Bushfire recovery and response

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Abstract

This paper uses data from January 2021 to analyse how Australians feel about progress in recovery from the 2019/20 Black Summery bushfires, and what they see as the most effective policy responses for preparing for future data.

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1 Introduction and overview

The 2020/21 Spring and Summer in Australia was very different to the previous bushfire season. While there was some bushfire activity, particularly in the southern part of Western Australia, there was no repeat of the devastating fires that occurred in the 2019/20 season. Instead, Australia was impacted by a very different external shock, the ongoing impacts of the COVID-19 pandemic. While Australia has not experienced the same number of deaths and illness as many other developed countries, there were still a number of ongoing economic, social, and mental health impacts of the pandemic, particularly as a consequence of the ongoing international border closure, and periodic lockdowns in some of our largest capital cities.

In January 2020, many Australians were wearing masks outside in order to be able to breath without the harmful effects of smoke. In January 2021, many of the same people were wearing different types of masks, usually indoors, in order to prevent the spread of COVID-19.

Although the fire season was not as devastating this year as last year, there were still lingering impacts of bushfires in Australia. Many of the communities devastated by the 2019/20 Black Summer fires had not fully recovered, and there was genuine anxiety that the fires may return, or impact on other communities. There was also ongoing debate as to how Australia can be better prepared for future fire seasons.

The aim of this paper is to use data from January 2021 to analyse how Australians feel about progress in recovery from the 2019/20 Black Summery bushfires, and what they see as the most effective policy responses for preparing for future fires.

Data for this paper was collected from the 18th of January 2021 through to the 1st of February. By the end of the data collection period, there were 3,459 observations, of which 57.4 per cent were enumerated during the first three full days of data collection (between the 19th and 21st of January). In addition to having data on the 2020/21 experience, 80.0 per cent (n = 2,766) of the sample were interviewed in August 2020 when bushfire related questions were last asked. Furthermore, 78.7 per cent (n = 2,722) of the January 2021 had been interviewed in January 2020 during the Black Summer fires.

2 Anxiety and worry due to bushfires

Respondents in the January 2021 ANUpoll were asked 'We would now like to ask you some questions about your experiences with bushfires this **spring and summer**, (that is, since September 2020). Have you felt anxious or worried for the safety of yourself, close family members or friends, due to actual or potential fires this spring and summer?' [bold in original]

Across the entire January 2021 sample, 30.1 per cent of Australians were estimated to have experienced anxiety and worry. While this is substantially lower than the 53.4 per cent who reported anxiety and worry in January 2020, it does indicate the ongoing presence of anxiety and worry during a year in which bushfire activity was relatively low

There is a strong correlation between anxiety and worry in January 2020 and January 2021, with only 13.7 per cent of the longitudinal sample who did not report anxiety and worry in 2020 reporting anxiety and worry in 2021, compared to 39.6 per cent of those who did report anxiety and worry in 2020

In an econometric model, where we analyse the factors associated with anxiety and worry (Table 1), females, young Australians, those born overseas in a non-English speaking country, and those who speak a language other than English at home had a higher level of anxiety and worry. In addition, reflecting the location of fires during the 2020/21 season, those who live in Western Australia had a higher level of anxiety and worry. Socioeconomic status appears to provide a protective factor, with those who lived in the most advantaged areas in Australia had lower levels of anxiety and worry.

Controlling for these variables, anxiety and worry in January 2021 was significantly and substantially associated with anxiety and worry in January 2020. In this model (which is essentially capturing change through time in anxiety and worry), sex, language spoken at home and Western Australia were still statistically significant. Those who reported in January 2020 that they were directly threatened by the fires; those that had friends or family that had some form of property damage; and those affected by smoke also reported a greater level of anxiety and worry. Interestingly though, there was no association with living in a bushfire affected area in January 2020 (controlling for the other variables in the model).

A final, important finding is that, controlling for the variables discussed above, those who experienced anxiety and worry due to COVID-19 were more likely to have experienced anxiety and worry due to bushfires in January 2021, with a particularly strong association between anxiety and worry due to COVID-19 in August 2020 and January 2021. In many ways the COVID-19 pandemic has overtaken bushfires as the key issue Australians were concerned about over summer. However, in other ways, it would appear that those who are most concerned about COVID-19 are most concerned about fires.

