

From: [Adrian Barnett](#)
To: [Justine Stansen](#)
Subject: Fwd: Stats analysis 1 pager
Date: Wednesday, 2 September 2015 4:13:53 PM
Attachments: [image001.jpg](#)
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[Adrian Barnett analysis summary EDITED.agb.docx](#)
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Sent from my iPhone

Begin forwarded message:

From: Adrian Barnett [REDACTED]
Date: 5 February 2015 17:11:22 GMT+11
To: Cathy Coote [REDACTED]
[REDACTED]
Cc: Nicola Rivers [REDACTED]
Subject: RE: Stats analysis 1 pager

My comments attached.

On Monday I'll put my full analysis on e-prints. The previous one is here:
<http://eprints.qut.edu.au/76230/>.

From: Cathy Coote [REDACTED]
Sent: Thursday, 5 February 2015 3:54 PM
To: Adrian Barnett; [REDACTED]
Cc: Nicola Rivers
Subject: Stats analysis 1 pager

Hi all

Here's a second version of this with Adrian's comments included.

Adrian can you just check the para about postcodes and Traralgon/Moe – I'm just not sure which were the worst and second worst postcodes.

Also need to just finalise that list of potential reasons for the lower rates in Morwell.

We will aim to get everything ready to send out tomorrow morning. The package will be a media release (one from us to our list, one from VotV to your list), this summary, Adrian's report, and the interactive timeline.

Talk soon

Cathy

Cathy Coote
Communications Advisor

Environmental Justice Australia

PO Box 12123
A'BECKETT ST VIC 8006
Tel: (03) 8341 3100
Direct line [REDACTED]
Fax: (03) 8341 3111
[REDACTED]

www.envirojustice.org.au

*Environmental Justice Australia is a citizen-funded, not-for-profit, public interest legal practice,
using the law to protect and restore Australia's environment.*

Summary of Assoc. Prof Adrian Barnett's statistical analysis of deaths relating to the Hazelwood Mine Fire.

- Adrian Barnett's original analysis reviewed monthly deaths for 5 years of data (January to June 2009 to 2014) across the four postcodes closest to the mine fire (Morwell, Moe, Traralgon and Churchill). He examined whether death rates were higher during the two months of the fire (February and March 2014).
- The first Barnett report concluded that, when monthly temperatures are factored in, there is an 80% probability that the death rate during the fire was higher than average. He concludes there were 11 additional deaths over the four postcodes during the time of the fire.
- Professor Barnett's second analysis confirms those findings. The second analysis reviewed two extra postcodes (Jumbuck/Yinnar and Boolarra/Budgere) and included 10 years of data (2004 to 2014).
- Overall it shows that there is an 82% probability that the mine fire caused an increase in deaths over the six areas studied, with an estimated 10 extra deaths.
- The analysis shows that the impact of the fire varied between postcodes. This may be due to a number of factors including: wind direction and where pollution was most concentrated; the number of people who evacuated in each area (for example more than two-thirds of Morwell residents evacuated during the fire meaning the number of Morwell deaths is likely to be lower, despite the fact that most of the pollution fell over Morwell); and the number of people in each region (some postcodes have very small populations and therefore the estimates are more uncertain).
- The analysis found that the biggest impact was in postcode 3844 Traralgon, where there is a 94% probability that deaths increased in that suburb during the fire (which could be because very few Traralgon residents evacuated during the fire and the wind direction was towards Traralgon for a number of days). The second biggest impact was in postcode 3842 Moe Churchill with a 74% probability of an increased risk of death where it is likely that 8 more people died during the fire than on average.
- Professor Barnett estimates that 3 of the postcodes had a decreased risk of death during the fire – Morwell, Jumbuck/Yinnar and Boolarra/Budgere. (This could be due to evacuations of vulnerable people, geographical features, or a relatively young population, or even a harvesting effect because of extreme heat that preceded the fire).

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Commented [AB1]: Is Moe 3825? I would say that 3844 had the next largest increase

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- There is further work to be done to fully understand the impact of the fire on deaths in the Latrobe Valley community. All data was obtained from Births, Deaths and Marriages (BDM). Unfortunately BDM refused to release cause of death information. This information would have greatly improved the analysis as deaths which are clearly not caused by a pollution event could be removed from the analysis. We will be seeking this data, and further analysis of the impact of evacuations and the behaviour of the pollution from the fire for the re-opening of the Hazelwood Inquiry.

