitrary targets;
- the need to enhance especially remote area as well as aerial fire-fighting resources;
- the need to end public subsidies of activities that increase forest fire severity; and
- the need to consult landowners about tree removal once a fire has been contained.

The key message is that the unprecedented scale of the wildfires, which occurred in climate conditions that are likely to be repeated, means there is a public need to carefully consider ways to enhance the fire-fighting response, including by ending any unsustainable activities.

Causation: lightning and global warming

4. Lightning was the immediate cause of two large fires in the Braidwood region. The North Black Range fire and the Currowan fire both started by lightning late on 25 November 2019. These lightning strikes were devastating because of extremely dry weather, as a result of which many trees in the Currowan forest had started to die because of heat stress. Average 3 pm humidity in Braidwood in November 2019 was 24%, much less than 43% in 2018. The prolonged dry weather stopped the Mongarlowe River flowing on 12 November. It did not flow again until 10 weeks later. According to [REDACTED], Deputy Captain of Braidwood RFS, the river had previously stopped flowing in 1965, 1981-2 and 2001. According to Braidwood weather expert [REDACTED], average maximum temperatures at Braidwood have risen by 0.8 of a degree per decade since 1986, a trend that is likely to continue (Hosking 2017, p 52).

5. The major cause of the massive forest destruction surrounding the headwaters of the Mongarlowe River in the summer of 2019-20 was global warming. Higher temperatures, low humidity and prolonged strong westerly winds made the lightning strikes devastating. Two features of the weather conditions that contributed to the widespread summer fires were a strongly positive Indian Ocean Dipole, which produced a very late monsoon, and a strong and prolonged positive phase of the Southern Annular Mode, which lasted into summer and produced strong westerly winds. Research suggests that both these phenomena will become more prevalent with further global warming. This raises an 'alarming' prospect: wildfires that start by lightning will become more common in the Southern Hemisphere, including most of Southeast Australia (Mariani 2018, p 13). The key implication is that the factors that made the recent fires devastating are likely in future to become stronger unless global warming is substantially mitigated. While the scale and duration of the recent fires was unprecedented, the conditions that created them are likely to be repeated in the foreseeable future. This means that efforts to prepare for, and respond to, wildfires must become more effective.

Focused fuel reduction and fire intensity

6. The sole purpose of hazard reduction burns should be to proactively protect property assets, while mitigating environmental damage. The more properties that are protected the better, but this purpose should not be distorted by arbitrary, bureaucratic targets specifying aggregate areas to be burnt, such as were imposed with perverse outcomes in Victoria after the 2009 fires, for example burning large areas far away from properties in the Mallee, and the destruction of five houses in Lancefield in October 2015 when a hazard reduction burn got out of control. That simplistic, dangerous approach would waste very valuable resources.

7. The climatic and economic constraints on hazard reduction burning are likely to increase. With climate change, opportunities to conduct safe hazard reduction burns are reduced, especially because of more windy weather that results when the Southern Annular Mode is in a positive phase. Hazard reduction burning requires adequate resources to be effective and safe. Because the number of properties in the bush/semi-urban interface is likely to increase at a greater rate than fire-fighting resources, there will always be hazard reduction burning on a local scale that needs to be done, as determined by local RFS commanders.

8. The effectiveness of hazard reduction burning depends on weather conditions and fire intensity. Analysis by Professor Patrick Baker of Melbourne University using RFS data about

the Currowan fire showed that fire intensity in extreme and/or catastrophic conditions was barely diminished by hazard reduction burns in the previous five years (Morton 2020; Coote 2020). Such analysis should be considered in the Inquiry's report, including reproduction of the map produced by Professor Baker comparing fire intensity and areas of hazard reduction burns in the past five years (this map is not readily available on the internet). The effect of a previous wildfire may be more prolonged than hazard reduction burns. Where an area of the Budawang range east of Mongarlowe was burnt by the Wirritin fire in 2013, the advance of the Currowan fire was slower than in areas not recently burnt. However, Professor Baker's analysis confirms the advice of Professor Ross Bradstock of Wollongong University, that focused hazard reduction burning conducted near houses is more effective at limiting losses than burning in remote areas of bush several kilometres away from properties (Foley 2020).