Table 1 Factors associated with anxiety and worry due to bushfires, January 2021

Explanatory variables	Model 1		Model 2		Model 3	
	Coeff.	Signif.	Coeff.	Signif.	Coeff.	Signif.
Anxiety and worry due to COVID-19 – August 2020					0.313	***
Anxiety and worry due to COVID-19 – January 2021					0.303	***
Anxiety and worry due to bushfires – January 2020			0.857	***	0.742	***
Female	0.219	***	0.173	**	0.163	**
Aged 18 to 24 years	0.224		0.025		0.020	
Aged 25 to 34 years	0.281	***	0.081		0.138	
Aged 45 to 54 years	-0.055		-0.167		-0.112	
Aged 55 to 64 years	-0.085		-0.104		0.011	
Aged 65 to 74 years	-0.065		-0.059		0.039	
Aged 75 years plus	-0.091		-0.161		-0.075	
Indigenous	-0.010		0.015		-0.090	
Born overseas in a main English-speaking country	0.022		-0.017		-0.003	
Born overseas in a non-English speaking country	0.210	**	0.185		0.172	
Speaks a language other than English at home	0.255	**	0.315	***	0.319	**
Has not completed Year 12 or post-school qualification	0.139		0.209		0.124	
Has a post graduate degree	0.095		0.041		0.002	
Has an undergraduate degree	-0.088		-0.059		-0.094	
Has a Certificate III/IV, Diploma or Associate Degree	0.108		0.075		0.066	
Lives in the most disadvantaged areas (1st quintile)	-0.059		0.037		0.017	
Lives in next most disadvantaged areas (2nd quintile)	-0.002		0.080		0.068	
Lives in next most advantaged areas (4th quintile)	-0.045		0.003		-0.021	
Lives in the most advantaged areas (5th quintile)	-0.181	*	-0.079		-0.103	
Lives in a non-capital city	0.082		0.083		0.100	
Victoria	0.036		0.139		0.135	
Queensland	-0.131		-0.034		0.031	
South Australia	0.047		0.113		0.188	
Western Australia	0.386	***	0.583	***	0.658	***
Tasmania	-0.247		0.093		0.193	
Northern Territory	0.456		0.463		0.241	
Australian Capital Territory	0.419	**	0.363		0.416	*
Constant	-0.849	***	-1.423	***	-1.798	***
Sample size	3,297		2,604		2,463	

Source: ANUpoll, January 2021

Notes: Probit Regression Model. The base case individual is female; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); lives in a capital city; and in New South Wales. Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *.

3 Satisfaction with bushfire recovery

One of the remarkable aspects of the 2019/20 fires was the way in which many Australians who lived outside of the most affected areas contributed money, time, or goodwill to the immediate and medium-term recovery. One could certainly argue that more could have been done to help communities prior to the fires, and also that the response afterwards still fell short of what was required. However, significant resources had been allocated to the recovery, by government and non-government organisations alike.

Respondents to the 2021 survey were asked two questions related to their satisfaction with bushfire recovery, with an introductory statement ('The next questions are about the bushfires that occurred last summer, that is **late 2019 and early 2020**.') and the same stem ('Since the **2019/20 Black Summer** fires, how satisfied have you been with the recovery in bushfire affected

areas…') [bold in original]. Following this introduction and stem, one question asks about '**in Australia?**' and the other question asks about '**in your community?**' [bold in original], with the order of the two variables randomised.

When asked about recovery in all of Australia, 54.8 per cent were satisfied, and a further 5.9 per cent were very satisfied. The neutral category (neither satisfied nor dissatisfied) was hidden from online respondents and given by only 1.6 per cent of respondents, with 32.1 per cent of respondents saying they were dissatisfied and 5.7 per cent saying they were very dissatisfied.

Only 38.9 per cent of the (weighted) sample said that their community was affected and therefore answered the question on bushfire recovery in their area (n = 1,231). Of those who lived in a community that was affected, 68.2 per cent said that they were satisfied with the bushfire recovery, and 17.9 per cent said they were very satisfied. Only 0.5 per cent were neither satisfied nor dissatisfied, leaving 10.9 per cent of those in affected communities saying they were dissatisfied and 2.5 per cent saying they were very dissatisfied.

