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Jackie Ashford



March 8th 2011-03-08

To whom it may concern

I wish to make comments regarding many aspects of the Kelmscott/Roleystone Bushfire February 20011.

I have lived at this address for thirty years now and much has changed in that time with regard to fire. Clearing, burning, fire breaks, permits, fire seasons, Fire management and responsibility.

In the past we were permitted to burn small amounts of leaf litter in the evening dependant on the fire warnings at the time. I also think the fire season was longer. Fire breaks were compulsory on blocks over a certain size and this was regulated by the city with regular checks and infringement notices being issued.

Currently, we are not allowed to reduce any litter by burning and to take it to the green waste site is a long and arduous task without a trailer. The fire break bylaws have changed and I'm of the opinion that I don't require to have one on the block size that I have. The city council seems to allow many places not to have a firebreak that should have them. An example of this is on Urch Rd., where a large property has very deep leaf litter next to the verge. One cigarette would be all it would need to create a threat to many nearby properties.

When it comes to our land, a forty metre clearance would mean that there would be almost no mature trees left to burn. As I watched the fires on the television, pictures were shown of a house well alight that had large green lawns and a swimming pool and not many trees. Fires have been known to jump the Tonkin Hwy., which is six lanes wide so I'm not certain what clearing would achieve. It is also possible to replace a house but not 50 plus year old trees.

With regard to fire management and prevention, I have heard it stated that prescribed burning has been ongoing in the area. I have lived here for thirty years and to the best of my knowledge there has not been a prescribed burn on what is now Banyowla Regional Park or Canning Mills Reserve. There have been fires in the past but have generally been deliberately lit in Kelmscott.

The City council has let the verges on Canning Mills Road become overgrown since the road was re-laid and kerbed. It is within the last twelve months that I have requested that the verges be cleared as I am often forced into the growth when walking my dogs. I was advised that the council does not clear verges! Privately owned verges are also allowed to become overgrown. The major culprit being South African Love Grass that has been allowed to spread, uncontrolled, along verges. (It is interesting to note that the verges on the burnt out section of Canning Mills Road have now been cleared.)

I feel the radio warnings were good. However, I listen to the local ABC channel. Would it not be prudent to make it compulsory for all radio and television to interrupt programs to issue warnings? Other breaking news does.

The warning system worked well for me. Advice has been available to the public, in the form of flyers, for at least two years. During the fire season I keep a bag with clothing, documents and medication ready to leave at any time. Maybe people who reside in the suburbs need to be more prepared. I wonder how many Kelmscott residents thought that the fire was in Roleystone, again. This was very evident in the Canberra fires, where the fires burnt for days before any action was taken in the outer suburbs and then it was too late.

It is obvious that the problems with rooftop Evaporative Air Conditioners needs close attention. Surely it is possible to make them less vulnerable to ember attack either in manufacture and/or post production?

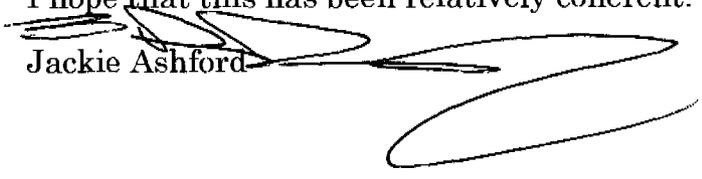
Another area that needs to be addressed is the inaccuracy of some of the details that the reporters put out on radio. I can remember one instance when a reporter commented that the fire was close to the junction of Canning Rd. and Contour Rd. Roleystone. These roads are kilometres apart!

I would like to voice my admiration and thanks to the fire crews who worked on the ground. I can only imagine what it would be like that close to the fire. We are very fortunate to have such people who are prepared to put their life on the line day in and day out.

In a society that expects others to be responsible for problems and where all businesses are accountable the concern about fires has become paramount. I think that more responsibility has to rest with the local agents. In this instance, The City of Armadale, supported by State authorities such as DEC and FESA. Specific funding to address the problems specific to fires should be set aside. That may mean more Rangers with specific responsibilities, better services for the disposal of tree litter in the summer, remembering that that is when the leaves collect, not in winter. Wider fire breaks on public land that abuts private residences, e.g. Banyowla Regional Park. Better verge clearing for the rural sectors of the city.

I hope that this has been relatively coherent.

Jackie Ashford



The Bushfire Front Inc

Goal: Preventing bushfire damage in Western Australia

Mr. Mick Keelty
Chairman,
Perth Hills Bushfire Inquiry
20 Southport Street
West Leederville, WA



Dear Mr. Keelty

Submission from the Bushfire Front

Please find attached a copy of our submission to your inquiry. A second copy has been emailed to the Inquiry. In addition we will be making a verbal presentation to you on Monday 11th April.

The submission comprises an introduction, responses to the Terms of Reference, comments on wider, but relevant issues, and an appendix which sets out a template for analysis of the Bushfire Preparedness for rural communities. We make 19 recommendations.

There are two important points that preface our submission, and we reiterate them here:

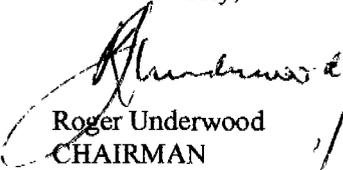
1. Although the focus of your inquiry is the Perth Hills, the bushfire problems in this area are duplicated in many other Western Australian communities and in forest areas throughout the south-west. Our review and recommendations apply to the Hills districts, but we do not consider they can be seen in isolation. We therefore take a wider view, believing that broad changes are needed if the current level of bushfire damage is to be halted and the threat of greater damage still abated.
2. Our submission focuses on preparedness and damage mitigation, not on fire suppression. While both are necessary, our long experience has taught us that when high standards of the former are adopted, the latter becomes easier and safer, and cost and damage is far less. Bushfires can never be prevented, but bushfire damage can be minimised.

We subscribe to the old adage: "*Success in dealing with a crisis situation is entirely dependent upon the structures put in place well before the crisis occurs.*"

Investment in bushfire preparedness and damage mitigation is analogous to investment in crime prevention or immunisation against disease outbreaks. To ignore its importance is to turn back the clock of civilization 200 years.

Please feel free to contact us at any time if you would like to follow up any points in our submission, or if you would like to debate points we have raised. We are here to help.

Yours sincerely,


Roger Underwood
CHAIRMAN

1/4/2011

For more information on bushfire management and current issues please visit the Bushfire Front website at www.bushfirefront.com.au

The Keelty Inquiry into Bushfires in WA

A submission from The Bushfire Front Inc

April 2011

Summary

Bushfire management can be looked at in two ways:

- (i) the efficiency with which bushfires are tackled and suppressed after they start; and
- (ii) the measures which can be taken in anticipation of a bushfire, to ensure fire damage is minimised or prevented and fires are easier and safer to suppress.

This submission from the Bushfire Front focuses on the second of these issues.

We have approached the subject from the perspective of many years accumulated bushfire experience and wisdom, professional training in fire science and operations, and from a keen interest in the way fire management systems have declined in WA over recent years. We conclude that there are serious deficiencies, both in bushfire governance, and in the technical application of practical bushfire damage prevention measures. These deficiencies explain the current high levels of damage, and point to higher levels ahead if no remedial action is taken.

We make 19 recommendations. Of these the most important are:

In the area of bushfire governance:

- That the Government of Western Australia adopts an overarching State Bushfire Policy to guide its agencies and local government;
- That the Government appoints a Bushfire Commissioner, independent of agencies and local government, to set standards in bushfire management and to monitor and report publicly on outcomes, and who will report to a Ministerial Bushfire Council comprising the Ministers for FESA, DEC, Planning and Local Government;
- That the Government creates a new Rural Fire Service (complimentary to FESA who would still provide firefighting services), with responsibility to promote, manage and oversee bushfire management in rural areas, including the outer suburbs which intermingle with bushland; and

- That the Government expands the membership of the Conservation Commission and the FESA Board to include people with practical experience and expertise in bushfire management.

In the field of bushfire technology and operations:

- Under the terms of the State Bushfire Policy, incorporated into local government policies, all houses built in areas designated as being bushfire-prone must meet the key requirements of ASA 3959-2009
- That every local government authority in the south-west be required to develop a bushfire strategy; this will include designation of bushfire-prone areas, annual mapping of fuel loads for public review, including review by the Bushfire Commissioner and the use of a Community Bushfire Preparedness checklist;
- That ESL funds are available to Shires to employ a 'fire crew' who can undertake fuel reduction on private land and shire reserves;
- That DEC increase its annual fuel reduction target to at least 300,000 hectares, and in the event that they fail to achieve 80% of their target, they be required to report the reasons to Parliament via their Minister;
- That constraints relating to smoke from DEC and "official" bushfire brigade fuel reduction burns be removed;
- That Shire Councils be required to enforce the Bush Fires Act and that measures to enforce action are taken where individual Shires fail to fulfil their responsibilities; and
- That a professionally designed community education program on bushfires, starting in schools and progressing through all levels of threatened communities be developed and implemented.

Additional recommendations are made in relation to powerlines, the 'Stay or Go' issue, warning systems, policing of evacuations, the impacts of climate change and economic/financial analysis of the cost-effectiveness of alternative bushfire approaches. We include a brief comment on evaporative air conditioners.

Finally, the Bushfire Front recommends that the Government agree to a review of implementation of the findings from this Inquiry in three years time, with a report to Parliament.

The submission comprises

- an introduction that provides background information on bushfire management and on The Bushfire Front;
- a response to each of the Terms of Reference for the Inquiry;
- conclusions and recommendations; and
- an appendix dealing with community bushfire preparedness.

1. Introduction

1.1 The Bushfire Front

This submission to the Perth Bushfire Inquiry (“the Keelty Inquiry”) is made by the Bushfire Front Inc. We are a group of West Australians concerned to prevent bushfire damage to lives, property and community and environmental assets. The organisation was formed in 2003 in the wake of destructive bushfires in NSW, ACT and Victoria and the realisation that the same causative factors, mainly dangerous fuel levels, were prevalent in WA.

Our members have accumulated 400 years of first hand practical experience in bushfire prevention, firefighting, bushfire science, fire planning, administration, legislation and agency operations. Many of us are retired former senior forestry officers.

We are volunteers. The Bushfire Front is not affiliated with any government agency, political party or organisation. We are not in “the blame game” but are community members genuinely anxious about the bushfire situation. We wish to see avoided the needless damage, waste and sorrow caused by high-intensity bushfires. Our main focus is the southwest of WA (an area west of an imaginary line from about Geraldton to about Albany), where hundreds of thousands of people, valuable property, public assets and priceless forests are threatened by bushfires.

Our priorities are to see in Western Australia:

- The appointment of an independent State Bushfire Commissioner;
- Clear policy guidance in bushfire management;
- Accountability for bushfire outcomes and an annual, independent and published audit of the State’s bushfire management and control system;
- Expanded programs of fuel reduction on private and public lands;
- Enforcement of the Bush Fires Act, especially tackling failure of landowners and agencies to manage fuel loads on the land under their control;
- An effective community education program; and
- The development of a Rural Fire Service.

Analysis of bushfire management in Western Australia indicates that it has numerous deficiencies. Until significant changes are made to policy, governance and to the approach adopted on the ground, the prospect of further serious bushfire damage becomes virtually inevitable.

1.2 Our perspective

Bushfire management can be looked at in two ways:

- (i) The efficiency with which bushfires are tackled after they start. This is the aspect concerned with fire suppression, mop-up and post-fire recovery; and
- (ii) The measures which can be taken in anticipation of a bushfire and which are aimed at ensuring fire damage is minimised or prevented and fires are easier and safer to suppress. This work generally falls under the term ‘bushfire preparedness and damage mitigation’. A good analogy is with programs of crime prevention or of inoculation against infectious diseases.

We understand that in the south-west of WA, bushfires cannot be prevented. They will be started by accident, lightning or arson. We also give credit to Western Australian firefighters, who are brave, generally well-equipped and trained, and highly dedicated.

However, what is lacking, in some cases completely absent, is an effective, well-coordinated and cross-tenure program aimed at achieving the highest possible levels of preparedness and damage mitigation. This is the core of our concerns.