9. A particular practice that could be helpful in future in achieving focused fuel reduction is Indigenous cool burning. While the practice has not been adopted around Braidwood, there is community interest in supporting it where appropriate, if sufficient people trained in the practice could be developed. One of the Yuin elders who is a teacher of this practice, [REDACTED] from the Local Land Services on the South Coast, gave a public talk in Braidwood as part of a festival in April 2019. There is at least one documented case near Ulladulla where cool burning led by [REDACTED] in winter 2019 played a role in limiting fire devastation on a rural property adjacent to national parks (see Higgins 2020). In order for this practice to be adopted widely, where appropriate, to help protect properties and to restore environments, there would need to be public support for such training, as promoted by fire educator Victor Steffensen, the subject of an ABC documentary on Australian Story on 13 April 2020.

10. A major problem with the effectiveness of hazard reduction burns in National Parks is that it is very difficult to estimate in advance where a particular wildfire will burn, and hence to ensure that burning in remote bush will restrict the wildfire when and where it expands. For example, after the Currowan/Charleys Forest fire crossed the Budawang Range near Mt Budawang on 5 December the main front of the fire was heading north, along the Wirritin Range, somewhat like the Wirritin fire in October 2013 but much more fiercely. Containment lines were constructed to stop the fire when it reached the grass to the west of the forest, and the Webbs and Gulf fire trails in the forest to the NE of Mongarlowe were reinforced by back burning to the east of those trails, which contained the fire from spreading west in that area (although it did further north at Wog Wog, beyond those trails, because of how quickly the fire went north; see attached map from Fires Near Me app, taken on 26 December 2019, at the mid-point of this fire campaign, three weeks in with another three weeks still to go). The main threat to Mongarlowe came from the south, as the Currowan fire spread further south on the eastern side of the range, then came uphill along Currowan Creek two weeks after the main fire front had crossed the range. Remote hazard reduction burning along Currowan Creek directly west of Mt Budawang would have been unsafe, because of the steep topography, of very limited effectiveness, and unnecessary, because a strategic back burn on 9 December south of the intersection of Budawang Rd and Mt Budawang Rd (grid reference 690728) helped to restrict the spread of the second wave of fire, which came along Currowan Creek on 19 December, mainly to some areas to the east of Budawang Rd.

11. Neither the very large fire that devastated the Monga National Park in late December, nor the smaller fire finger that burnt large areas of the Monga Conservation Area to the west

of Northangera Rd, south of Mongarlowe in early January, could have been contained by previous hazard reduction burning in these areas. The circumstances of these particular fires demonstrate why, as Commissioner Fitzsimmons has said, broad hazard reduction burning is no panacea (Rawsthorne 2020). Once the Currowan fire crossed to the south of the Kings Highway by late December, despite the best efforts of the RFS to prevent this, the Monga National Park became vulnerable, because of the steep terrain and the fire intensity on bad days. By that stage (see map 26/12), only extensive rain could have saved the environmental treasures of the Monga National Park. The fire that spotted across Northangera Rd into the Monga Conservation Area late on 4 January did so on very strong SE winds (around 60 kmh) as a gusty change came through after the hottest day of the summer. While this fire might have been contained sooner if more crews had been available, resources then were very stretched, as the Mongarlowe Cat 1 truck was fighting a large fire threatening properties 20 km to the north, while many properties south of Araluen had been destroyed. The particular direction of that change meant that several houses survived that night in Mongarlowe.

