

SUBMISSION TO
THE COAG BUSHFIRE INQUIRY
DEPARTMENT OF THE PRIME MINISTER AND CABINET

DECEMBER 2nd 2003

BY
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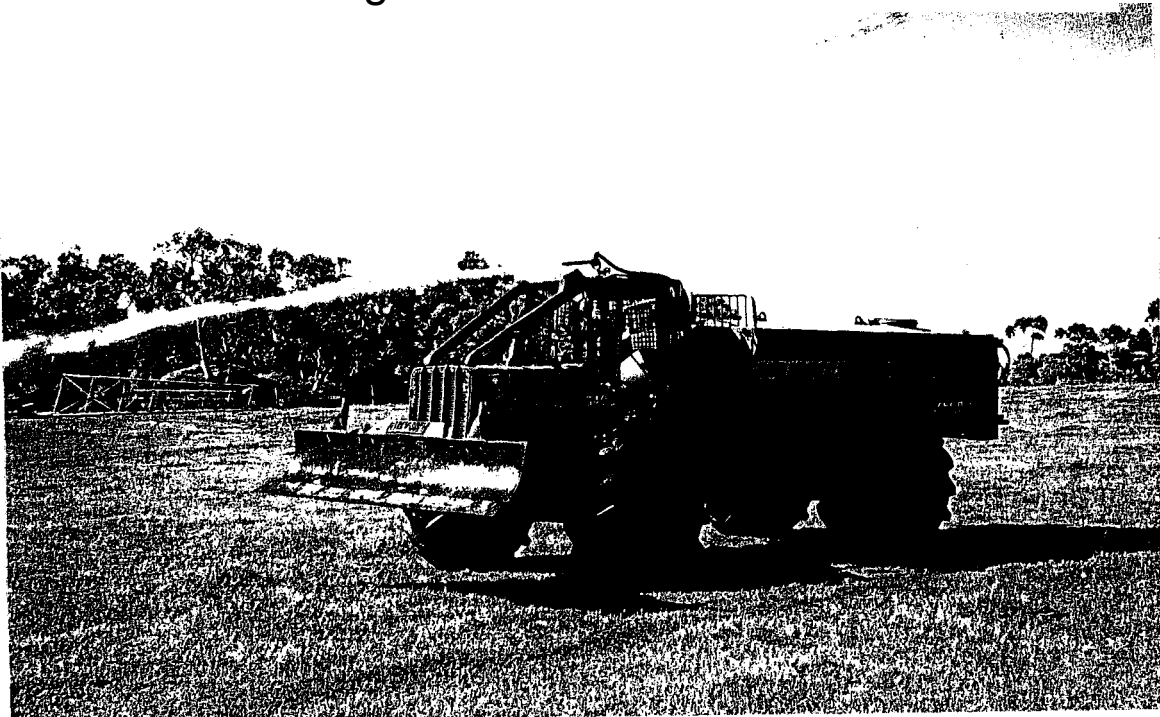
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A volunteer fire fighter of 30 years experience and inventor of a New Generation of Front Line Bush Fire Suppression Equipment.

Submission

- Part 1 Fire Management in South West forests of Western Australia
- Part 2 A Specific example of current bush fire / wild fire suppression Methods used by Conservation & Land Management.
- Part,3 A four minute **video** showing the invention and building of a new Bush Fire Suppression vehicle capable of entering the environment it is sent to work in.

The Front Line Fighter: (pat pending) _Invented & built by A.J. Pedro



Introduction

As a long time resident of the southwest region, and conservationist, observing the affect of fire on forest ecology has been a keen interest of mine for many years. Arriving in Tingeldale in 1960, as a 7-year-old, the forest behind our dairy farm (now the Walpole-Nornalup National Park) was my backyard and playground. With the Frankland River less than a kilometre from our boundary, I can recall running barefoot through the open understory tingle forest to the river to catch Marron.

During such an expedition one summer, I witnessed the lighting of the first major prescribed burn in this forest type, and the subsequent affects that this fire had on the forest ecology. The Fire turned an open understory forest dominated by large Tingle and Karri trees into a impenetrable Wattle and Hazel thicket with some 250 000 plants per hectare. I also vividly remember numerous ancient and previously healthy tingles crashing to the ground due to the devastating effects of this single fire event.