The Bushfire Front has a special interest in bushfire issues in the Perth Hills region. We devote a major section of our website www.bushfirefront.com.au to this matter. However, we emphasise that there are other parts of the South-West that have almost exactly the same problems, including outer-suburban areas to the north and south of Perth, rural residential subdivisions near Bunbury, Busselton, Margaret River, Augusta, Dunsborough and Denmark, and a number of country towns within the forest zone. All of these areas are vulnerable to bushfire damage resulting from a combination of the following pre-disposing factors:

- A high population, most of whom are inexperienced with bushfires;
- A mixture of public and private land tenure;
- Heavy bushland fuels and under-prepared properties;
- Narrow roads, commonly with long unburnt road verges which once alight can make travel by fire appliances and evacuees dangerous.
- Overhead powerlines and inadequate water supplies;
- Inadequate numbers of seasoned firefighters; experienced in tackling fast-moving fires in native vegetation. and
- No systematic approach towards community bushfire resistance.

The recent disastrous fire at Roleystone/Kelmscott is a microcosm of a large and significant three-fold problem in WA:

- (i) the high number of bushfire-vulnerable communities;
- (ii) the lack of recognition that fuel levels must be managed; and
- (iii) a lack of urgency to implement fuel reduction and other damage mitigation measures.

1.3 This submission

Recent reviews of bushfire management in WA have been deficient in that they were not independent, or were too narrow in scope. On the other hand, there have been two excellent Federal level inquiries in recent years ('A Nation Charred' from the House of Representatives, and the 2010 Senate Inquiry) which provide good background information and recommendations appropriate to WA.

We have made a submission to FESA's Roleystone/Kelmscott Fire Review currently being undertaken by Stuart Ellis Review and met with Mr. Ellis.

We welcome the Keelty Inquiry which we believe will be comprehensive, professional and independent.

In the following, we address the Terms of Reference, but also raise other issues that we believe to be significant.

2. BFF response to the Terms of Reference

2.1: The adequacy of current preventative measures, specifically prescribed burning and other bushfire mitigation activities.

Again we emphasise that bushfires can never be prevented, no matter what measures are taken; but *bushfire damage* can be minimised, by application of measures which are practical, well-understood and have been shown repeatedly to markedly reduce fire intensity, improve firefighter safety and the prospects of containing a bushfire. The failure of governments at all levels to recognise the need for and to put in place effective measures for the prevention/minimisation of bushfire damage through preventative measures is the principal concern of the Bushfire Front.

There are six key problem areas:

- (i) DEC is years behind in the implementation of its prescribed burning program in South-West forests. As a result fuels have built up over large areas, and high intensity fires can now develop even under mild weather conditions.

The reasons for this situation are two-fold:

First, DEC has set their annual burn target too low; furthermore they have frequently failed to achieve their target. The target is based on a perceived need to 'preserve biodiversity', rather than giving priority to prevention of bushfire damage and this has led them to undertaking small, mosaic burns instead of large strategic burns and to extend the interval between successive burns. In fact this approach is counter-productive, as under the current policy bushfires will be larger, more intense and likely to do long-lasting damage to biodiversity.

The second issue is that DEC is forced to operate under constraints that make it easier to post-pone burns than to carry them out. There are many constraints, but the most important is the requirement to minimise smoke into built-up areas and vineyards. Every year, DEC is prevented from utilising, or chooses not to utilise perfect burning weather in the northern jarrah forest, because of the risk that smoke will drift into the city.

- (ii) The approach of FESA to bushfire management is largely to work on fires *after they start*, which we describe as a 'suppression strategy'. FESA firefighters are highly skilled in dealing with house and urban fires, where a suppression strategy is appropriate. The reason it is adopted by FESA is readily understood: it is in line with the way they respond to other emergencies such as cyclones, floods or other life-threatening civil events. But the suppression strategy has never succeeded for bushfires. It was tried by the WA Forests Dept from 1918 to 1953 and its failure culminated in the Dwellingup Fire and other major fires in the South West in 1961. The US Forest Service, with far more equipment and resources at their disposal than any Australian agency, has consistently failed to control forest fires burning in heavy fuels in adverse weather. It is only in recent times that the US Forest Service has

recognised that the key to controlling major fires is to control fuel levels in advance of a fire occurring.

The suppression approach adopted by FESA means that there is no State government agency in WA dedicated to achieving effective bushfire pre-suppression through fuels management on private land. This is the reason we recommend the formation of a new agency, a WA Rural Fire Service.

- (iii) Hazard reduction, including fuel reduction, on private land, on land vested in government agencies (e.g., Western Power, Landcorp, Watercorp, etc), and on land vested in Shire Councils has almost no priority in WA. Private landowners are usually required by their local Shire to comply with firebreak orders, but not to reduce fire hazards on their properties. Under the Bush Fires Act, responsibility for enforcement of fire hazard removal resides firstly with the Shire but ultimately with FESA who, until a Rural Fire Service is created, need to become far more involved in this critically important work. Many shires actually discourage fuel reduction burning by land owners, and do no burning themselves on bushland and road reserves under their jurisdiction. In other situations, where volunteer brigades are trained and equipped to do burning, and the weather is suitable, they are prevented from doing so by concerns about the impacts of smoke.
- (iv) Information on fuel loads within and adjacent to fire-vulnerable communities is neither collected nor mapped and is thus not available to the public or to fire suppression commanders. There are no integrated regional fuel management plans, indeed no systematic approach to fuel/hazard management whatsoever. Not only does this mean that communities are exposed to an unidentified threat, it also means that when a fire does start there is no data base on fuel age or weight that can be used by the Controller to plan suppression operations.
- (v) Any fuel reduction burning that is undertaken on private land and on land vested with Shire Councils is almost completely dependent on the volunteer bushfire brigades. Brigade members do a superb job, but are limited in the hours they can put in to fire preparedness work. For instance, many volunteers generally are not available for burning during the week or at short notice so that they can take advantage of ideal conditions. Most Shires lack professionally trained and experienced officers who can measure and map fuels, draw up prescriptions for burns, supervise prescribed burning, maintain data bases and train the community. Shires also lack resources for burning. A great deal of hazard reduction work could be done by a Shire crew under a trained overseer and with the support of a trained officer. Again, to optimise this work, the smoke management guidelines need to be relaxed.

In our view, fuel management needs to be treated by Shires as an essential service, just like management of roads, public health and provision of recreation facilities.

- (vi) The Emergency Services Levy (ESL) does not appear to be available for fuel reduction burning or hazard management. Large sums of money are collected under this levy each year, and could be allocated to Shires to employ fire crews.

Conclusion: the current standard of bushfire damage prevention in Western Australia is inadequate and the task is not appropriately supported or resourced. This is the primary problem which the Keelty Inquiry should address.

Recommendations on the first Term of Reference:

1. The Government should relax smoke restrictions on DEC during the critical winter and spring burning period to allow DEC to address its burning program backlog, especially in or near bushfire prone areas of the south-west.
2. An appropriate proportion of the Emergency Services Levy (ESL) should be directed to Shire Councils in the South-West zone of WA for the employment and training of specialist fire crews under the control of the Shire Fire Control Officer.
3. Administration of the Bushfires Act should be placed under a new authority which we suggest be called the Rural Fire Service. It should be staffed to deal with the extreme diversity of bush fire management problems in WA, varying from those in semi-urban bushland to country shires comprising park and farmland; its operations need to be closely integrated with the firefighting operations of FESA, the land and fire management operations of DEC and the policies of the electricity distributors and planning authorities.

2.2 The impact of land use, environmental and building laws, practices and policies in the affected areas, affecting bushfire prevention, mitigation and response and what, if any, changes may be required.

There are two key points to be made in relation to this Term of Reference.

First, WA has no State Bushfire Policy which would spell out, amongst other things, uniform requirements in terms of land use planning and building laws in bushfire-prone areas. On the contrary there is a mish-mash of policies developed independently by different government agencies and local governments. A State Bushfire Policy would provide over-arching policy guidance to the WA Planning Commission, to DEC, FESA, Department of Planning and Infrastructure and to Local Government. This policy would also address the issue of investment priorities, and the need to recognise and give high priority to pre-suppression planning and damage mitigation measures.

Secondly there is already an Australian Standard (ASA 3959-2009) which sets out the way in which houses should be built in bushfire prone areas so as to increase their resistance to bushfires. All Shire Councils in WA should make this compulsory for new houses in areas that are designated as bushfire-prone.

The Inquiry should also take note that:

- The large number of small reserves vested in local government bodies receive very little or no fuel management. This is partly because of the fear that many Shires have about the environmental impact of fuel reduction burning. However, as already pointed out, Shires need their own resources, in particular their own dedicated fire crews, to manage bushland within the Shire that is vested in the Shire. These crews would also bolster fire suppression resources during the fire season.

- The existence of reserves such as the Darling Range Regional Park scattered within residential areas provides an avenue for large-scale fuel build-up, due to the policy of DEC to manage such reserves primarily for biodiversity conservation. This policy and associated management practice, requires urgent review.

Finally, we point out that most of the bushfire prone residential areas in WA are still served by overhead powerlines. Many of these lines have aged poles and out-dated pole-top infrastructure, and are poorly maintained in terms of vegetation maintenance along lines. The risk of electricity-caused bushfires in WA is very high, and gets higher annually as the task of maintaining vegetation on powerline corridors continues to expand.

WA needs a government-sponsored system which ensures detailed audit and public reporting on bushfire mitigation work along powerlines, and penalties where essential bushfire prevention work is not done. Victoria has an excellent system, developed in the wake of the Ash Wednesday Fires of 1983.

Recommendations on Term of Reference 2:

4. The State should develop an overarching Bushfire Policy to guide and coordinate the efforts of relevant Government agencies and local government authorities.
5. Under the terms of a State Bushfire Policy and a uniform policy that all local government authorities must be required to adopt, all houses in areas designated as 'bushfire-prone' must conform with the requirements of ASA 3959-2009
6. WA should adopt a rural powerline audit and reporting system similar to that used in Victoria.

2.3. The actions that can and should be taken by landowners, residents and tenants in relation to bushfire risk management including undertaking vegetation clearance, operation of evaporative air-conditioners and storage and/or removal of hazardous inflammable material surrounding their dwellings and buildings. This should include consideration of associated enforcement regimes and penalties.

There exists already a very good set of requirements and "rules" in relation to action that should be taken by landowners, residents and tenants to reduce bushfire risks. These have been developed over many years by the former Bush Fires Board and by FESA, based on local experience and on the findings from research and bushfire inquiries in the eastern States.

The problem is not that we do not know what should be done. The problem is that people do not do it; nor are they required to do it, nor are they given practical assistance to do it. Seldom are properties inspected to determine the location and extent of dangerously high fuel loads by the authorities with jurisdiction in this area.

There is a large body of information available on overcoming community ignorance and apathy. This issue has been dealt with in bushfire inquiries since 1939. The answer lies in 'the three Es: Encouragement, Education and Enforcement', all of which are lacking in WA, viz:

- No government agency actively promotes fuel and hazard reduction programs on private land in WA. Many Shires are anti-burning.

- Existing community education programs are ineffective. This is demonstrated by the general ignorance and complacency towards fire preparedness found within WA outer-suburban communities.
- In general, Shires do not set maximum fuel levels for privately owned bushland. Appropriate levels are 8 tonnes per hectare in jarrah-type fuels and 19 tonnes per hectare in karri-type fuels. Simple guides are needed to help landowners classify fuels and assess fuel loadings.
- There is virtually no law enforcement of fuels management/ hazard reduction in WA, despite the fact that there is an excellent provision of the Bush Fires Act that allows it. Legal action is seldom taken against land owners who do not comply with the Act. There is a difficult policy conflict in WA between regulations aimed at preventing land clearing (under the Wildlife Conservation Act) and regulations promoting fire hazard reduction (under the Bush Fires Act). Many landowners are confused by this situation. This theoretically allows a Shire to issue a notice under the Bush Fires Act instructing a landowner to clear vegetation within 20 meters of their house, then prosecuting them under clearing regulations for removing green vegetation whilst doing so.

It is true that rural Shires occasionally levy fines for failure to install firebreaks, but they generally ignore the problem of fuel loads and treat firebreaks as if they were effective in stopping high intensity fires, which they are not.