Enhancing remote area and aerial fire-fighting resources

12. The unprecedented scale of the wildfires during the past summer meant there were many occasions when fire-fighting resources were stretched. During the second week of January, when the threat to the village of Mongarlowe and surrounding properties was most intense, local fire-fighting resources were strengthened by fire fighters from interstate and New Zealand, including the Tasmanian Strike Team 385, who provided great assistance. Some New Zealand fire fighters working north of Araluen included dedicated members of Remote Area Firefighting Teams. This specialised form of fire-fighting is one key area where additional resources are clearly needed, and should be available early on in a fire campaign.

13. The rationale for planning to increase remote area fire-fighting resources is threefold. First, many of the most destructive fires in NSW in the past spring and summer were started by lightning in remote locations. Given the terribly dry, hot and windy conditions, the bigger the wildfires become the harder they are to contain and the more destructive their impacts. If a fire can be contained quickly by increasing available aerial and remote area fire-fighting resources, that is worth doing. Second, the impacts of climate change will make fires started by lightning in bad fire seasons a bigger problem in future. Third, in remote areas, such as the rough terrain in the east of the Monga National Park, the only way to protect the forest from devastation is to have the resources ready to contain fires quickly, before they spread. Decisions on the use of aerial resources will depend on operational priorities, when winds are not too strong for such resources to be used. Having more aerial resources available, particularly before wildfires become very large, would contribute to saving more properties.

Ending actions that increase fire intensity in forests

14. Given the great difficulty of controlling wildfires in areas such as the Monga National Park, an important part of fire mitigation is limiting actions that are likely to increase fire intensity whenever a wildfire occurs. One activity that has been shown to increase fire intensity is extensive logging of native forests. A study of forest areas burnt in the 2009 Victorian fires showed that, after weather conditions, the variable with the *most* influence on fire severity was *the age of the trees in the forest*. The most severe fires occurred in the forests with trees 'aged between 7 and 36 years, with a peak around 15 years' (Taylor et. al.

2014). This is the typical age of a regrowth native forest that has been subjected to logging, before it is logged again, such as compartments 516 and 517 near the Corn Trail adjacent to the Monga National Park. Where a native forest has not been logged every 30 years, then the longer that the forest ages ‘the risk of crown fire drops because the crown is higher above the ground and the density of the fuel is dispersed’, with the gradual development of ‘a more moist understorey, including rainforest plants’, which creates conditions that ‘make it more difficult for fire to burn severely’ (Taylor et. al. 2014). The risk of higher fire severity after logging lasts for about 40 years (Lindenmayer 2020), yet fire frequency has increased. Large areas of forest have burnt three times in 25 years (Lindenmayer and Taylor 2020, p 3).

15. If any public benefit was derived from logging of native forests, the risk of increased fire intensity as a result of such logging would need to be balanced against such benefit. Given the huge destruction that the Currowan/Clyde Mountain fire caused when it moved quickly from the forests south of the Kings Highway to Batemans Bay and Mogo on New Year’s Eve, the public benefit would have to be very large to justify this logging. Yet, in fact, for decades such logging of native forests has been conducted at a substantial public financial loss, so it continues only because of large public subsidies. For example, when compartment 517 was logged in early 2019 the revenue received by Forestry Corp was \$186,113, yet the cost of harvest and haul operations was \$1,084,522 (from answer given by Forestry Corp CEO Nick Roberts to questions in Legislative Council by David Shoebridge, see NSW Parliament 2019). Much of the forest to the west of Batemans Bay and Mogo that burnt very severely on New Year’s Eve has been extensively logged for decades, mainly for woodchips and firewood. See the map in figure 1 in a recent article (attached) in the scientific journal *Nature Ecology and Evolution* (Lindenmayer et. al. 2020). The logged areas shown in black on that map are very extensive between Monga NP and Batemans Bay, and also about 50 to 60 km further south, to the SW of Moruya around Nerrigundah, which was very badly impacted by the wildfires. The fires that occurred in these areas were especially severe because of historical logging.