35 Years later, this forest is beginning to recover and resemble the open understory character which I recall from my youth. It is a major concern of mine that the current government policy with reference to prescribed burning will continue this cycle of destruction followed by the generation of unnaturally high fuel loads due to the mass germination of understory species after prescribed burns.

Prescribed Burning, and Sustainability

I believe that the type of fire management currently being practiced in the Karri and Tingle forests of the Southwest is an important sustainability issue for the following reasons:

I believe that these delicate ecosystems, the only ones of their type left in the world, cannot continue to support the inappropriate fire regimes imposed on them under the management of CALM. I believe the current CALM policy of burning to 'mineral earth' or scorching the landscape until bare earth can be seen is highly damaging to the forest ecosystems especially the subsoil components such as micro-organisms and fungi species. This impact on the natural soil biota, combined with the significant impact of fire lighting and control machinery leaves the forest soils open to the introduction of the highly damaging root disease dieback.

Furthermore, based on my experience of these forest types, I believe that fuel reduction burning for the protection of private property is in fact counterproductive. This is due to the sharp increase in fuel loads after a prescribed burn due to an unnaturally high and uniform germination of understory plants over the large areas normally subject to much too frequent fire regimes.

A third and serious concern of mine is the significant levels of greenhouse emissions associated with the unnecessary and ecologically destructive prescribed burning in these areas.

These ecologically damaging and unsustainable fire regimes arise as a consequence of the following issues relating to fire management in Southwest forests:

The mechanism used by CALM and their selected scientific community to establish the past fire history of Karri and Tingle forests is problematic, and inappropriate for this ecosystem type, an issue compounded by

A consistent misinterpretation and misappropriation of traditional aboriginal fire management in Southwest forests.

Also, the current method used by CALM to measure fuel loads (i.e. measuring dead biomass only) in Karri and Tingle forests is inappropriate for forests of this type, leading to;

A failure to recognise the long-term decrease in fuel following a fire, due to the death and subsequent decomposition of the majority of short-lived understory species.

Examples of both prescribed burning and fire protection management methods exist at present, but unfortunately a policy exists whereby long unburned areas are targeted by CALM and FESA (Fire and Emergency Services Australia) for urgent prescribed burning. For example, an area of 130ha near Mount Lindsay and surrounded by farmland was torched earlier this month. This area is known to have been protected from fire since 1961, and had established classic long unburned style of relatively little understory. This area has now lost its scientific value and unique ecology as a long unburned area. The mass germination of understory species in Karri and Tingle forests after fire events causing high fuel loads is very different to what I believe is the natural state of these forests. In my experience, understory species occur sparsely throughout the forest, thereby maintaining

a sustainable seed bank in the soil without the need for fire events of the frequency of current prescribed burning regimes.

From what I have observed in the Southwest, different forest types reach the stage of sparse low-fuel understory at different ages after a fire event;

- Karri / Tingle 25 to 40 years
- Jarrah / Red gum 15 to 25 years
- Wandoo 10 to 15 years

I believe that far from following the supposed aboriginal practice of burning the environment on a regular basis, in time it will be come to be known that the very opposite was the case. From what I have learned, the aboriginal peoples used fire very strategically and with a degree of control we do not begin to understand. They used fire with amazing control over less than 1% of the landscape, attracting the game to small areas for easy hunting and entrapment. I believe the vast majority of the land in the Southwest was managed in a way which a scientific approach can never understand, it was left to be, in its own complexity.

Aboriginal fire management was described to me by an elder who I met at a CALM fire seminar, and who I respect enormously. On completion I asked why he did not contradict the CALM policy of supposedly following aboriginal broad scale burning in the southwest forests. Initially he ignored my enquiry, but then under much pain with tears in his eyes he explained that what was suggested as following his ancestors fire management was so far from the truth that he did not bother to even try and correct the government policy. I will tell you how we did it he said.