Land owners in metropolitan areas in WA (which are largely not threatened by bushfires) play a surprisingly effective role in constraining bushfire preparedness in areas that are threatened by bushfires. This is explained by the aversion to smoke by many city people which severely restricts the amount of burning that DEC is able to do on land for which it is responsible. Until the government relaxes smoke control guidelines for the winter and spring burning period when south-easterly winds are dominant, DEC will never be able to redress the backlog in its burning program in the Hills region.

Good land use planning can minimise the creation of bushfire-vulnerable houses in peri-urban areas. However, this does not take away the need for improved management in existing developments. In these areas Shires could implement a systematic annual checklist on the fire preparedness of their residential communities. The Bushfire Front has designed a template which could be used as a basis for this checklist, and a copy is attached at Appendix 1.

Recommendations on Term of Reference 3:

7. A far more effective approach is required by Shires to reduce fire hazards around homes, including enforcement where required. Direct contact with householders rather than sending out leaflets is likely to be more effective in promoting awareness of fire issues and fire law.

Evaporative air conditioners

This issue has been of interest for several years. It is well known that an air conditioner may suck in, or provide an entry point for burning embers, and these may lead to ignition of the roof space in a dwelling. The Bushfire Front has no expertise in the technical aspects of air conditioner design or optimum operation in a bushfire situation, but has concluded, on the basis of observation of many bushfires, and research by the CSIRO, that:

- (i) the critical factor leading to house ignition is the “ember storm” generated by a high intensity fire;
- (ii) ember storms and high intensity fires are far more likely to occur if a fire is burning in heavy bushland fuels, because such fires “crown” and develop their own winds; and
- (iii) houses remote from a fire front which are subjected to an ember storm are most vulnerable when there is no-one on the site to defend them.

It is likely that an evaporative air conditioner will exacerbate this situation, simply because it provides another point of entry, indeed an enhanced point of entry, to burning embers. On the other hand if the ember storm can be prevented in the first place by fuel reduction in bushland close to houses, then the presence of roof top air conditioners is less critical.

Conversely, if for some reasons, fuel reduction is not carried out in bushland adjoining residential areas, making a high intensity fire and an ember storm inevitable at some time, then we believe it would be prudent to investigate improved air conditioner technology, making them less likely to be an entry point for spot fires.

2.4 The adequacy and effectiveness of information and communication campaigns and mechanisms, including systems for alerting residents in relation to the fire or potential fires.

There is no effective community education system in relation to fire in Western Australia, nor is there a professionally designed syllabus relating to fire science and fire management taught in schools.

It is clear to us that the basic tenets of an effective communication strategy have not been understood or followed. The requirements are: (i) decide on the message you want to transmit; (ii) identify the target audiences; (iii) identify the most appropriate medium for putting the message to each audience; (iv) do the work; (v) test the result – how well has the message been heard and converted into action? And (vi) go back to the start and do it all again with a revised approach, if necessary.

The Bushfire Front has spoken to numerous Perth Hills residents who are supremely confident that if threatened by a fire, a fire truck will come up the drive or a water bomber arrive overhead. There is an alternative message which in our view will encourage greater self-reliance: *“it is likely that firefighters will NOT arrive; properties and land owners must therefore be well-prepared and able to act responsibly on their own behalf”*.

The extensive losses of houses during the Roleystone, Lake Clifton and Toodyay fires clearly demonstrates that current firefighting resources are not able to meet the demand for property protection created by a fast-moving, intense bushfire, and this is the message people need to hear. Clearly there is a parallel responsibility for people who are not physically capable of dealing with a fire crisis to ensure they move well away before a fire arrives at their doorstep.... an issue discussed later in this report.

From experience, it seems that the concept of encouraging people to rely on an electronic warning system is unsatisfactory. Instead, people should be encouraged to be self-reliant and vigilant. “If you live in a bushfire prone area, keep your eyes and ears open for a fire!” should be the message, not sit back and wait for a message on your mobile phone.

Recommendations on Terms of Reference 4:

8. A professional communications strategy must be developed and implemented, with key messages aimed at key audiences using the most appropriate media, and which is subjected to an on-going audit of effectiveness.
9. The potential should be explored of setting up alternative bushfire warning systems. In addition, all radio stations could be obliged to transmit bushfire warnings, with ABC 720 still having carriage of ongoing fire reporting.

2.5 Improvements that can be made in relation to the coordination of activities across all levels of government, including with volunteer groups

Lack of coordination in bushfire management is one of the most serious issues in Western Australia. For example:

- There is no coordination at the top. WA has four Ministers with responsibilities relating to bushfires: the Ministers for FESA, Environment, Planning and Local Government, plus key ministers associated with power and water supplies and roads. They all operate independently. There is no coordinating mechanism, such as a Ministerial Bushfire Council at which policies and strategies can be thrashed out, and conflicts resolved.
- The two main agencies, FESA and DEC each have a “Board of Management” that oversees their policies, management plans and operations, i.e., the FESA Board and the Conservation Commission. These bodies do not appear to have established a positive dialogue in relation to bushfire management. Furthermore, both bodies need members with expertise and practical experience in bushfire management.
- LGAs each have their own bushfire policies, and there is no coordination across Shire boundaries. This could be simply overcome by the State government adopting an overarching bushfire policy and then requiring Councils to implement it.
- There is no integrated fuel management policy or program across land tenures; no targets are set nor are outcomes publicly reported.
- Volunteer firefighters are losing interest due to the fact that many of them feel they are regarded as “second class citizens”. This applies more to members of the old style “straight off the farm” brigade members than to the modern, uniformed volunteers.
- The Bushfire Front has been made aware of troubles and ill-feeling within the brigade network and this has the potential to militate against an effective volunteer firefighting service.

It is clear from recent fire disasters in WA at Lake Clifton, Toodyay and Rolleston/Kelmscott, that current government institutional arrangements do not meet the challenge of mitigating the effects of bushfires, especially in per-urban districts, and a thorough review of the situation is required.

Recommendations for Term of Reference 5:

10. The Premier should direct the Ministers for Environment, FESA, Planning and Local Government to form a *Ministerial Council on Bushfires* to facilitate policy development and review and coordination of bushfire governance. This Council would have authority to co-opt the Ministers responsible for power supply, water supply, catchment management, roads and railways, Landgate and so on in relation to bushfire issues.
11. The Premier should form a Bushfire Commission, with a Commissioner, independent of DEC and FESA. This need only be a small agency with three or four professional staff plus administrative support. The Commissioner would report to the Premier.
12. A comprehensive fuels management policy and program, integrated across land tenures, and incorporating annual mapping and public reporting of fuel loads in bushfire-prone areas, must be developed and implemented.
13. An independent review is needed into voluntarism in bushfire management in WA in order to disclose and deal with the reasons for any current discontent amongst volunteer firefighters.

3. Other matters

3.1 *The 'Stay or Go' policy*

This policy has become confused in the wake of the 2009 Black Saturday fires in Victoria. It is now interpreted as simply a 'Go' policy, with the order "Everybody Out!" arising every time a fire threatens residential areas or farms. It appears that the aim is to save lives, and that to do so it is necessary to sacrifice homes.

There is another approach. This is a policy to save both lives and houses, and it is the underlying approach of the original pre-Black Saturday policy which, correctly spelled out was "Stay if you are able bodied and your property is well prepared, and you have the necessary training and equipment to defend yourself and your house; if not go, and if you go, then go early."

Unfortunately this rather wordy statement was abbreviated to Stay or Go, and many people in the Victorian fires stayed whose properties were not prepared and who were not able to mount an effective defence against a high intensity fire generating an ember storm.

The reverse applied at Kelmscott, where houses were abandoned as part of an enforced evacuation. A post-fire review suggests that many of the houses could easily have been defended as they were impacted by embers, not a fire front.

There is a related issue that has been of concern for some years, and which came to the fore during the Roleystone fire. This was the actions of the police and security guards. The policy of exclusion of all from a fire zone frequently leads to difficult situations....for police officers as well as residents. During the Roleystone fire TV coverage showed a young man, who tried to cross the police barrier to defend his home, being handcuffed and placed in a paddy wagon. It may well have been that his defence of the home might have saved it. This policy places police officers in an invidious position. This matter is one of broad public disquiet and needs to be addressed.

Recommendations

14. The State government needs to clarify the policy on staying to defend a property or enforced evacuation. It should be possible to come up with a position in which both lives and property are protected.
15. The actions of police and security guards in forcibly preventing people from defending their homes need review and a revised policy developed.

3.2 The impact of projected 'global warming'

There has been talk in the media over recent years that bushfires in Australia will become "worse" (by which is meant more frequent, more intense and more damaging) due to a projected global warming. The Bushfire Front takes a different position on this issue: if meteorological conditions change to the extent that bushfires become more frequent and intense, then it re-emphasises the need to improve preparedness and damage mitigation measures. We deplore the view that "nothing can be done". Much can be done, in particular in relation to fuels management. Even under the highest temperatures, fire intensity will be lower in light fuels than heavy fuels.

If global warming is accompanied by declining rainfall, as the CSIRO climate models predict, this will provide a bonus for bushfire managers, because it will increase the number of days on which mild fuel reduction burning can be accomplished during winter and spring conditions.

Recommendation

- 16: This Inquiry need take no position on the potential impact of climate change, as under good management positive and negative outcomes will neutralise each-other.

3.3 Economic/financial analysis of bushfire management

A further missing factor in bushfire management in WA is cost-benefit analysis of alternative fire management systems. For example the cost (as well as the difficulty and the resultant damage) of fire suppression in the absence of fuels management is clearly greater than the cost in its presence. Unfortunately these analyses are either not made, or are not made public.

It appears to the Bushfire Front that firefighting in WA is becoming increasingly expensive. We observe the importation of firefighters and fire equipment from the eastern states, and the use of very costly suppression technology on even the mildest of fires. On the other hand, we are aware from our own experience of the ease with which fires can be suppressed in areas carrying low fuels as a result of a relatively inexpensive fuels management/hazard reduction program.

Recommendation

- 17: A detailed cost-benefit study needs to be made of bushfire management in WA with a view to disclosing to government and to the public the most cost-effective approach.

4. Conclusions

Western Australia has for many decades been regarded as a world leader in bushfire management. However, standards have declined in recent years, especially in relation to fuels management on

public land, and the application of appropriate preparedness and damage mitigation systems on private land.

This submission has outlined the reasons for the decline and the measures that need to be taken to reverse it. We make 19 recommendations which, if implemented would make a significant improvement to the protection of Western Australians and their values and assets from bushfire damage.

5. Recommendations

1. The Government should direct the EPA to relax smoke restrictions on DEC and on volunteer bushfire brigades during the critical winter and spring burning period.
2. An appropriate proportion of the Emergency Services Levy (ESL) should be directed to Shire Councils in the South-West zone of WA for the employment and training of specialist fire crews under the control of the Shire Fire Control Officer.
3. Administration of the Bushfires Act should be placed under a new authority which we suggest be called the Rural Fire Service. It should be staffed to deal with the extreme diversity of bush fire management problems in WA, varying from those in semi-urban bushland to country shires comprising park and farmland; its operations need to be closely integrated with the firefighting operations of FESA, the land and fire management operations of DEC and the policies of the electricity distributors and planning authorities.
4. The State should develop an overarching Bushfire Policy to guide and coordinate the efforts of relevant Government agencies and local government authorities.
5. Under the terms of a State Bushfire Policy and a uniform policy that all local government authorities must be required to adopt, all houses in areas designated as 'bushfire-prone' must conform with the requirements of ASA 3959-2009
6. WA should adopt a rural powerline audit and reporting system similar to that used in Victoria.
7. A mechanism is needed to ensure Shires adopt a more effective approach to reducing fire hazards around homes, including enforcement where required.
8. A professional communications strategy must be developed and implemented, with key messages aimed at key audiences using the most appropriate media, and which is subjected to an on-going audit of effectiveness. Direct contact with householders rather than sending out leaflets is likely to be more effective in promoting awareness of fire issues and fire law.
9. The potential should be explored of setting up alternative bushfire warning systems. In addition, all radio stations could be obliged to transmit bushfire warnings, with ABC 720 still having carriage of ongoing fire reporting.
10. The Premier should direct the Ministers for Environment, FESA, Planning and Local Government to form a *Ministerial Council on Bushfires* to facilitate policy development and review and coordination of bushfire governance. This Council would have authority to co-opt the Ministers responsible for power supply, water supply, catchment management, roads and railways, LandGate and so on in relation to bushfire issues.