16. When considering actions that are necessary to help with post-fire recovery, it should not be presumed that a return to unsustainable operations, such as native forest logging, is justifiable. The scale of the destruction as a result of the unprecedented fires warrants a full review of all existing public uses of land devastated by the fires. Clearly, the National Parks and Wildlife Service (NPWS) did not have enough fire-fighting resources available. Many of the largest and most destructive fires, including the Currowan fire, started on public land managed by Forestry Corp, which was unable to prevent these fires spreading. Given the need for increased fire-fighting resources, for both the Rural Fire Service and the NPWS, it is essential that the large public subsidies given in recent decades to support logging of native forests are now spent instead on enhancing remote area and other fire-fighting resources.

Operational and post-fire safety and tree clearing

17. During active fire-fighting a significant amount of tree clearing is necessary to create effective containment lines and to limit the further spread of fires that have spotted beyond existing containment lines. This is understandable, as is the removal of any hazardous trees that could fall as a result of being weakened by fire. Often the removal of hazardous trees has to be done urgently, while the fire is still at risk of spreading. While in such a situation it is understandable when those tasked with tree removal do this more extensively than may

be required, the situation is very different once the fire has been contained, and further risk of a fire spotting no longer exists. FMR is aware of one case, along Monga Lane at Reidsdale, where large old trees that did not seem to be a safety risk as a result of fire damage were removed months after active fire in the area had ceased. While an arborist was involved in deciding which trees along Northanger Rd near Warrambucca Creek at Mongarlowe were removed for public safety, FMR believes that the subsequent tree removal at Monga Lane was more extensive than an arborist had considered necessary. Those workers tasked with removing trees for public safety well after a fire has been contained should consult with landowners about which trees to remove. Only trees that are a safety risk according to an arborist should be removed. Landowners have an obvious interest in the removal of trees that could endanger their safety, so their views about this should be sought and respected.

Conclusion

18. For the reasons outlined above, the NSW Bushfire Inquiry should acknowledge that the climatic factors that predominantly caused the unprecedented wildfires in 2019-20 will be recurrent, so it is probable that fires on this scale will occur in the foreseeable future. The Inquiry should recommend a focused approach to hazard reduction that aims to reduce fuel close to properties, instead of promoting arbitrary aggregate targets. The need to enhance specialised remote area and aerial fire-fighting resources should be recognised, along with the need to support local RFS brigades. Given the difficulty of using remote area fire-fighting resources on a large scale, it is vital that unsustainable practices such as native forest logging that raise the risk of fire severity are now strongly discouraged, because logging operations have ‘profound effects on fire severity, fire frequency and other key aspects of fire regimes’ (Lindenmayer et. al. 2020). The substantial public money that has been used for decades to subsidise logging of native forests in areas that were burnt severely in the 2019-20 wildfires should be redirected to enhance fire-fighting resources, and to support land management activities that reverse the degradation of these forests. Landowners should be consulted about which trees are a safety risk after a fire, and arborists’ decisions explained to them.

