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Climate Change in WA - issues paper response from:

Dr Carole Peters (PhD)

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I do not wish to remain anonymous but I do want my contact details kept private.

I am speaking independently but I am on the committee of two environmental organisations in WA (MRREC & WAFA) and I am listed as a committee member contributor to the MRREC Climate Change policy response.

Academic qualifications:

DipEd BEd PhD

Specialty areas: Organisational culture, diversity in leadership, gender in leadership, the politics of the workplace, and the dynamics of change; education and the environment.

My response is relevant to:

- \*Safe and healthy communities
- \*Protecting biodiversity
- \*Water security
- \*Prescribed Burning policy

My letter response:

Protecting our trees influences our climate. Logging, broad scale clearing for agriculture, and repeatedly burning our landscapes has a severe drying effect, adding significantly to climate change.

My response mostly concerns prescribed burning which is a large contributor to pollution and to the degradation of our forests.

The most reliable indicator of the likelihood of bushfires is dry, hot and windy weather conditions, following a drier than average winter. Another obvious indicator is deliberately lighting fires. Put the two together, then ask why the usual response to the threat of bushfires is to ramp up prescribed burning programs, now carried out in all seasons of the year?

Firebombs dropped from the sky or thrown from trucks over huge areas such as the 7500 hectares ignited just north of Denmark on 8 November, the day before hot and windy weather was forecast. This unnecessary burn took huge manpower in the form of brigades, both state and voluntary, from Denmark, Walpole, Albany, Mt Barker, Manjimup and Perth. Only one spotter plane was available in that region. Deploying all resources to one high risk burn means that in an emergency elsewhere responses are slow and lives placed under threat.

The most vital part of detection and response is speed, hence the need for rapid response from both land and air, with adequate equipment, resources and manpower. Why burn this beautiful forest when current research points to the minimal impact that prescribed burning has on future wildfires, and to the increased flammability of rapid regrowth after burning? This creates the need to burn again, and again.

Fire behavior specialist Dr Phil Zylstra's research (Hon Fellow University of Wollongong) contradicts one of the central assumptions of Australian fire management - that forests simply accumulate 'fuel' over time". It is aged forests that are more resistant to fire.

The more we burn the drier our land becomes. The more we burn, the more funding we pour into the ignition of fires and the less funding we have to invest in the latest equipment and training in land and air responses. Ask

Greg Mullins, immediate past Fire and Rescue commissioner NSW (35 years experience) and the 22 fire and rescue chiefs who support his pleas to our federal government, about the urgent necessity for building our aerial fleet. We need access to many more Erickson Skyranes, 737s (both with 15,000 litre capacity), C130 Hercules, water bomber helicopters (one stationed in every regional town for fast response) and similar up-to-date aerial equipment. We need air training for personnel. We need faster more accurate detection via thermal imaging, satellite, 3-D mapping and drones.

Speed is the essence in putting out fires that are “becoming uncontrollable” (Greg Mullins, speaking on ABZ 7.30 on 6 November). Fires are getting hotter, the fire season longer, the country drier, less rain in winter. Lighting up does not make sense, but fast detection and suppression is vital. In this area we are dangerously deficient.

We don't need to be burning out the back of beyond, severely impacting on the biodiversity of our forests and bushland, to meet huge 200,000 hectare targets (not counting escaped burns, private landholder burning and bushfires); we need to be focusing on putting fires out fast. Victoria and NSW have abandoned burning to meet quotas due to inefficiency, ineffectiveness and public safety. More targeted small burns where they are needed most, to protect infrastructure, are in favor, however they too have minimal impact on future wildfires (Prof Ross Bradstock, fire behavior specialist and expert consultant to the royal commission into Victoria's 2009 Black Saturday disaster, speaking to the media on fire behavior research following the recent NSW and QLD fires).

There is ample research to show that broad scale burning of the land, in repeated five, six or seven year cycles, produces rapid scrubby regrowth, including fast growing weeds and invasive species, more flammable than long unburnt forests. Disease also becomes a problem in forests, such as jarrah, severely weakened by ongoing logging and burning practices.

Fire behavior specialist Dr Philip Zylstra's research into the reduced flammability of long unburnt forests is being replicated via the Red Tingle Flammability Research Project in South West WA (Project Coordinator Melissa Howe, ecologist, Denmark; Tony Pedro farmer & firefighter; Nathan McQuoid, ex CALM, landscape ecologist). These field surveys will extend to jarrah and marri forests when funding allows. This is where the State government can step in to protect these aged forests and to provide ongoing funding to make this forest ecology and fire research possible.

Our landscapes suffers following the scorching of the earth from burns that are, more often than not, hot burns on a huge scale in a dry land. Soils are degraded, canopy destroyed and plant, animal and fungal life decimated. Prof Kingsley Dixon, in addressing the Resources and Technology Conference about decarbonising technologies and decreasing the footprint said this, “It is not well known, but outside of our oceans, the world's soils are the largest repository of carbon, so it makes good sense for us to be focusing on creating healthy soils ... “ (reported in The West Australian, 28.11.19).

The more we burn, the more highly flammable regrowth is stimulated. Forests significantly reduce in flammability after 20 years, and after 30 or 40 years are difficult to ignite. Forests also thin out naturally over time. Mature canopies protect and shade the moist decaying understorey, a sign of a rich and balanced ecosystem. What is urgently required right now is for the DBCA to cooperate by NOT burning aged forests as this will destroy the evidence that ecologists need to survey and measure the reduced flammability of old growth forests.