11. The Premier should form a Bushfire Commission, with a Commissioner, independent of DEC and FESA. This need only be a small agency with three or four professional staff plus administrative support. The Commissioner would report to the Premier.

In addition, both the Conservation Commission and the FESA Board need additional members with practical bushfire experience and bushfire management expertise.

12. A comprehensive fuels management policy and program, integrated across land tenures, and incorporating annual mapping and public reporting of fuel loads in bushfire-prone areas, must be developed and implemented.
13. An independent review is needed into volunteerism in bushfire management in WA in order to disclose and deal with the reasons for any current discontent amongst volunteer firefighters.
14. The State government needs to clarify the policy on staying to defend a property or enforced evacuation. It should be possible to come up with a position in which both lives and property are protected.
15. The actions of police in forcibly preventing people from defending their homes need review and a revised policy developed.
16. This Inquiry need take no position on the potential impact of climate change, as under good management positive and negative outcomes will neutralise each-other.
17. A detailed cost-benefit study needs to be made of bushfire management in WA with a view to disclosing to government and to the public the most cost-effective approach.

Finally, the Bushfire Front recommends that the Government undertakes to

18. Publish its response to the Keelty Report and highlight the recommendations it has accepted and
19. Review and publicly report in 3 years time, upon the degree of implementation of accepted recommendations.

Appendix

Community Bushfire Preparedness

A checklist for residents in bushfire-prone areas in south-west WA

Introduction

In rural Australia, bushfires are inevitable. They are a consequence of our climate and weather, our flammable vegetation and the constant sources of fire from lightning strikes, accidents or human folly.

However, no two fires are alike. Bushfires can vary from a mild, trickling burn which is easily extinguished and causes no harm, to a raging inferno that is impossible to extinguish and which does irreparable damage.

The factors that determine whether it will be a mild or intense fire include:

- The weather conditions, especially wind strength;
- Fuel dryness and quantity; and
- The degree to which communities are prepared to resist a fire onslaught.

Weather conditions cannot be controlled. But both fuel quantity and community preparedness can.

Fuel quantity is the most important factor affecting the killing power of a bushfire. Residential areas adjoining bushland which carries heavy, long-unburnt fuel is a highly dangerous combination. The more fuel, the more likely a bushfire will rapidly become uncontrollable, will generate an ember storm, throw spotfires and do serious damage.

Bushfire preparedness is also critical. A well-prepared community will be able to absorb most bushfires without loss of life or serious damage. Good preparation will

- reduce the intensity of a bushfire entering residential areas;
- make fires easier to control and safer for firefighters;
- make it easier to save lives and community assets; and
- allow the community to “bounce back” after the fire, with a minimum of disruption and cost.

The Bushfire Front proposes that residents in bushfire prone areas utilise the following checklist to assess how well their community is prepared for bushfires and to develop (in collaboration with their Shire and FESA) a systematic program to upgrade bushfire preparedness and community safety.

Our basic message is this: bushfires can never be prevented, but much can be done to minimise or prevent the damage a bushfire might cause and the cost and hurt of bushfire impacts.

The checklist

1. Community bushfire leadership

- 1.1 Does your Shire have a Bushfire Strategy (or 'Action Plan') which
- defines and maps the main bushfire threats to residential areas;
 - identifies community assets that are vulnerable to a bushfire,;
 - sets out the measures the Shire will take to mitigate bushfire damage;
 - sets out community warning, safety and firefighting arrangements;
 - assigns responsibility for action; and
 - is annually reviewed and updated as required.
- 1.2 Does your Shire employ one or more full-time staff members who are trained and experienced in bushfire management and whose responsibility is to oversee bushfire prevention and community preparedness?
- 1.3 Does your Shire enforce the provisions of the Bush Fires Act which require landowners to remove bushfire hazards on private land?
- 1.4 Does your Shire acknowledge that its bushfire responsibilities are its highest priority?

2. Actions in the event of a bushfire

- 2.1 Has the adequacy of trained firefighters been independently assessed?
- 2.2 Does the Shire arrange an annual 'Brigade Health' check to help bushfire brigades judge how well they are equipped and operating?
- 2.3 Has the Shire set up local volunteer "bushfire ready" groups to promote, advise on and check household and landowner preparation for the fire season?
- 2.4 Have residents been provided with clear information and training that will help them make a timely decision to stay or go in the face of an incoming fire?
- 2.5 Has the effectiveness of information and training packages been tested?

3. Fuels management

- 3.1 Are bushland fuels (quantity and/or age) within and adjoining the community assessed, rated and mapped annually, and the results made public?
- 3.2 Does the Shire advise landowners that there is a maximum fuel tonnage allowable on privately owned bushland?
- 3.3 Does the Shire carry out, or authorise regular (less than 10 years interval) fuel reduction on its own land, including road reserves?
- 3.4 Does the Shire initiate an annual meeting between the Shire, FESA, DEC, Western Power and any other relevant government land owner to develop a strategic fuel reduction program for the year ahead and review past efforts?
- 3.5 Is a database maintained by the local authority of prescribed burns and fires?

4. Warnings and safety

- 4.1 Does the community have a bushfire warning system, and is it tested every summer?
- 4.2 Have 'Safer Havens' (non-flammable areas to which people can retreat and be relatively safe in the event of a serious fire) been designated and signposted?
- 5.3 Are 'mock fire' events held to test the community's readiness for a serious fire?
- 5.4 Is there a community bushfire education program implemented in this community every summer?
- 5.5 Is the effectiveness of community education on bushfires tested in any way?

6. Schools and hospitals

- 6.1 Does each school and hospital (and equivalent institutions, for example nursing home, kindergarten, seniors residence, backpackers hostel) in the area have a Bushfire Action Plan with one or more people designated as responsible for preparedness and evacuation if necessary?
- 6.2 Are school and hospital bushfire action plans annually reviewed, updated and signed off by FESA?
- 6.3 Do schools in the community ensure students are professionally instructed in bushfire behaviour, fire preparedness, and action in the event of a fire?
- 6.4 Are school and hospital fire plans tested to see that they work?

7. Independent review

- 7.1 Is the bushfire preparedness of this community evaluated by an independent expert every three years?
- 7.2 Is the review tabled with Council and publicly reported?

Follow-up Action

The Bushfire Front recommends that a bushfire preparedness survey be undertaken by residents in bushfire-prone areas every year. It should be done in collaboration with their Shire Council and FESA. The outcomes and recommendations should be presented to the Shire Council and made public through the media and should provide the basis for investment in a concrete plan to upgrade community bushfire safety and maintain it at the very highest level.



To
The Armadale Council,
The Honourable WR Marmion, Minister for Environment and Water.
Hon Peter Collier, Minister for Energy
Hon Rob Johnson, Minister for Police; Emergency Service; Road Safety
Councillor Ruth Butterfield, River Ward, Armadale City Council
Mr. Tony Simpson The State Member for the Darling Range,
Mr Don Randall, The Federal Member for Canning,
Mr. Mike Keelty WA. Government inquiry.

Dear Sir/Madam,

In view of the fire that devastated Roleystone and Kelmscott on the 6th Feb 2011, the residents of our street and indeed the entire district are of the opinion that certain problems need to be urgently addressed to prevent or lessen future threats of the same kind.

The first problem is a total lack of water; I turned our hose on during the fire and not one drop of water was to be had. The fire crews would have undoubtedly experienced the same problem. In this day and age this should simply just not happen. As I understand the water is pumped to the top of the hill by an electric driven pump on Scott Road. This water is received in a tank at the top of the hill and gravity fed to residences.

The land blocks on the high side of Kundyl Court are battleaxe blocks, one behind the other, which means that the block behind has a 100 meter driveway uphill. When residents complain of low water pressure, the Water Corporation informs them that the pressure at the bottom of the driveway, where the water meter is situated, is just within regulation. At their house of course is an entirely different matter, where people don't get enough water to shower properly. The Water Corporation are hiding behind stupid and impractical rules and regulations to deny residents the service that they pay for, but do not receive. This has to be reassessed and remedied.

To this end I believe the electric pump on Scott Road should have underground power and a standby diesel powered pump. One of the first services to go was electricity – the poles burned to the ground – followed very quickly by the water supply and the telephones. In fact the whole area should be supplied by underground power; the poles are nothing more than a liability, especially in the winds experienced in the hills. In addition more tanks should be installed at the top of the hill, and pumps installed to provide a decent pressure to homes.

The second problem is decreasing the fuel available to fires. This can only be achieved by pre season burns to prevent the spread of fire. Residents have applied to Armadale Council for property burn – offs and have been told that Fesa and the Fire Brigade are too busy. Reports from Roleystone Volunteers state that Council will not allow burn-offs on Sundays, one of only two days that Volunteers have available to them. Also the current laws restrict prescribed burning to the point that in practise, it rarely occurs.

Residents living in the hills must be made aware of the dangers of ground litter and trees too close to their homes. Roof mounted evaporative systems appear, from eyewitness accounts, to be a major contributor to the number of homes lost. Property owners need to have discretion for clearing of bush and trees that potentially threaten their homes. It possibly should be part of future building approvals.

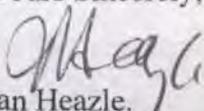
Access to fire prone areas, via private property or otherwise needs to be prominently sign posted for fire crews. Many country fire crews, who to their great credit, came to our aid, had no idea how to access the property and bushland East of Kundryl Court.

Council need to actively promote:

- 1) The meaning of "Total Fire Ban" in detail
- 2) The use of roof sprinkler systems and rain water tanks, swimming pools etc as water sources.
- 3) Assistance with pre season burning.
- 4) Advice on planning and maintenance of gardens and natural bush areas. Suitable trees and shrubs would be part of this.
- 4) Property owners who refuse to clean their blocks should be forced to do so.

Please do not hesitate to call me for clarification or greater detail.
Support from all, or any of you would be greatly appreciated by all Darling Range residents. Thank you for your time.

Yours Sincerely,


Ian Heazle.

cc Stuart Ellis, Fesa Consultant [redacted]
cc Roger Underwood, Bushfire Front [redacted]
cc FESA [redacted]

I sign this in support of the preceding letter.

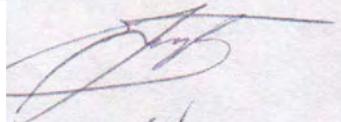
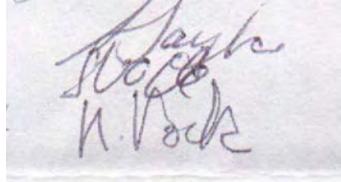
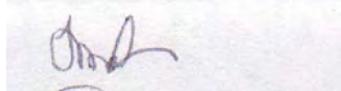
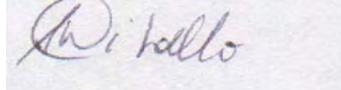
Name

Address

Signature.

LEN TAYLOR
ALISON TAYLOR
Susanne Vock
Urs Vock
Tray Mauea
Susan DiLallo
M. CARUSO




I sign this in support of the preceding letter.

Name

Address

Signature.

J. AULI.

P. ZILUJKO

B. HAN

TONY WHITE

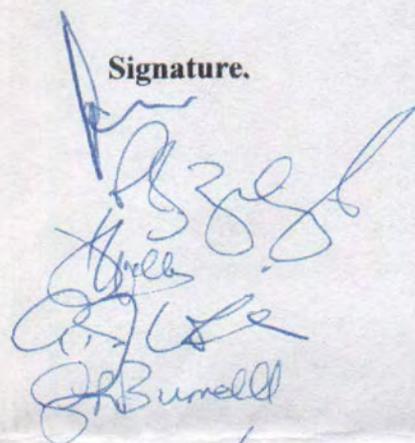
GEORGE BURRELL

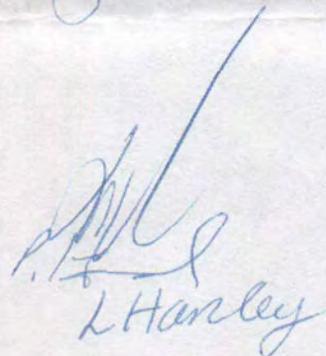
LES CAVILL

J. ANGER

P. HANLEY

L. Hanley




L. Hanley



Stephen Thornton

10-3-2011

To the inquiry regarding Kelmscott Hills fires,

The laws prohibiting burnoffs , or controlled burnoff needs to be relaxed.