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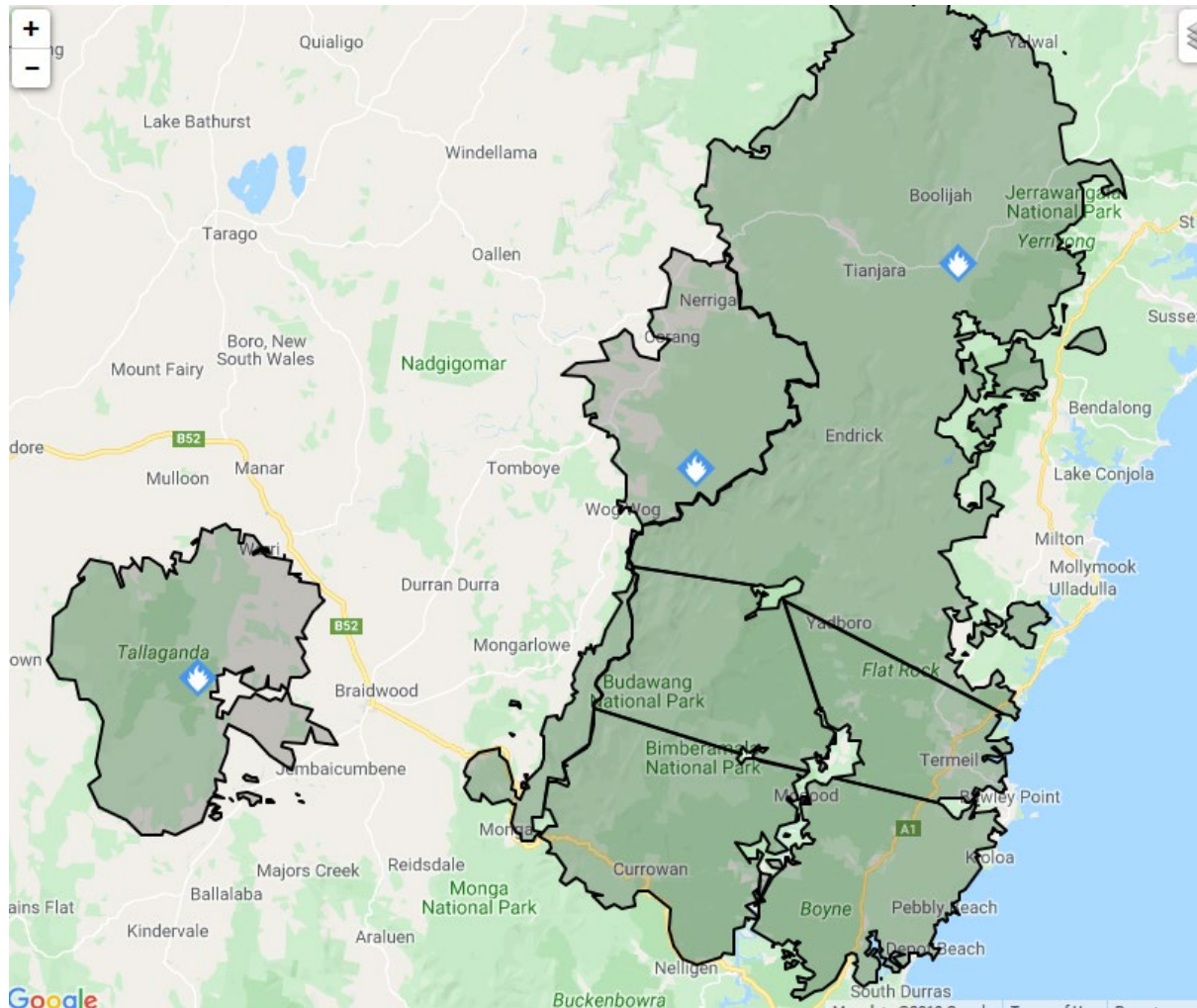
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Area Map showing extent of fires near Mongarlowe on 26 Dec 2019



Fires Near Me app dated 26 December 2019 showing extent of wildfires around Mongarlowe at that time, a month after the Currowan fire had started and a few days before the Monga NP was burnt.

This was three weeks after the Currowan fire had crossed the Budawang Range heading west, and about three weeks before that fire in the Mongarlowe area (called the Charleys Forest fire) had been contained, although wildfires continued burning south-west of Araluen until rain in mid-February.

The significance of the date of this map is that by this stage the North Black Range fire to the west of Braidwood had been contained, but the Currowan fire was heading further N, NW and NE, and SE toward Monga NP to the west of Cabbage Tree Creek, while the Badja fire further south had recently started and was expanding rapidly eastward. While RFS crews were able to defend properties around Mongarlowe and Reidsdale, and to a lesser extent around Araluen, there was no possibility by then of preventing the imminent devastation of Monga NP because there was still no rain on the horizon.

The fire threat to Mongarlowe from the east had been contained by December, with the main threat coming from the south. Subsequently, on 4 and 10 January, another fire threat came from the north, from the area to the south of Tomboye, where the Currowan fire had burnt to the west of Wog Wog.