'When we were ready to leave our summer or winter camp site and we could see a cold front coming and we knew it was going to rain soon, a group of us would be sent by the elders to the area selected for next seasons camp site, near an estuary or river, and light a fire or series of fires. , Knowing the wind direction and conditions until the cold front and rain came, we could predict the shape and size of the camp area for next season with all its new growth that would attract the game from the vast area we had chosen to leave unburned.'

This is the degree of skill that I believe we will have to learn, as well as developing more appropriate fire fighting equipment to suit the terrain and conditions of Southwest forests. In no other industry on Earth do we use equipment so out of date and poorly designed for the job than that that used

for bushfire suppression in the Southwest forests. Turning up to a bushfire with a truck is about as effective as arriving at a house fire with a plastic bucket. Trucks cannot be driven through the bush to access fires that are further away from roads than the length of the hose on board the unit. In most bushfires the units are useless, and a bulldozer has to be brought to the fire, sometimes taking hours by which time wildfires become uncontrollable.

I have invented a machine to overcome this problem, and invested \$75 000 to build two working examples (photographs are attached). This machine is capable of quickly traversing the environment in which it is to work, while carrying water, and clearing its own track or creating firebreaks. This is the most sophisticated ground-based bushfire suppression unit in Australia, and possibly in the world, however CALM and FESA have shown no interest in the trial or possible use of this machine. I believe that the use of fast-response equipment such as this provides a more sustainable alternative to fuel reduction burning for the purpose of bushfire prevention in Southwest forests.

Recommendations

I therefore have three main recommendations with respect to fire management in Southwest forests

- 1) Effort should be made to maintain examples of long unburned forest areas in the Southwest. These areas should form the basis of investigations, which compare fuel levels over time in unburned areas with those under current fire management. A new technique for measuring fuel levels in Southwest forests should be developed for this purpose, which must take into account both living and dead biomass in appropriate weightings. The long-term effects of prescribed burning on the ecology of forest areas should also be compared against the unburned areas to increase our knowledge of the relationships between fire regimes and forest species. The precautionary principle should be exercised with respect to prescribed burning in Southwest forests from now on.

- 2) Research into fire ecology and the relationship between prescribed burning and fuel levels should be conducted by independent organisations such as university ecology departments or the Kings Park Herbarium. A research institution of this type should be funded independently of the department of CALM to ensure no conflict of interest jeopardizes the

for bushfire suppression in the Southwest forests. Turning up to a bushfire with a truck is about as effective as arriving at a house fire with a plastic bucket. Trucks cannot be driven through the bush to access fires that are further away from roads than the length of the hose on board the unit. In most bushfires the units are useless, and a bulldozer has to be brought to the fire, sometimes taking hours by which time wildfires become uncontrollable.

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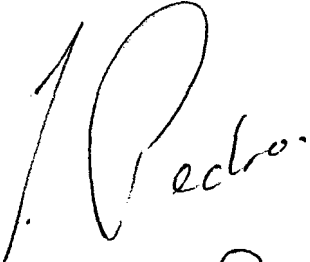
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research outcomes as I believe has been the case with CALM and CSIRO fire ecology research to date.

3) The use of effective ground and air-based fast response fire fighting equipment should be seriously considered as an alternative to ecologically damaging and effectively fuel increasing prescribed burning. This type of equipment must be coupled with effective early bushfire detection methods to enable firefighting before small manageable fires develop into wildfires.

Thank you for taking the time to consider this submission


AJ PEDRO.

CALM CHOOSES INFERNO INSTEAD OF EASY SUPPRESSION

While the public on the South Coast are observing an extreme fire danger and total movement ban, the State Government through CALM are using helicopters to drop incendiary fire bombs on Surprise forest block of 8000 ha.

This dangerous situation arises because CALM chose to burn out the adjoining block of Northumberland, after ten days of rain and drizzle had put out a lightning strike which occurred on the 10th of February 2003

6000 hectares of Northumberland block was fire bombed using incendiaries dropped from a chopper on the 21st and 22nd of February. This created extreme wild fire conditions in most of the block. However a small patch survived the attack and re-lit on Sunday 9th March, with North West winds. It jumped to Surprise block to the South at 12:30 pm and quickly developed into a wild fire with hot and strong North west winds.