In an econometric model with the level of satisfaction in national level bushfire recovery as the dependent variable (an ordered probit model), older Australians (aged 55 years and over) were less satisfied with the recovery, whereas those who were born in a non-English speaking country and those in the most disadvantaged suburbs were more satisfied

Controlling for these variables, all those who did not say they would have voted for the Coalition if an election was held in January 2020 were less satisfied with the bushfire recovery. That is, political views at the time of the fires appears to have impacted on views on the recovery. Satisfaction was lowest for Greens voters, followed by those who did not know who they would have voted for, then Labor voters, then those who said they would have voted for an 'other' party

A very important finding from the analysis was that, controlling for the variables discussed above, those who lived in a community that was affected by the bushfires (as indicated when answering the parallel question) were more likely to be satisfied with the national bushfire response. Controlling for these variables, those who said they were affected by smoke from the fires and those who said they experienced anxiety and worry due to the fires in January 2020 were less satisfied with the national recovery. There was a large negative coefficient for those who had their own property damaged by the fires but, because the sample size was reasonably small, the difference was not statistically significant. Living in a bushfire affected area appears to lead to greater satisfaction. Being affected personally (either directly or indirectly) appears to lower satisfaction.

Table 2 Factors associated with satisfaction with bushfire recovery, January 2021

Explanatory variables	Coeff.	Signif.
Would have voted Labor	-0.404	***
Would have voted Greens	-0.693	***
Would have voted 'other' party	-0.225	**
Undecided voter	-0.465	***
Lives in community affected by Black Summer fires	0.357	***
Experienced property damage from Black Summer fires	-0.252	
Affected by smoke from Black Summer fires	-0.244	***
Anxious or worried due to Black Summer fires	-0.248	***
Female	0.115	**
Aged 18 to 24 years	-0.039	
Aged 25 to 34 years	0.053	
Aged 45 to 54 years	-0.195	**
Aged 55 to 64 years	-0.342	***
Aged 65 to 74 years	-0.598	***
Aged 75 years plus	-0.581	***
Indigenous	-0.171	
Born overseas in a main English-speaking country	0.156	*
Born overseas in a non-English speaking country	0.101	
Speaks a language other than English at home	0.082	
Has not completed Year 12 or post-school qualification	-0.052	
Has a post graduate degree	-0.030	
Has an undergraduate degree	-0.114	
Has a Certificate III/IV, Diploma or Associate Degree	-0.065	
Lives in the most disadvantaged areas (1st quintile)	0.206	**
Lives in next most disadvantaged areas (2nd quintile)	0.065	
Lives in next most advantaged areas (4th quintile)	-0.022	
Lives in the most advantaged areas (5th quintile)	0.027	
Lives in a non-capital city	-0.079	
Cut-point 1	-2.278	
Cut-point 2	-0.884	
Cut-point 3	-0.852	
Cut-point 4	1.190	
Sample size	2,472	

Source: ANUpoll, January 2021

Notes: Ordered Probit Regression Model. The base case individual is female; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); lives in a capital city. Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *.

4 Views on bushfire response

Respondents were prompted with the statement 'The next questions are about preparation for future bushfires, that is after the current 2020/21 bushfire season' and were then asked 'How effective do you think each of the following actions would be at reducing the impact of bushfires in …' with 50 per cent of respondents asked about Australia and the other 50 per cent asked about their community.