Example the Fitzgerald national park at Ravensthorpe and Esperance , Farmers were saying we need firebreaks and controlled burnoffs, fire fuel of 3 tonnes per hectare is sitting on the ground,if a fire gets in there by lighting strikes, nothing can be done to save the park ,

The greenies said no to burn offs, when it did catch on fire by lightening strikes nothing could be done to save all the wild life ,100,000 acres burnt it will take 50 years to recover .

This stupid tunnel vision, will destroy our forest and local hills,

As long as the W A population grows people will head towards the hills, so some new rules need to be pasted by LAW.

The insurance companys have 3 types of cover Commercial , Rural , and domestic.

If a home or commercial is to be built, amongst trees, bush, in a rural zoning in the hills, many of us want this , their must be set rules put in place by council to protect other land holders who have done the right thing within the law.regarding AD-HOCs

The fire fuel per acre , is scary when one goes for a Sunday drive.

Fire rangers are required, just like pool safety fence rangers who check on pools.

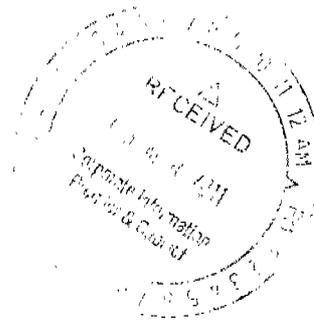
The big danger to us all is the fire fuel on the ground, 3500 kilos per HA,get a strong wind 70 ks a hour , fire fuel will roll along the ground alight creating a bigger front, this is when it becomes airborne ands lands on neighbours roofs. Then roof to roof down the valleys tree top to tree top.

Please no new fire levy TAXS

Why should rural living familys , who have a 25 metre level clean clearing break around their home , got fire pumps sprinklers , kepted the firefuel under control, may in the future receive some annual fire levy when they believe their present conditions exempt them, unless that homeowner decides they wish to take that chance and do nothing ? this creates problems between neighbours, a council fire ranger inspector could issue a warning ? We must be able to clear regrowth and burn off.

Stephen Thornton

10th March 2011



Mr Mick Keelty A.P.M.

Perth Hill's Bushfire Review

197 St Georges Terrace

Perth W.A.6000.

Perth Hill,s Bushfire Review.

I write to throw some light on the working's of the W.A.Fire Service.

To establish my own credibility,I am a retired fire fighter,with thirty years experience,both in the U.K. the Airport Fire Service and finally in the W.A. Fire Service.

I neither sort or received any promotion and remained a fire fighter throughout my career.

I was the elected Employees Representative on the Fire Brigades Board where I served 9 years , so have a clear understanding on how the service is run.

The current system is clearly not working very well this may be because of the F.E.S.A. structure or the baggage it inherited,to have any house destroyed by fire is unfortunate, to lose 30 in Toodyay is unacceptable to then lose over 70 in Kelmscott/Roleystone is an absolute disaster and disgrace.

This is partly due to the lack of control by the Fire Authority and partly due to antiquated "district system".

A line is marked on the map,often drawn down the centre of the road,one side is designated "career firefighter district" the other 'volunteer firefighter district",each area is closely protected by the responsible group,which results in a very inefficient system.

There is no minimum standard for volunteer firefighters with regard to mental or physical condition,the Board in my day recognized that they are not particularly efficient but they are"CHEAP ",not a good way to run a service.

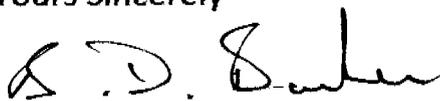
This needs to be addressed , I tried whilst on the Board but failed ,I was one vote on a board of 12.

My proposal was that a "retainer " system be introduced, which would bring in a commitment to the Service, and the ability to maintain a minimum standard, both in training, physical and age requirements.

Volunteer Brigades are allowed to carry out prescribed burns, to reduce fire hazards. They may and do, receive payment for this service. Career firefighters are not allowed to do such things, and are prohibited under the Act, from receiving any payment. This requires some attention.

F.E.S.A. now has a greatly expanded role and a budget to match,but clearly is not doing a very good job.

Yours Sincerely

A handwritten signature in black ink, appearing to read "B.D. Barker". The signature is written in a cursive style with some loops and flourishes.

B.D.Barker

Ex Firefighter.

L.A.W



M.Keelty A.P.M ,

Perth Bush Fire Review

Perth

Dear Sir,

I started to do a submission to both yourself and Stuart Ellis and thought whilst doing the introduction what am I doing.

My thoughts are already expressed in a number of documents and why as an 80 year old one finger typist should I repeat my views.

These views are not all my own but have inputs from around the world and in the latest committee report(copy attached) on prescribed burning that had the input of Phil Cheney considered by many as the guru of fire not only in this country but world wide plus two scientists and a bush fire officer of long practical experience,which could assist your findings.

Thus I am writing to you to offer to make myself available to discuss any points you may wish to bring forward.

It seems I am "old hat" as far as the present administration is concerned and from the Minister down considered to be destructive to their efforts.

My major concern is for the safety of public life and property and if I can be of any assistance I will do so. For this reason as Secretary of Locals Against Wildfires (LAW) I have asked the Vice President a younger and Volunteer Bush fire officer to give LAW's official submission.

Yours Sincerely

Hon A.A. Lewis

PS Attached Committee report and reference notes on the history of Bosh Fire Control in WA

Locals Against Wildfires Inc.

Reference notes

Background

The first thing I should outline are the aims of "Locals Against Wildfires" (LAW) which in the main are fairly simple

1. The reduction of all possible fuels which over the years have the name of prescribed burning.
2. To educate the general public in the dangers of wildfires which in many cases includes those of city upbringing who decide on an alternative lifestyle in rural areas? This includes the history of fire in the total Australian scene from pre-European arrival and the growth of both Flora & fauna species.
3. The overview of the total fire scene from individual through to all spheres of Government

The Membership is made up mainly of Fire Control officers both past and present, farmers and local Government persons with an ongoing interest in these matters. My own background of fire experience started as an 8 year old in the 1939 fires in Victoria and then in NSW and finally as a farmer clearing land in WA. Since then I have chaired the following Committees

1. The Select Committee into National Parks of the Legislative Council during the Charles Court Government.
2. The Hon Royal Commission into the Conservation and Land Commission (CALM) during the Burke Government.
3. The ministerial Committee into Prescribed Burning during the Richard Court Government.

This allowed me to gain experience in fires at the fire front and take evidence in all States, USA, UK, Canada, South Africa and Malaysia.

History of the Bushfire scene in WA over the last 50 or so years.

I deal with only the years after World War 2 as that was when the major developments took place with clearing of farming land made easier with replacement of the axe by the bulldozer. The Forests for years had been under a fire exclusion regime and this created not unreasonably a severe conflict between the farmers wanting to clear and the very dirty bush close by.

The Forest Department under Conservators Harris and Beggs then changed direction and introduced the system now known as prescribed burning, this at the start caused more tension between the farmers and the forests because the farmers felt threatened by the big forest burns. This fear was reduced mainly by Beggs bringing the groups closer together and with the recommendations of the Dwellingup Royal Commission and the Bush Fires Board working together although not always agreeing took WA to a position of acknowledged world leadership and the envy of other States and many in the US where similar conditions existed.

Many Bush fire Brigades were established in Local Government areas and set rules were evolved for notification of burns, permits to burn issued by Fire Control Officers as well as local declarations of Fire Bans. Many Volunteer fire members would attend up to 20 fires a year over a number of years whilst the farm clearing went on and in doing this they gained practical knowledge of fire behavior which under the new regime seems to be discounted. The burns were patrolled most of the next night and for as many days it took to make certain the fire were safe.

With affluence and the so called conservation movement grew in political size despite the fact that these people denied the truth of Australia being a nation built with fire long before white settlement the City politicians were swayed and led to believe burning was bad for all. Also of course the smoke from fuel reduction burns interrupted their “sundowners” and allegedly had a shocking effect on the City dwellers health. The population moved out from the centres and people grabbed small allotments at a rate that left local planning and administration way behind. These small blocks in many cases had poor roads overgrown with fuel and the local Authorities neglected to enforce the Bush Fires Act which they were responsible for.

This continued for twenty or more years despite the frantic efforts of the trained land managers the foresters and farmers with our Parliaments living off the mining boom and letting our agriculture dwindle hopelessly. It was then that a committee was set up comprising of Metropolitan Members with one rural MP co-opted for a couple of months and then ignored it seemed because he did not agree to the direction the Committee was headed.

This committee report virtually by itself became the basis of the new Authority FESA.

.It would appear that no previous Committees or Royal Commissions were considered.

The Actual Authority itself and the State Emergency Committee it reports to have very little if any practical bush fire experience and look as if they have been chosen to rubber stamp the wishes of the staff that in turn have little bush fire experience.

In this overview I have tried to set the scene as fairly as I can and am willing to comment further on it if you should require me to.

Report of the Fire Review Panel

Conducting a Review of the Department of
Conservation and Land Management's (CALM)
prescribed burning policy and practices and
Wildfire Threat Analysis

*as required in the Ministerial Conditions
set for the implementation of*

Amendments to the 1987 Forest Management
Plans and Timber Strategy and Proposals to meet
Environmental Conditions on the Regional Plans
and the WACAP ERMP

March 1994

3rd March 2011.

Mr Mick Keelty
Inquiry into recent WA Bushfires
480 hay Street
Perth, WA 6000

Dear Mr Keelty

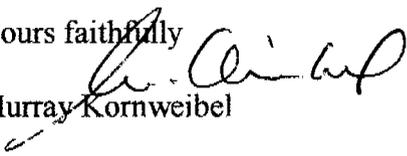
RE; EMERGENCY COMMUNICATION SYSTEM

I refer to the announcement made on the 11th Feb 2010 calling for input on matters associated with the recent bushfires. Attached is a proposal on a low cost yet effective means of communication with residents in a distress situation. The system has many applications.

I believe a trial in one location would prove the worth of the proposed system.

Please give this proposal your due consideration. I would be very happy to provide further explanation if you so desired.

Yours faithfully


Murray Kornweibel

(attachment)

RECEIVED
Fire & Emergency Services

11 MAR 2011

File: 13801

Action: J. Anderson - WARD

Doc. No: R11/00-796



EMERGENCY COMMUNICATION SYSTEM (ECS) DISTRESS RADIO

PROPOSAL:

This is a proposal that permits emergency services to communicate directly to a community or individual in a live and timely manner.

A small radio transmitter is installed in a plane, helicopter or motor vehicle. The operator is stationed in a position that provides perspective of the distress situation and can then make broadcasts informing those in distress of updates and a course of action.

The transmitter operates on a designated frequency in the FM band, which can be received by anyone in the area with access to a car or home radio.

Through an education programme, the public become as aware of the designated frequency as they are of the 000 emergency phone number. The same frequency should ideally be used throughout Australia.

This is not intended to replace any of the existing systems, but rather to complement them.

ADVANTAGES:

- Almost everyone has access to FM radio whether in a car, home or on their Ipod.
- Inexpensive to equip the plane, helicopter or vehicle.
- Low, but proven technology.
- Little operational cost.
- Live and timely information.
- High acceptance.
- Simplicity.
- Mains power is not required

SCENARIOS

EXAMPLE #1: Major community catastrophe, eg bushfire, tsunami, cyclone etc. Whilst messages are sent out via the ABC and other broadcasters, there is a delay in providing up to date and emergency information. With the ECS, broadcasts can be made by airborne observers to individuals, small communities, and also be interspersed with broader targeted messages.

EXAMPLE #2: A vehicle is stranded in the bush and a plane is sent to investigate. As it approaches the area and starts transmitting a message to the vehicle requesting the driver to light a fire, or make some other signal if they are in the area, etc. When the plane sights the driver he asks: "Are you alright? If so, raise your right arm" etc. other pertinent questions follow. If the driver is ok and can last another 48 hours it takes the urgency out of the situation.

I have considerable experience both on the land and at sea and believe that such a system would provide great comfort to many people in distress situations. The marine radio service is an example of a very effective communication system, but of course needs dedicated equipment which fortunately most boats have. Unfortunately, it is something people on land generally don't have, unless you tap into their FM radios.

Please give this suggestion your utmost consideration.

Murray Kornweibel
16th February 2011.