The wild fire, by 6:00 pm had burnt some 500 - 700 ha with a 7.5 km boundary of fire edge. Rain and showers then developed stopping the edge fire and slowing the main fire to 1/2 to 1 metre flame height at 20 - 30 metres per hour. Perfect direct attack conditions, as was the ten days of drizzle in Northumberland block.

Once again the changed conditions are not taken advantage of and three dozers and one loader operator are sent home, as are approximately 50 fire fighting personnel.

This left skeleton crews on site as rain and wind that has dropped to 0 km/h have practically stopped the fire. In fact one of the reasons used not to take advantage of these conditions was, that following an edge that is out (or dead) is very difficult for the dozer and trucks.

With my 30 years of fire fighting experience, I find the decision to send everyone home and not take advantage of these ideal fire suppression conditions extremely incompetent. No wind was forecast until the following morning and with toe equipment and crews on site, the original wild fire and the edging already lit, it would have been a relatively easy task to extinguish. Holding the fire to approximately 700 ha.

However by 8:00 am Monday, crews were back on site ready with the help of fire bombing helicopters to take out the entire block, in conditions forecast as extreme and a vehicle movement ban in place. This developed into a wild fire & jumped to Rate block then to Quindinilup & Wilmont, some 40,000 ha totally incinerated, rather than extinguishing the lightning strike.

I see this as unbelievably reckless planning, requiring an independent review by a body outside of CALM.

There appears to be a policy developing to burn out the entire block and adjoining blocks at any cost. As happened with Sharp, Mitchell, Crossing, London and Denbarker all in the Walpole Wilderness proposed National park. This has resulted in approximately 100,000 ha being deliberately burnt during extreme wild fire conditions this summer.

All of these prescribed burnt forests and their escapes. Along with several lightning strikes have turned into wild fires through the policy of containment or entire block burn out rather than suppression. In fact CALM has done more damage in 4 months to this forest than the Sleeper mills did in 100 years of careful selective harvesting.

I can not believe that CALM planning can be allowed to continue unchecked and think there are several important questions that need answering.

1) Why weren't the ten days of rain and drizzle used to suppress the Northumberland block fire? Rather than the total burn out chosen, that led to the surprise block inferno with the subsequent jump at 12:30 on Tuesday? into Rate then Quindinillup then Wilmont blocks & their planned burn out of 16,000 ha making some 40,000 ha unnecessarily incinerated.

2) Why risk the predicted extreme wild fire conditions on Monday and Tuesday for the crew and the environment just to achieve a total burn out of Surprise block. When on Sunday night there was a perfect opportunity for suppression ?

3) Is attempted containment of bush fires within a forest block, more financially attractive than suppression of the initial fire event ?
i.e As funding for wild fire events come from outside the local. CALM region

There is an urgent need for an independent review into the present method of bush fire management with its shocking environmental impact and risk to the community.

Why not use the highly experienced crew, to direct attack these fires when small and in favourable weather conditions. Rather than this policy of block burn out.

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The Front Line Fire Fighter

The frontline fire fighter is the invention of a West Australian volunteer Fire Fighter Tony Pedro and is designed as a fire fighting unit that can travel right into the bush where conventional fire fighting trucks can't go. Normally long hoses are dragged into the bush in an attempt to reach the fire. This is very slow and to be successful often requires a large team. With the Frontline fire fighter, the unit is driven right into the bush to suppress the fire doing work that would otherwise require a bulldozer to provide access and using up valuable time.

Tony has spend around \$100.000 dollars developing this prototype over ten years. It's the second of two firer fighters so far and Tony has also built a trailer for the vehicle which is towed by a six wheel drive support truck that also carries water.

The front line fire fighter carrying 6000 litres can use its water cannon at full pressure for 30 minutes continuously and with the extra water from the support truck has a suppression capacity of one and a half hours.

The fire fighter travels at a maximum speed of 40km and where there are no roads, the bulldozer blade on the front can be used to clear a track or make firebreaks. Used with the support of aerial water bombers and improved surveillance and rapid response the Front Line Fire Fighter makes a whole new generation of high quality bush fire suppression system.