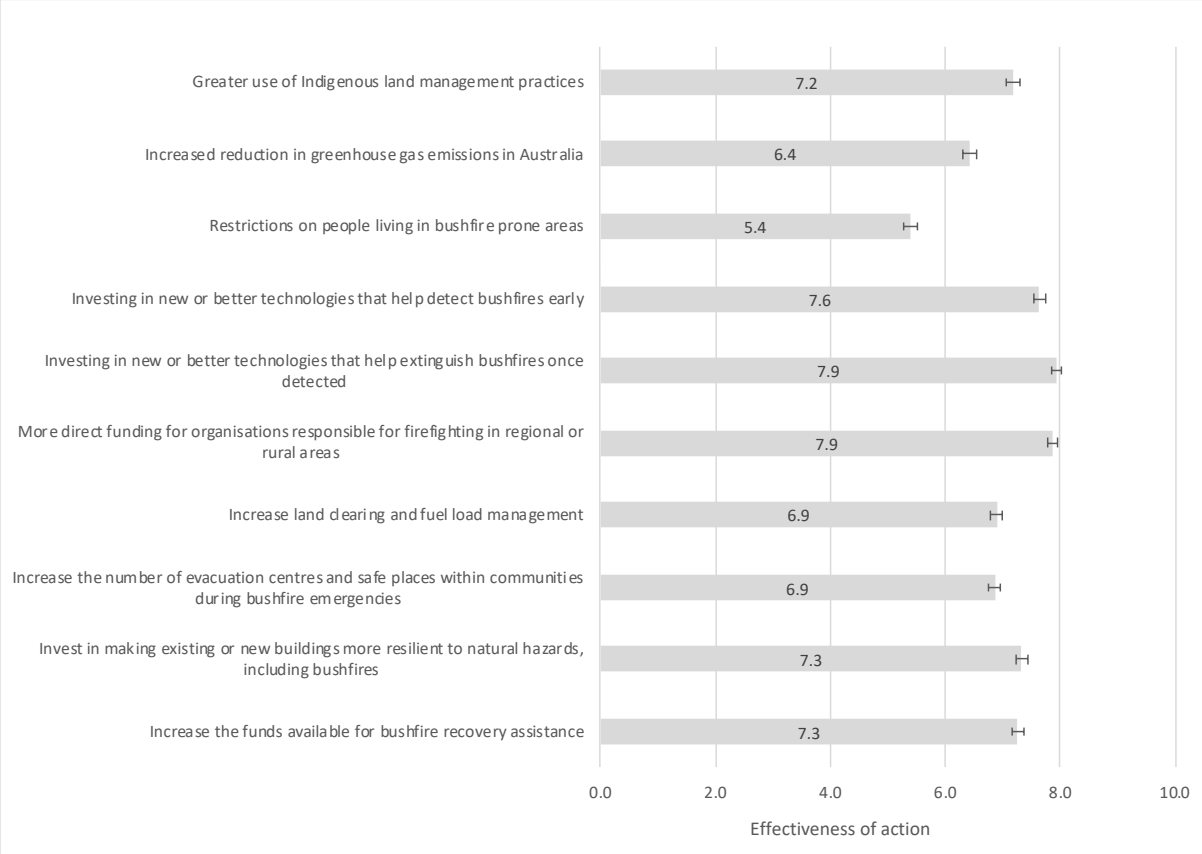
There were 10 possible policy responses, taken in part from the Royal Commission into National Natural Disaster Arrangements. These were presented in random order, with respondents asked to rate each independently on a scale of 0 to 10. There was no significant difference between those who were asked about their community and those who were asked

about Australia, and no consistent positive or negative difference. We therefore combine both responses in our analysis

Although the general public are not experts on bushfire response and therefore the responses are not an indication of the potential efficacy of the responses, but rather an indication of public support and potentially willingness to pay through the tax system.

The two actions that have the highest level of perceived effectiveness are: Investing in new or better technologies that help extinguish bushfires once detected; and More direct funding for organisations responsible for firefighting in regional or rural areas (7.9 out of 10 for both). The actions with the lowest level of perceived effectiveness are Restrictions on people living in bushfire prone areas (5.4 out of 10) and Increased reduction in greenhouse gas emissions in Australia (6.4 out of 10)

Figure 1 Perceived effectiveness of action for reducing the impact of bushfires, January 2021



There is a strong correlation in people's views across the different actions, meaning that someone who thinks a particular action is effective is more likely to think another action is effective. This is demonstrated by a principal components analysis, which has an eigenvalue of 4.26 for the first component and 1.05 for the second component. All the individual actions have a positive loading on the first component.

