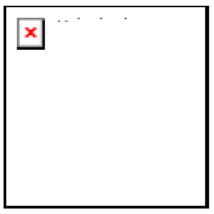

Title	Mr
First name	Rick
Last name	Pratchett
I am making this submission as	General public
Submission type	Personal
Organisation making the submission (if applicable)	
Your position in the organisation (if applicable)	
Consent to make submission public	Public
Your story	Please see my submission in Section 1.3, Response to bushfires.
1.1 Causes and contributing factors	
1.2 Preparation and planning	
1.3 Response to bushfires	After considering the many issues which led to the catastrophic bushfire season which Australia suffered through a few months ago, I wish to make comments about what can be done to reduce future bushfire risk in two areas of activity. Those areas are the need to reverse the drying out of our soils, and an innovative yet very ancient way to reduce the amount of fuel load on the ground in potentially fire-prone areas. Firstly, reversing the drying out of our soils. There is a growing movement among Australian farmers called

regenerative farming.
At the heart of their activities is the need they see to rehydrate the Australian landscape.
They see that when the land becomes dried out, hard and compacted, any infrequent rain events simply result in the resultant surface water running off, causing massive soil erosion, and ultimately being of very small benefit to any plant or animal life in that area.
Their solution is to place what they call “leaky weirs” along eroded creek lines so that when the next rainfall occurs, water flow down the creeks is dramatically slowed down. Not stopped- the areas downstream of the leaky weirs will still receive this water. However, in slowing down the flow, not only is erosion halted, but the water has a chance to soak deeply into the soil. Thus the landscape is rehydrated, the soil is revitalised, and plant and animal life can thrive again.
We have heard much talk about reducing the massive amounts of fallen organic matter on our landscapes which has, due to the recent drought, turned into dry bushfire fuel. This matter is only fuel when it has been dried out. By rehydrating the landscape, all aspects of the landscape become moist and green, and this matter ceases to be potential fire fuel, and becomes beneficial soil mulch.
Earlier this month, NSW Parliament held an event at which farmers from The Mulloon Institute, promoters of the building of leaky weirs on farms, presented a plan to change NSW planning laws so that farmers could easily and quickly build these weirs on their properties. Under the current laws, the presenters showed that it could take up to two and a half years to gain approval to build such structures on their land!
https://themullooninstitute.org/blog/2020/3/5/mulloon-amendments-event-review
I wish to describe the benefits of doing this kind of landscape engineering quickly to build greater fire resilience by showing you two specific examples below.
One Braidwood farmer who installed these water barriers found that while the many dams on his property all dried out during the long drought, the water stored behind the leaky weirs never stopped flowing.
While his property was not made moist enough to protect it from the bushfires, the landscape restoration helped in another critical way- by becoming a vital source of water for fire fighting helicopters, which were taking water from his ponds at a rate of every 40 seconds. Here is the interview with that farmer:
https://www.theland.com.au/story/6554043/weirs-flow-helps-firefighters/
It is clear we need these kind of landscape works to be built everywhere, very quickly, to improve resilience against fire as well as provide secure water supplies for fire fighters when needed.
At the abovementioned NSW Parliament event, the presenters showed us a major effect of their work and why it is so vitally important to get this work done quickly.
The area where The Mulloon Institute has carried out some of its’ major works had a major bushfire upstream from it, near Canberra. Downstream from them is the Tallowa Dam, the main source of drinking water for the Shoalhaven area. By slowing the resultant contaminated water flow from upstream, the work of The Mulloon Institute prevented the pollution of the water supply for well over a hundred thousand people.
Of course, farms are not the only areas which drought and bushfire have devastated. As The Mulloon Institute’s work has been proven to reverse the effects of drought on farms, we need to strategically implement their techniques in our state forests and national parks as well. Should the NSW Government decide to work in state forests and national parks to this end, it will be very interested to learn that there are already an army of volunteers working in this very field.

As the article below states, “Local Land Services (LLS) have been working behind the scenes with Mogo and Batemans Bay Local Aboriginal Land Councils, implementing sediment control works using ecologs, jute mesh and placing burnt logs through the areas of high runoff in the Clyde and Deua River catchments.”
https://aboutregional.com.au/aboriginal-land-council-crews-help-repair-coastal-river-systems
The article does not mention rehydration of land, and focuses more on trapping bushfire ash and preventing it from contaminating water supplies. However, as I have shown above, the practice of building leaky weirs in strategic areas achieves many, many goals which can significantly build bushfire resilience and restore Australian farms and ecologies to good health.
Here are links to The Mulloon Institute’s website, as well as other websites which are carrying out similar drought relief works.
https://themullooninstitute.org/
https://www.tals.org.au/
The link to the website Justdiggit shows that simply digging small holes in degraded land can also increase the ability and capacity of soils to absorb water.
https://justdiggit.org/
Beyond the terms of reference for the bushfire inquiry, I will also say that the more water that land can absorb, the less water runoff is left over to cause catastrophic flooding downstream. Minimising the danger of flooding, especially in highly populated areas, is another great benefit of slowing water flows.
In areas that have still seen little or no rain, we do not necessarily have to wait for actual rain to rehydrate the landscape. We can build leaky weirs or dig small holes, then use a few tankers full of water to kickstart the water absorption process and reverse the drought.
Now to the question of reducing fuel loads on the floors of drought affected forests.
Everyone thinks that the way forward here is by using controlled burns during times when the weather is cool enough so that these burns can be easily directed and put out.
There is another way which does not involve burning. A way which can bury hundreds of tonnes of potential fire fuel in a year. Research has recently shown that one of Australia’s iconic animals, the bandicoot, can in the course of a year through its’ habit of constantly burrowing into the soil, turn over no less than nearly FIVE TONNES of soil each year! That is the work of just one bandicoot.
A healthy Australian ecosystem needs a large number of bandicoots burrowing and burying tonnes of soil and fire fuel. A study from 2016 has shown that not only do areas with bandicoots have less fire fuel loads on the ground, but that in those areas during fires, the fires spread more slowly and the height of the flames are much lower.
So we definitely need to implement a bandicoot breeding and release program as a viable alternative means to reduce fuel loads in our forests, so that controlled burnoffs are no longer the only weapon we have in our fire fighting arsenal.
https://theconversation.com/one-little-bandicoot-can-dig-up-an-elephants-worth-of-soil-a-year-and-our-ecosystem-loves-it-132266
Of course, one of the main reasons for the absence of bandicoots in many of our ecosystems is the spread of feral cats. If we are going to release bandicoots, it is therefore critical to find and use effective strategies to eradicate our feral cat populations first.
I hope you find the solutions I have presented to the Inquiry useful.
Yours sincerely,
Rick Pratchett
[redacted].

1.4 Any other matters

Upload files