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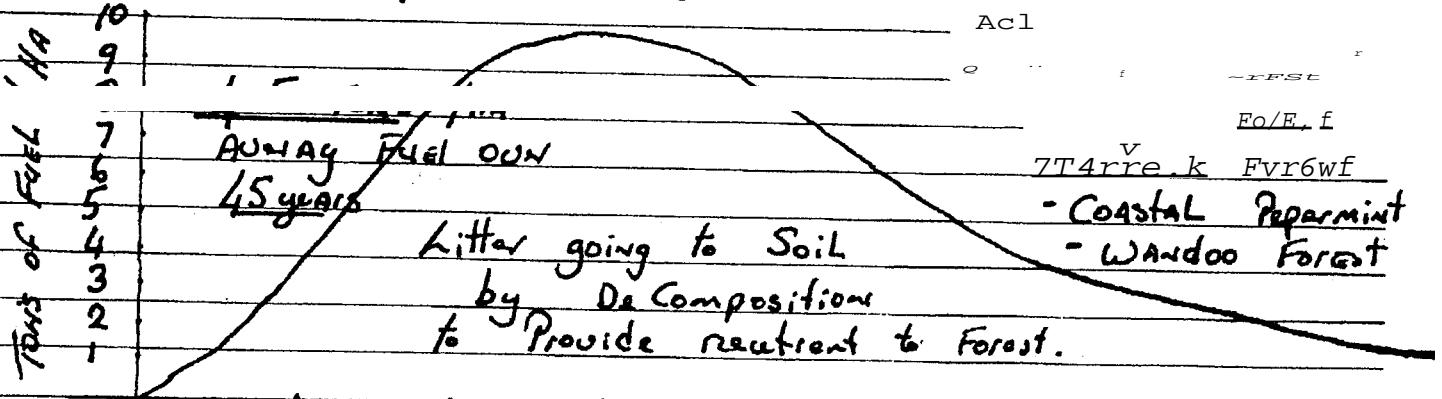
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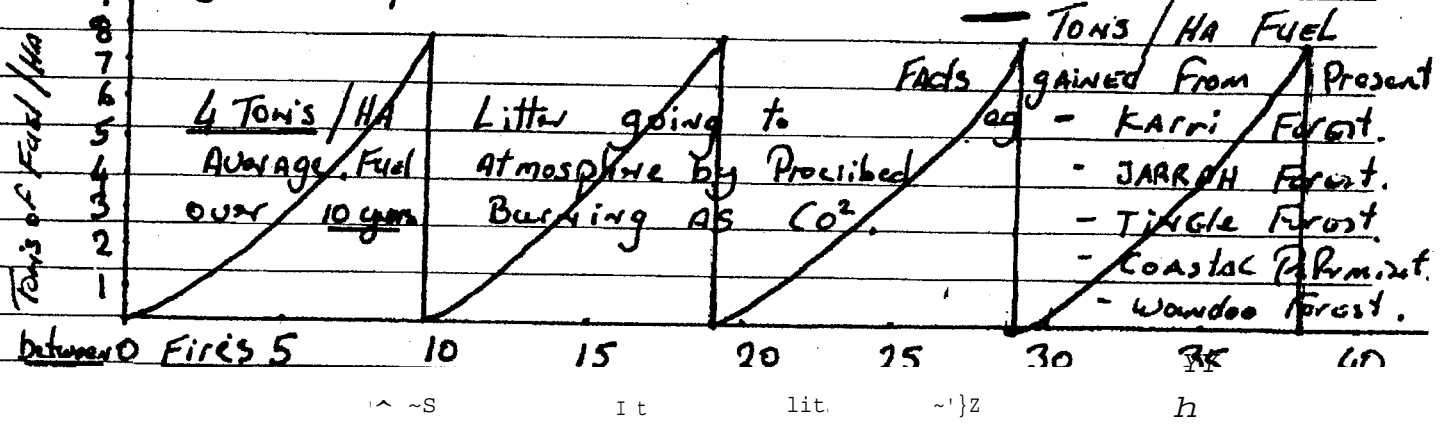
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(2) Living Examples of Proscribed Burns



by Forest Block Burn out's &

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