When we analyse the factors associated with the average perceived effectiveness across all the actions. Those who live in a community that was affected by the 2019/20 Black Summer fires were less likely to say the actions were effective. That does not mean that they are less supportive of the actions being taken, but rather that their own experience may make them question the effectiveness. Controlling for community exposure, females, young Australians

(those aged 18 to 24 years), those in the middle part of the age distribution (aged 45 to 54 years) and older Australians were more likely on average to think the actions would be effective (relative to makes and those aged 35 to 44 years respectively, all else being equal).

Table 3 Factors associated with average belief in efficacy of bushfire response, January 2021

Explanatory variables	Coeff.	Signif.
Lives in community affected by Black Summer fires	0.857	**
Female	0.173	***
Aged 18 to 24 years	0.025	**
Aged 25 to 34 years	0.081	
Aged 45 to 54 years	-0.167	*
Aged 55 to 64 years	-0.104	
Aged 65 to 74 years	-0.059	***
Aged 75 years plus	-0.161	***
Indigenous	0.015	
Born overseas in a main English-speaking country	-0.017	
Born overseas in a non-English speaking country	0.185	
Speaks a language other than English at home	0.315	
Has not completed Year 12 or post-school qualification	0.209	
Has a post graduate degree	0.041	
Has an undergraduate degree	-0.059	
Has a Certificate III/IV, Diploma or Associate Degree	0.075	
Lives in the most disadvantaged areas (1st quintile)	0.037	
Lives in next most disadvantaged areas (2nd quintile)	0.080	
Lives in next most advantaged areas (4th quintile)	0.003	*
Lives in the most advantaged areas (5th quintile)	-0.079	
Lives in a non-capital city	0.083	
Constant	-1.423	***
Sample size	3,080	

Source: ANUpoll, January 2021

Notes: Ordered Probit Regression Model. The base case individual is female; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); lives in a capital city. Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *.

When we subtract the average views on effectiveness from the rating for each particular action (that is, looking at the support for that action specifically), we find the following associations:

- Those who live in bushfire affected areas had a lower belief in the relative effectiveness of: greater use of Indigenous land management; new technologies for detection; and new technologies for extinguishment. However, they had a higher belief in the relative effectiveness of restrictions on people living in bushfire prone areas.
- Females had a higher belief in the relative effectiveness of: Indigenous land management; and reductions in greenhouse gas emissions. They had a lower belief in the relative effectiveness of technologies for bushfire detection; funding for firefighting organisation; and land clearing and fuel load management.
- Young Australians had a higher belief in the relative effectiveness of: reductions in greenhouse gas emissions; and bushfire recovery assistance. They had a lower belief in the relative effectiveness of technologies for bushfire detection; technologies for bushfire extinguishment, land clearing and fuel load management; and resilient buildings.

- Older Australians had a higher belief in the relative effectiveness of: restrictions on people living in bushfire prone areas; bushfire detection; and resilient buildings. They had a lower belief in the relative effectiveness of reductions in greenhouse gas emissions.
- Indigenous Australians had a higher belief in the relative effectiveness of: Indigenous land management; and evacuation centres.
- Those who lived outside of a capital city had a higher belief in the relative effectiveness of: Indigenous land management; funding for firefighters; land clearing and fuel load management. They had a lower belief in the relative effectiveness of evacuation centres and building resilience.

5 Concluding comments

Australia is still being impacted by the 2019/20 Black Summer bushfires. Despite a very low level of bushfire activity in the 2020/21 Spring/Summer, more than a third of Australians reported anxiety and worry due to fires. Furthermore, although the majority of Australians were satisfied with the recovery particularly if they lived in lived in an affected community, there were still 32.1 per cent of Australians who said that they were dissatisfied and 5.7 per cent who said they were very dissatisfied.

The vast majority of Australians would appear to believe in the efficacy of many of the recommendations from the Royal Commission into National Natural Disaster Arrangements. The two actions that have the highest level of perceived effectiveness are investing in new or better technologies that help extinguish bushfires once detected and more direct funding for organisations responsible for firefighting in regional or rural areas. However, even the actions with the lowest level of perceived effectiveness were still viewed as being more effective than not.

To avoid the devastating impacts of the Black Summer fires, Australia needs to invest substantially in bushfire recovery, and bushfire prevention, guided by experts but supported by public opinion.