SUBMISSION TO THE "Perth Hills Bushfire February 2011 Review".

1. INTRODUCTION.

1.1. On 26/1/2002, I posted a thirteen page document identifying some of my concerns relating to fire problems in the Perth Hills to the Minister for Fire & Emergency Services. I pointed out that I, "*for the past 26 years I had lived on and earned my living on rural blocks in Roleystone, Pickering Brook and now a rural landscape living block in Glen Forrest.* I also pointed out that "*I was one time a lecturer at WAIT*", and inter alia "*lectured in fuels, combustion, heat transfer, fluid mechanics*", etc. I received no reply to this document.

1.2 On 19/3/2007, I posted a seven page document more specifically identifying concerns as related to the fire and property management practices of local government. This document was responded to by FESA and I received two visits from FESA personnel to discuss the issues.

1.3 The matter in this submission is largely drawn from these documents. There was little need for revision apart from time intervals, since little has changed in the period 2002-2011.

1.4 The problems associated with fire hazard in the Perth hills are manifold and only a very broad and far reaching intervention will produce any result. Those that read the Royal Commission into the Black Friday fires in Victoria of 1939 will see a repetition of observations that have been expressed in more recent enquiries, yet little action on the these recommendations has occurred in 70 years.

1.5 Arguably the problem is being exacerbated by the movement of persons unfamiliar with fire yet alone it's control to the outer suburban/bushland fringe compounded by and the cohort of older residents

1.6 Local government has in an effort to increase rate revenue, has had a perverse influence in encouraging developments and poorly regulated hazardous businesses that are unsuited to the fire prone regions of the Perth hills. e.g. Mundaring Shire permits battle axe and reticulated developments to which access is poor and on which the actions of front dwelling property owners who are tardy in fuel management imperil the rear occupants.

1.7 Mundaring Shire has diverted funds needed for the necessary continuous maintenance of shire infrastructure and fuel reduction to less critical areas such as the recent enlargement of shire buildings at a cost of over \$15M. As a consequence shire lands have become fuel repositories and shire firebreaks are largely non-existent. Large trees overhang roads and verges are heavily vegetated. Persons fleeing on foot could become entangled in vehicular traffic.

1.8 The following report addresses and extends the above claims.

John Langford.

17th March 2011.

BUSH FIRE RISK MANAGEMENT in the PERTH HILLS.

1. FUEL BUILD-UP ON HEAVILY VEGETATED SHIRE LANDS CONSTITUTES A FIRE HAZARD.

1.1 On Monday evening (12 March 2007) a meeting to discuss power supply problems in Mundaring, noted the fire threat posed by the accumulation of combustible vegetation under power lines. [See Fig 6].

1.2 The problem of heavily vegetated reserves is among matters that I have in past raised with the Shire of Mundaring. I have SPECIFICALLY discussed the potential problem of the Statham Wetlands and old tip area on Strettle Rd. GLEN FORREST, with shire rangers This area has not been burned in 17 years.

1.3 A ranger advised me that burning of wetlands & landfill areas was not permitted by EPA. Statham Reserve is largely an old land fill. The shire thus appears to be hiding behind new found "Wetlands" and LANDFILL status to avoid any fire hazard reduction at this location. The Mundaring Shire has not carried out fuel reduction or installed firebreaks in 16 years. Young people play there lighting fires and letting off explosive devices THE SHIRE IGNORES MECHANICAL METHODS OF REDUCING FUEL LOAD.



FIG 1. Westerly view of the disused Strettle Road land fill tip adjacent to ; showing large stands of dead bamboo reaching to 6m in height, plus tagastase and other exotic plants. A potential fire bomb.

1.4 The northern portion of the old landfill is a potential fire disaster. The old tip reserve adjoins houses on heavily timbered rural living blocks and R5 living blocks, with substantial tree growth. A heavily timbered bush reserve lies to the North West. A wide wick of kerosene bush connects these reserves.

1.5 Some individuals at least recognise the fire potential of the Statham Wetlands and the surrounding bushland. At about 5:00 pm on the 16th of November 2005 my wife and I were having a cup of tea on our patio which faces west. She noticed smoke to the south west of our property. We investigated and found a fire on our western boundary.

1.6 With a 40m hose and water from our fire tank and pump we prevented it's spread until fire units arrived. The wind was gusting but fortunately also changing direction which reduced the fire spread.



FIG 2. Result of arson on Shire land at the western boundary of our property (16/11/2005) , showing effect of burn after 15 months.

1. FUEL BUILD-UP ON HEAVILY VEGETATED SHIRE LANDS CONSTITUTES A FIRE HAZARD.

1.7 Distinctive bicycle tyre tracks were found by the FESA investigating officer near the ignition point. I recorded these and emailed these to the investigating officer. A volunteer fire fighter from the Darlington brigade was charged with arson a few days later. Ironically he apparently attended this fire. As a consequence of setting this specific fire near to our house the arsonist was jailed for 2 years.

1.8 That the fire was restricted was largely due to our actions. We were present and quick to notice the smoke and report it. We used our fire equipment which includes a 23kl reticulation tank, a 1½ HP pump and a 40m hose which enabled us to reach the fire. Importantly have some knowledge of controlling fires.

1.9 Had we not been present the fire would have run rapidly northwards through thickets of kerosene bush into the mass of material that the Mundaring Shire has negligently, allowed to accumulate on our western boundary [See Fig 1&3]. The subsequent expanded fire could have been disastrous.

2. SHIRE DERELICT IN FIREBREAK MAINTENANCE .

2.1 The Shire of Mundaring has not carried out any maintenance of firebreaks or fuel reduction burns on the reserve to the west of our property in over 17 years. Fuel loading has built up to an untenable state as shown in Figures 1 & 3. Residents complain of the unsatisfactory maintenance of and excessive fuel build upon shire fire breaks but little shire action occurs.

2.2 The Shire acts in an obfuscatory manner when made aware of the danger posed by land it controls, but is hard handed when e.g. leaf litter builds up on a ratepayers fire break.



FIG 3. Our western fence c.2004, showing bush intruding from closed tip area. We have since removed the overhanging masses.

3. SHIRE DERELICT IN FIRE HAZARD IDENTIFICATION AND REDUCTION.

3.1 The lack of will to carry out statutory fire control duty is evidenced in other areas which are supposedly under shire control. Piles of highly combustible rubbish on private land was located south of the walk trail east of the Old Mahogany Creek Store in 2007. This dump of highly combustible material is seen by walkers on perhaps 200,000 occasions per year.

3.2 The shire organised the resurfacing of the trail and a well attended "Trek the Trail" event in 2006. Shire officers must have viewed this potential fire disaster yet the problem still exists which seems to be due to a business operation.



FIG 4. Private block showing a portion only, of piles of highly combustible rubbish, readily seen from the walk trail

3. SHIRE DERELICT IN FIRE HAZARD IDENTIFICATION AND REDUCTION.

3.3 Flammable dumps [Fig 4] are not unusual on rural properties within this shire. I have previously raised dumping issues including that of used tyre casings. In 2001 I pointed to a large number of tyres stored on a property in Hovea. The Mundaring Shire CEO responded, 12/2/2001:

"As you tour around the Shire, should you see similar situations on any other property, your concerns should be referred directly to the Department of Environmental Protection."

3.4 It seems that Shire Officers are unresponsive to many matters of fire and community safety. The dump is small by Mundaring standards perhaps containing 1000 tyres and therefore about 6 tonnes of highly combustible hydrocarbons capable of producing toxic fumes and serving as a habitat for disease carrying agents. In February 2010 a fire north of Gt. Eastern Highway approached to within a few metres of this dump [Fig 5], burning the bushland shown in the background of the image. The dump remains.



FIG 5. Tyre dump Devon Place Parkerville, near to bushland, dwellings nearby 28/2/2007.

4. HEAVILY VEGETATED ROAD VERGES PRESENT A FIRE ESCAPE RISK.

4.1 The persistent growth of heavy vegetation along road reserves that is permitted by local government and the electrical authority is an extreme fuel source [Fig 6].

4.2 I and other residents have brought this to the attention of FESA and the Shire over many years and it was not until February this year that SOME reduction of vegetation occurred.

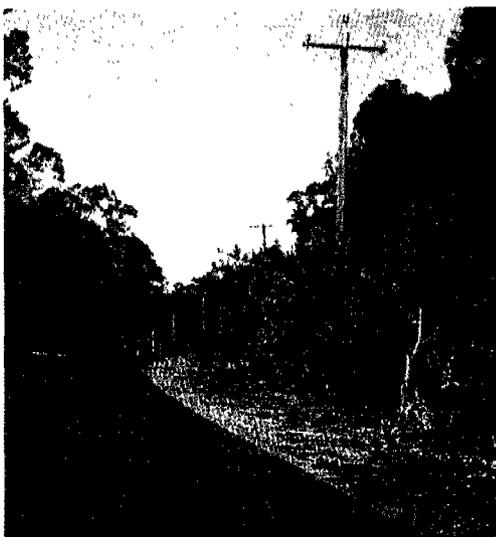


FIG 7. Strettle Road near Barrett Road, 9 March 2011, showing a disingenuous attempt at verge cleaning.

4.3 I have estimated that these thickets produce a fuel loading of over 100t/Ha and that the occupants of a vehicle passing at one metre from these bushes when burning would be subjected to such a radiation flux that they would be disabled in seconds.



FIG 6. Strettle Road near Barrett Road (2007), showing dense thickets of Dryandra colonising to an extreme fuel loading.

4.4 Note also the absence of even a rudimentary footpath. Pedestrians are thus forced to use the road pavement.

4.5 The desultory attempt at fuel reduction along the road verge attempted in February 2011 is illustrated in Fig 7. taken at approximately the same location.

4. HEAVILY VEGETATED ROAD VERGES PRESENT A FIRE ESCAPE RISK. (Cont.)

There is little change in the amount of combustible material shown in Fig7, and much of that chopped down litters the ground and remains a fire hazard to vehicles and pedestrians.

4.6 This is a typical perfunctory action by the authorities in this area. Note that further along Strettle Road from this location is a bus route. It is highly conceivable that in the event of a strong fire pedestrians and vehicles including buses could be trapped along this road.

4.7 I have illustrated this as an example of fuel build up and neglect since I am familiar with this location.

4.8 There are many more locations in this shire that are potentially a more serious safety hazard in the event of a fire. This problem is addressed in section 5.

5. SITE PLANNING AND CONSTRUCTION UNSUITED TO FIRE PRONE AREAS.

5.1 Many of the problems associated with bush fires arise as a consequence of people seeking to obtain some desirable and perhaps exclusive habitat in areas that constitute an extreme hazard in the event of fire outbreak. Potential hills house owners should be made aware of the initial and ongoing cost differences between building on a rural/conservation block and the situation that exists in an inner Perth suburb. (Refer Appendix 1).



FIG 8. Kalamunda house of pole construction burning after ember attack. Chimney effect evident as draft forces combustion products under house to exit at rear.

5.2 As an example of an inappropriate land development and construction methods, I instance a home built at the top of a steep valley in Persimmon Place, Kalamunda. On 12 December 2006 this house burned down as a result of embers being blown into it from a grass fire lit by a 59 year old man [Fig 8]. Another house was seriously damaged, a third received minor damage. (www.perthnow.com.au).

5.3 The evaporative air conditioner was blamed, no persons were in attendance. The fire personnel were unable to control the blaze, which was aided by the location's topography and the methods of house construction. The owners were recently shown in their reconstructed. The house seemed to be of similar conformation and materials to the original structure.



FIG 9. Kelmscott Hills? house of extremely high pole construction burning during February 2011 fires.

5.4 Vision of the recent Kelmscott - Roleystone fires shows a similar repetition of planning errors which arguably contributed to the loss of houses. The house shown in Fig 9, is of extremely high pole construction.

5. SITE PLANNING AND CONSTRUCTION UNSUITED TO FIRE PRONE AREAS (Cont.).

5.5 The house shown in Fig 9, has an evaporative unit that does not seem to be influential in this fire. There is no heat pattern near it and the fire appears to have initiated on the verandah.

The dense smoke issuing from under the verandah indicates a hydrocarbon fuel source undergoing incomplete combustion suggesting a repository of combustible organics from the verandah or from within the house.