Defensive responses that prescribed burning programs are “set in stone” are nonsense. We must challenge this entrenched culture of burning, that is no longer based on peer reviewed science but more on “how we have always done things around here”. Both the leadership and the generation of ideas must diversify. More of the same is obviously failing.

Our government funded prescribed burning program is said to “protect lives and property” and to “maintain biodiversity”, even with claims of “carbon recapture” (dpaw.wa.gov.au) yet we are failing dismally on all fronts. There is very little up-to-date scientific evidence to support the much vaunted claim that target driven broad scale prescribed burning prevents future wildfires. Peer reviewed research to support this broad acre burning is thin on the ground.

Yes, areas burnt in the last couple of years may briefly slow down a fire, but burning so frequently on a huge scale across the land is both unsafe and unsustainable. Patch burning in tinder dry conditions is impossible and bears no resemblance to the purpose driven, selective, small scale, seasonal burning (after rains) of traditional

indigenous cultures.

There is also little evidence to indicate that our Mediterranean plants are fire adapted (see research by Kingsley Dixon & Don Bradshaw, UWA). Only plants that can survive repeated cycles of fire remain. Our once rich ecosystem in WA's South West is now a 'biodiversity hotspot' due to loss of plant and animal species, and many more under threat. Logging, clearing and burning take their toll.

Notice those hazy sunsets, and the once dazzling blue skies of WA that are no longer so clear? Warnings to shut doors and windows, turn off airconditioners, drive slowly with lights on, as smoke from prescribed burning blankets the town or city. Air pollution is a health hazard - the emissions from bushfires, accidental or prescribed, are many times higher than from vehicle exhausts (see research by Dr Fay Johnston, Menzies Institute for Medical Research).

So, how did the current eastern states fires start? Teenagers are suspected in setting alight one blaze, but surely some of the hundreds of fires burning across QLD and NSW, were a result of submerged embers from prescribed burning reigniting in hot and windy weather? If so, let us know. Let's see a transparent and ongoing national record of escaped burns and the damage they cause.

Home owners are urged to be "bushfire ready" but there is far more to the story. Immediate access to high capacity aerial support for troops in the ground is essential. Too often resources are delayed or deployed elsewhere, with disastrous consequences. It's time to divert a large chunk of the funding from endless burning and scare campaigns into high tech rapid detection and suppression. Bring in the aerial support fast, including large and small water bomber aircraft. Station firefighting helicopters in many more regional towns, ready to go during our extended fire season. The 2018 purchase of a Boeing 737 LAT (Large Air Tanker) named Gaia, capable of carrying 15,000 litres of water or fire retardant in a single load, is making a difference in NSW, but we need more large capacity firebombers on standby across Australia, in sufficient numbers in every state and territory.

Yes, the purchase or hire of firefighting aircraft is expensive, but so too is our current obsession with endless prescribed burning, and the very real possibility of alleged "cool burns" escaping, especially in hot and windy conditions, as per the November 2011 Margaret River wildfires. Instead of further reducing flammability in long unburnt coastal vegetation, an entire forest of paperbark trees, once aged and hardy, became tinder after the blaze.

Emissions from the burning of fossil fuels receive lots of attention. Mining in sensitive areas, in terms of landscape, water and indigenous culture, requires strong environmental protection measures. The financial loss making FPC logging of our native forests should stop immediately with government support to transition fully to plantation timber. Power must come from renewable and sustainable sources.

And "controlled" burning should be restricted to small targeted areas around infrastructure, if at all. The risk to humans is high, the damage to the ecosystem is appalling, and the impact of prescribed burning on future wildfires is small (see research by Prof Ross Bradstock, Fire Behaviour expert, University of Wollongong and Prof David Bowman, specialist in Pyrogeography, University of Tasmania). Claims are not science. Scare campaigns are not science. The limited impact on future wildfires is backed by peer reviewed evidence.

## References

Presentations at the Prescribed Burning Conference, UWA, 2019 (Chair Emeritus Prof Carmen Lawrence)  
pbc2019.com.au

'Flammability dynamics in the Australian Alps'

Philip John Zylstra

Austral Ecology (2018) 43, 578-591

'A farmer and volunteer firefighter's personal perspective on fire management practices in south-west Western Australian forests'

Anthony J. Pedro

thewinnower.com

'Simulating the effectiveness of prescribed burning at altering wildfire behavior in Tasmania, Australia'

Furlaud, Williamson & Bowman

International Journal of Wildland Fire 27(1) 15-28

15.12.17  
publish.csiro.au

More references listed below and many more available on request.

Dr Carole Peters (PhD)  
Perth & Margaret River  
Independent submission  
Committee member  
MRREC & WAFA



Supporting References:

See peer reviewed research by Prof Kingsley Dixon, Dr Phil Zylstra, Prof David Bowman, Emeritus Prof Don Bradshaw, Prof Stephen Hopper, Assoc Prof Fay Johnston and research papers and case studies presented at the recent Prescribed Burning Conference 2019 (UWA) [pbc2019.com.au](http://pbc2019.com.au)

Sent from my iPhone