5.6 DC 3.7. was distributed in 2003 by the Department of Planning and Infrastructure Planning requesting comment on the document "Planning for Bushfire Protection", December 2001.

5.7 I submitted extensive comment on this document and was critical of many aspects particularly as the Canberra fires shone new light onto the progression of grass fires on rural land into town sites.

5.8 I have asked questions of Mundaring Shire in council as to whether they had instituted any of the recommendations of this document and the Australian Standard 3595-1999, which addresses the problems of building in fire prone areas. The indications from the council is that do not implement any of the recommendations of these fire planning and risk management documents. Arguably they could make the case that both of these documents are difficult to apply, not proscriptive and Australian Standard 3595 has undergone revision.

5.9 Despite the problems with applying the codes for building in fire hazard zones, one would think that a local government concerned for the welfare of it's citizens should address some of the issues.

Simple local planning steps for fire prone areas could be taken, e.g. to:

1. Ensure safe and/or alternative escape routes in the event of fire
2. Make sure that the building design and materials used afford high fire resistance.
3. Discourage wooden pole and stumped structures, wooden balconies and structures extending into heavily vegetated slopes.
4. Ensure that buildings are so clad and fitted as to preclude the entry of embers and excessive radiation.
5. Have a roof design such as reduce the initiation of fire in roof valleys and box gutters.
6. Ensure that foliage and trees are at an acceptable distance from the building, etc.
7. Ensure that appropriate fire fighting measures are incorporated on the site. This could range from dedicated fire tanks and a mains independent pumping system to simple measures such as radiation screens or paints.



*FIG 10. House exhausting uncombusted hydrocarbons.
No heat pattern near evaporative unit.
[Acknowledgment to Ch10].*

5. SITE PLANNING AND CONSTRUCTION UNSUITED TO FIRE PRONE AREAS (Cont.).

5.9 Regrettably Hills shires take little cognisance of planning for fire events as is illustrated by recent building approvals. The Mundaring Shire images show:

A) A new battle axe subdivision entered by a narrow lane of 3.5m width. In circumstances such as this the rear resident is at the mercy of flammable vegetation planted on the front properties.

B) Building construction in a steep valley. The structure is tall stumped, the driveway exceeds a 1:4 gradient. I pointed out in council the problems associated with this three block development, such as problems of difficult access, septic disposal and a creek at block centre.



Fig 11. Fire hazards produced by bad planning decisions. Images A-B-C-D.

5.11. When it comes to retrospective correction of fire protection planning faults, the problem will be mammoth. The right images show:

C) Council Road, a dead end road. No turnabout at end, road gradient averages 6° increasing to 9° [1:6.5] at exit and this valley area is heavily vegetated. Battle axe properties exist at the end of this road.

D) A typical road entry (similar to our property which is a battle axe) through heavy bush, that is council owned. The fuel load and fire hazard therefore is not controllable by the occupants.

6. HILLS RESIDENTS and SHIRE IGNORE FIRE HAZARD AND BURNING RESTRICTIONS.

6.1 On a Saturday morning of the 17/2/2007 I noticed flames and smoke on the neighbouring easterly property. I walked to the boundary to investigate and observed that the neighbour was tending a fire near his house. I called across the fence that he should not be lighting fires in the open and then rang the fire emergency number.

6.2 A rapid response unit soon arrived and the fire was extinguished. I supplied them with a digital print of the event at that time. The disregard by the property owner of fire regulations which are widely circulated through the shire is an irresponsible act. This particularly so as dense bushland is close by, as is shown in Fig 12.

6.3. At about 4:00 pm THE NEXT DAY! the 18/2/2007 a fire again started on our eastern boundary. I was absent and my wife was in the sewing room and remained unaware of the fire until a neighbour came to warn her.



FIG 12. Neighbour on adjoining block tending a fire on the morning of 17/2/2007.

6. HILLS RESIDENTS and the SHIRE IGNORE FIRE HAZARD AND BURNING RESTRICTIONS.

6.4 They called the fire emergency and together tackled the fire and controlled some of its spread until the fire units arrived. The equipment included a large tanker from Midland. But for the quick action of all involved a serious situation could have developed.

6.5 At the time of the arson the afternoon was warm and the wind was gusting from the west.

6.6 The owner of the property I am told, drove from his property immediately prior to the arrival of the fire tankers.

6.7 At the end of the prior November, I requested that our firebreaks and those that I had installed with my tractor for three neighbours, be inspected by the Shire.

6.8 I pointed out that a pile of dead kerosene bush (twin leaf hakea) on the adjoining property had been pushed up to our eastern boundary fence. The rangers admitted that the material constituted a fire hazard.

6.9 The rangers said that they would revisit the situation in the summer fire season. This was not done. Their dereliction of duty aided this fire.



FIG13. The result of arson on the eastern boundary of our property (18/2/2007), showing remaining fuel supply of dead kerosene (twin leaf hakea) bush piled against our eastern boundary fence. The fire started on the adjoining property in a clump of dryandra (white arrow) surrounding the large stump at right centre background.

7. THE PHYSICAL INABILITY OF MOST PEOPLE TO COMBAT A FIRE.

7.1 The writer from 1976 to 1980 owned a rural property deep in the Stoney Brook valley on Urch Road. At that location in late November 1997 an individual burned off grassland further down the valley. The fire raced up the valley. I had sufficient 20 mm hose length, pumping power and physical ability to largely keep the fire from entering our property. The fire fighters were unable to stop the blaze until it reached near Canning Mills Road where many homes were recently destroyed.

7.2 It is fortunate that I was home at that weekday time. I was not so fortunate in that I slipped down a bank wearing rubber boots and impacted my right big toe joint. The joint impaction has seriously affected my gait and recently has caused problems with my back and hip joint mobility.

7.3 Fire fighting is seriously enervating and is complicated by generally steep terrain, obstacles and fumes. Darkness brings other problems. It would be more sensible for most people to invest in a system capable of automatically heavily spraying the house and surrounds rather than risk injury or worse.

8. DISCUSSION.

8.1 This coverage identifies a few of the problems that are largely created by the casual if not negligent attitude to fire and safety matters that has become entrenched in local government.

8.2 The particular issue of the build up of fuel load on local government land is one that needs urgent attention. Here I am not talking about large bushland reserves remote from population, but road verges, reserves and bush lands which connect, surround and permeate residential areas. These act as a "wick" for fire spread into denser living areas.

8.3 The local shire has a particularly negligent attitude to maintenance of it's own firebreaks. Mundaring shire did some maintenance on their firebreaks around our property in 1994 and 1995. There has been no attention to these breaks since. [Fig 3]. Most shire firebreaks have degenerated to an almost non-existent state.

8.4 In many instances the potential fire problem is due to the development of dryandra (parrot bush) thickets and twin leaf hakea (kerosene bush) in disturbed ground. Dryandra [See Fig 6&7] carries a dense leaf loading full of volatile combustibles and having a habit such as to aid fuel/air mixing thus aiding combustion. These dense thickets can have fuel loads of up to 100 tonne/Ha. Removal of these dryandra thickets allows the natural grasses and small hakeas to regenerate, bringing a much lowered fire risk and lowered combustion intensity in the event of fire.

8.5 Local government AND residents need to take a more positive approach to the reduction of fuel loads. Fuel reduction SHOULD INCLUDE MECHANICAL OR HERBICIDE FOLIAR SPRAY METHODS. Since 1994 we have burnt off portions of our land in a pattern using fires of low intensity. In that time only one neighbour on the many surrounding blocks has carried out any burning on their land.

8.6 A campaign is needed that better reinforces the minds of hills residents the need for fuel reduction . The burning time has been reduced with the now extended summer dry period. Residents should therefore be encouraged and advised to burn-off immediately the opportunity presents itself OR use mechanical or herbicide foliar spray methods.

8.7 Residents should be encouraged to be more fire aware, and capable of implementing their own fire control measures. There is no mains water to the four blocks in our immediate area. All have thick bushland areas. In the event of power cut-off as occurred due to fires in the Jellicoe Road area of Glen Forrest in 2000, such properties are left vulnerable. We have installed dedicated fire tankage and provided emergency power for pumps.

8.8 Local government needs to become more realistic in it's assessment of fire hazards. This shire pursues some minor fire issues, e.g., when leaves are blown onto a fire break and are readily visible from the road a warning may be issued. The larger problems such as houses surrounded by combustible rubbish, houses embedded in thick bush with inadequate fire breaks, houses with overgrown or NO escape routes and no fire defences, are overlooked and are not addressed by local government.

8.9 Local government has become complacent and arguably negligent in its assessment of fire hazards. The consequences of bureaucratic prevarication was brought to mind in the ABC 4 Corners report on the 2004 Canberra fires. In the case of the Canberra fires government (thus the taxpayers) have been left with a substantial legal liability. (Ref Appendix 2.iv).

8. DISCUSSION (Cont.)

8.10 Hills local governments largely remain oblivious to the operation of illegal businesses. Many of these carry out unlawful activities producing fire and pollution hazards immune from the surveillance that would be applied to similar operations in suburbia, [Fig 4]. In that these businesses may not operate in accordance with Worksafe requirement and/or do not have appropriate insurance cover there is a consequent liability borne by taxpayers in the event of fire and pollutant escape from these operations.

8.11 A business operating near the Gt. Eastern Hwy. in 2010 created an explosion from which the fire ran to a tyre dump over a kilometre away [See Fig 5]. Fireworks and fuel dumps and other potential sources of fire operate with impunity. A largely unregulated fireworks dump exploded in Carmel c.1998. Fortunately no person was injured and the fire was contained. One wonders what knowledge a local council personnel would have in regulating an explosive storage facility?

8.12 In 2007 I stated to FESA that in the event of a Canberra type firestorm [Fig 14], there are many Perth hills areas from which, due to local government inaction, escape would be impossible. I said that "It is to be hoped that the inferno portrayed in the image under does not eventuate throughout the highly fire prone Perth hills urban/rural interface".



Fig 14. House gutted in Canberra firestorm 2004.

8.13 Local government needs to become more realistic in its assessment of PLANNING APPLICATIONS to ensure that developments are not in highly fire prone areas and that for those in marginally dangerous fire zones that the prime requirements of AS 3959 are met by all types of road, property developments, businesses and buildings.

8.14 The legacy aspect of building approval is of prime importance since decisions made at the approval stage have ramifications extending over decades.

8.15 An over-arching problem that needs addressing is the liability of persons taking the precaution of reducing fuel on their land that results in fire escape. Note the comment Appendix 2:

"Ironically, the legal implications of taking such precautions can be an impediment to accepting this duty of care. Based on the evidence, the consensus is that private landholders are liable for their mistakes, yet public landholders are not".

8.16 In February 2007 I stated in a document to the CEO of FESA:

"If local government is not compelled to take action in addressing fire problems, the Perth hills will become such a fire hazard that many locations will become unlivable and uninsurable".

Unfortunately the February 2011 Armadale Hills fires have confirmed my predictions.

9. CONCLUSIONS.

9.1 There needs to be intensive reduction of fuel on local government lands and road verges.

9.2 Maintenance of local government controlled fire breaks is inadequate.

9.3 Mechanical means or foliar spray should be implemented for fuel reduction in fire danger periods and in critical areas such as land-fill dumps and water reserves.

9.4 Residents must be made to methodically reduce fuel load, vegetation overhanging roofs and access roads using mechanical means or foliar sprays in prohibited burning periods.

9.5 Residents must become more fire aware and be capable of implementing their own fire fighting measures where they have the knowledge and physical capacity to do so.

9.6 Self powered dousing systems should be mandatory in new building developments to lessen the need for residents to interact with the fire front.

9.6 Residents who through infirmity or other reasons are not capable of taking fire fighting measures should be encouraged to evacuate early.

9.7 A data base should be established to ensure that the infirm and elderly are removed from critical areas in the event of fire.

9.8 Residents should report fire dangers anonymously, these reports to be entered into a data base in order that alleged problems be investigated and if need be rectified in a timely manner.

9.9 Properties suspected of carrying out a business or harbouring fire hazards such a flammable dumps should be inspected by a competent authority to ensure that hazards are negated.

9.10 Existing -properties on dead-end roads, battle axe or similar block conformations should be provided with alternative safe escape routes. This will mean that new road reserves may have to be created and that road reserves that shires have unwisely passed to private ownership or degazetted will have to be restored to their prior state.

9.12 Local government needs to be more fire aware when approving building developments, methods and materials of construction, by enforcing at least the basic elements of A.S. 3595 - "Construction of buildings in bushfire-prone areas".

9.13 Wherever possible houses should be built on a sand pad and a concrete raft. Alternative proposals for construction should be stringently vetted to ensure fire resistance. Improved roof geometry and sealing methods may have to be established.

9.14 Wooden pole and high stumped construction incorporating timber framing and wooden verandahs should not be permitted.

9.15 Building developments in the Perth hills region should be under the control of a body that has specific bushfire knowledge and that acts independently of parochial issues and does not obsfuscate. (Refer 3.3).

APPENDIX 1.

Extra costs and impositions incurred in establishing a Perth Hills house c.f. a Perth suburb.

1. Site conditions may be such that up to \$100,000 might have to be expended on pad and retaining walls for the house alone. Driveways are an additional big problem on sloping blocks.
2. There may be no mains water connection and certainly no sewer connection.
3. The electricity supply may be subject to numerous "outages" due to increased loads imposed on a stressed distribution system or following a cut-off on FESA directions in a fire event.
4. Verges and firebreaks are the owners responsibility as obviously are internal roads, bridges, culverts, drains, etc. all of which require continuous maintenance.
5. If mains water is not provided, even a large water tank of 80,000 litre will not supply a family and children with sufficient house water through summer, let alone provide for gardens and fire fighting.
6. The rainwater tank could cost in excess of \$30,000 to install on level ground.
7. More expenditure will be required for a sand pad and retaining wall for the tank on a slope.
8. A simple pump and water reticulation system to and around the house could cost another \$3000. House pressure pumps require continual maintenance and a reliable power supply to the pump.
9. The toilet system is septic and requires 26 metre of leach drain. In laterite rock it may need two days of large machine rock breaker work at \$150+/hr plus backhoe work at \$100 per hr. In addition there will be tanks for the septic system. On sloping sites builders now incorporate these into the edge of the house pad. This reduces rock excavation but necessitates the use of high retaining walls.
10. Additionally, there may be inadequate sub-surface water for bore development. A bore may cost \$5000+? to install with three phase power and may yield an inadequate supply of non-potable water. Soaks and dams may supply silted and bacteriologically contaminated water.
11. The power supply on site may have to be run underground for a considerable distance (300m in our case). A rock breaker plus backhoe may be used for a day or two at costs above. Cable will have to be of large cross-section to reduce voltage drop. Cable+conduit would be approximately \$20 per metre plus installation costs which generally includes cutting a trench through laterite.
12. Power supply ideally should be three phase (more expensive) to increase the efficiency of e.g. submersible pumps and to run normally equipped machinery. Unfortunately some areas have single phase only or a rural supply which may require the purchase of special motors or welding equipment.
13. Telephone service installation will be expensive if land line run is large. Land lines are subject to termite attack, moisture and mechanical damage. Telephone wires are strung on poles and are subject to wind and mechanical damage and lightning strike.

APPENDIX 2.

Significant observations from bodies with an interest in bushland/urban interface fires.

i) Cheney (1976) described the urban-forested developments on the fringes of major cities as "certainly the most hazardous areas in terms of economic loss", whilst Conroy (1996) stated that significant tracts of Sydney urban development are exposed to severe damage by fire. (1)

ii) The third group we identified were those people who appeared to be physically incapable of implementing an effective survival strategy, regardless of whether or not they perceived the risk to their safety with enough time to implement a strategy. This category may include the elderly, the physically or mentally handicapped, and the infirm, as well as those people who may have been under the influence of alcohol or drugs" (3)

iii) " This decision lead to herself, her son and an adult male passenger being caught out on the road in their car as the fire front passed. The mother died as she fled from the car into the fire, while the other two sheltered in the car until it caught alight. These two then ran down the road to safety but unfortunately the son died later that afternoon from burns sustained during the fire". (3).

iv) The Committee has received evidence that some authorities/councils have been imprudent in their land planning by approving urban development in bushfire prone areas.

85 An example relates to reticulated development, particularly on ridgetops to which fire travels rapidly.

86 Such dispersed development reduces the size of reserves and makes fuel reduction and access difficult, thereby, increasing the risk to life and property. The majority of this high fire damage risk development approval was made prior to the introduction of current risk assessment techniques, building standards and native vegetation retention policies.

Hard edge interface between urban development and bushland is preferred 87 because it enables prominent separation distance, thereby, facilitating better protection.

v) The CSIRO claims that according to its research, no attended houses have been lost where people endeavoured to extinguish spot fires and embers and that unattended houses are commonly lost.

vi) 106. Statistics reveal that 80 to 90 per cent of attended houses are saved and 99.9 per cent are saved where householders employ proven effective defence techniques.

vii) 107. The occupant of No. 96 told his wife and son to leave and he stayed. He saved his house. Mr Douglas and his son, Simon, who were on the other side of our house, saved their house as well and possibly saved some of our house because the wooden fence dividing our houses was very close.

viii) The Insurance Council of Australia states: "The majority of this high fire damage risk development approval was made prior to the introduction of current risk assessment techniques" 108 (4).

ix) 7.106 "Private and public land owners have an equal duty of care to ensure that reasonable precautions are taken to protect their own assets and prevent any foreseeable detriment to their adjoining lands. Ironically, the legal implications of taking such precautions can be an impediment to accepting this duty of care. Based on the evidence, the consensus is that private landholders are liable for their mistakes, yet public landholders are not" -. (4)

1. K Chen & J. McAneney Risk- Frontiers Natural Hazards Research Centre. Macquarie University.

2. A.S. 3959 ' Construction of Buildings in Bushfire-Prone Areas.

3. A Study Of Civilian Deaths In the 1983 Ash Wednesday Bushfires Victoria, Australia. N KRUSEL & S N PETRIS CFA Vic.

4. Fire Protection Insurance Council of Australia. - A Nation Charred.

5. S.M.H. 'A Burning Question' February 11 2003. <http://www.smh.com.au>

**Submission to the
Perth Hills Bushfire February 2011 Review**

Submissions should be submitted electronically (preferred) to:

or posted to:

Perth Hills Bushfire February 2011 Review
Locked Bag 10, Cloisters Square
PERTH WA 6850

Note: All submissions received will be made available on the Inquiry's website. People wishing to make a confidential submission should make this clear at the time of lodgement and the Inquiry will not publish those submissions. However, people should be aware that whilst every endeavour will be made to ensure confidentiality, there is a possibility that such submissions might be released in accordance with the *Freedom of Information Act 1992*.

Contact Details

Name:	Glenn Tunstead
Address:	<input type="text"/>
Email address:	<input type="text"/>
Telephone number:	<input type="text"/>

Organisation Details (Where Applicable)

Is this submission presented on behalf of an organisation:	Yes / No
If yes, name of organisation:	<input type="text"/>
Position in organisation:	<input type="text"/>

Response to Terms of Reference

You must address at least one of the Terms of Reference.

1. The adequacy of current preventative measures, specifically prescribed burning and other bushfire mitigation activities.

I would like to address the issue of Risk Assessment. Having worked for Local Government in a bushfire compliance role and work for FESA as a District Manager I have firsthand knowledge of how risk is assessed in these organisations. I have also done work for Western Power in regards to assessment of how bush fire fuels are managed in the Perth Hills. In all cases I see these organisations including DEC as being in risk denial. They don't want to know about the risks they face, or document them. They are reluctant to undertake a comprehensive risk assessment using ISO 31000:2009 to identify, control and manage risk. This denial is causing them to drift into failure, taking communities with them.

A simple question would be to ask Local Governments to present their bushfire prevention plans / bushfire mitigations plans / fuel age plans. This could start with a comprehensive risk assessment in each brigade area and follow with an overall shire assessment. There are numerous benefits that would include matching resources to the risk.

FESA needs to take a leadership role in an all hazards approach to risk assessment in their regions. There is software available to assist in the development of risk workshops, risk registers and risk business plans. PHA Pro is an example of such software use by big industry to manage their risks. The first step in being able to address risk is to identify it.

2. The impact of land use, environmental and building laws, practices and policies in the affected areas, affecting bushfire prevention, mitigation and response and what, if any, changes may be required.

3. The actions that can and should be taken by landowners, residents and tenants in relation to bushfire risk management including undertaking vegetation clearance, operation of evaporative air-conditioners and storage and/or removal of hazardous inflammable material surrounding their dwellings and buildings. This should include consideration of associated enforcement regimes and penalties.

Local Governments should be held accountable for the compliance of this, Section 33 of the Bushfire Act 1954 allows for this. FESA should ensure these actions are mandated. This cannot be left to the landowner.

4. The adequacy and effectiveness of information and communication campaigns and mechanisms, including systems for alerting residents in relation to the fire or potential fires.

5. Improvements that can be made in relation to the coordination of activities across all levels of government, including with volunteer groups.

Firstly, take on recommendations from other review, reports, enquiries, Auditor Generals Reviews. How many reviews do we need before we actually do something on the ground? Victoria is a good example of this.

What guarantees can you give that anything from this review will be actioned?

Ask the question regards the working relationship between DEC and FESA. Ask at the high level and you will be told it is good. I challenged you to canvas the wider workforces.

Ask about the relationships between FESA and Local Governments.

I challenge your review to question the level of corporate bushfire knowledge in senior management within FESA. This should include all FESA Regions. The knee-jerk reactions from the Victorian fires, is an example of the lack of understanding of bushfire issues by senior management in FESA. The bushfire issues in WA are not the same as Victoria.

Finally, I want to touch on Volunteerism. Ten years ago a bushfire brigade was concerned with hazards, training, fundraising and general social activities. Brigades of today, seem to have lost the focus on managing bushfire hazards in their own area. Hence the lack of prescribed burning undertaken. In Gidgegannup where I live, there has been almost no large scale burns done in at least 12 years. Yet, the local volunteers drive passed and live in areas of hazard(s) every day. Shire Rangers drive passed these hazards, FESA Staff live and drive passed these hazards every day. Volunteers today seem to be more "at home" driving lights and sirens to a fire outside their area than they are at managing hazards within their own brigade area.

The fact that FESA has established Bushfire Mitigation Teams (at great cost) supports my argument, as these were not needed in the past. There is a very well equipped workforce there (volunteer brigades), they need mentoring and leading back to true volunteerism.

The formation of FESA in January 1999 was the start of the decline of volunteerism in my view. Control / coordination centres were disbanded, reporting was required to be done through FESA Communications, fire prevention responsibilities are seen as FESA's problem, and the implementation of the Emergency Services Levy has stopped the brigade undertaking prescribed burns to raise funds. Local Governments have all but wiped their hands of their responsibilities in terms of bushfire prevention. Ask most shire CEO's they will tell you its FESA's problem.

Final Point

One responsible bushfire agency for WA would go a long way to addressing these issues.

From: Peter Sportel
Sent: Friday, 25 February 2011 2:03 PM
To: Perthfirereview
Subject: AS3959-2009

Categories: Registered, For Filing, SUBMISSION, Acknowledged

Dear Sir

I am a practising Building Surveyor who has been involved with the industry for approximately 18 years. I am working at the City of Armadale on a contract basis and have direct involvement with assessment of applications for new residences in designated bush fire prone areas. I submit the following comments for consideration:

With regards to the above Australian Standard, there appears to be no reference to the protection of eaves where the BAL is less than 29 (That is BAL 12.5, BAL 19 have no provision to protect eaves). A recommendation is that "ALL" eaves, regardless of BAL, are lined with a non combustible lining. This may address situations where homes in designated bush fire prone areas are prevented from having exposed rafters to the eaves as is often a favoured option in these rural and semi rural environments.

Other options worthy of consideration are that "ALL" dwellings (Class 1) within designated bush fire prone areas are constructed with:

1/ NO gutters and with the first 1.0m from the external walls of the dwelling is finished with an impermeable (paved or concreted) area sloping into appropriate system of stormwater drainage to contain run off water within the allotment boundaries or to direct into Local Government stormwater disposal system if available. This can be incorporated into the provisions of the BCA Part Two Part 3.1.2 as an amended to the next BCA, or can be incorporated as an additional Clause in AS3959-2009.

2/ Where a dwelling requires or opts to install guttering to collect run off water for residential use those buildings require a roof top sprinkler system. The system shall comprise a storage tank of a predetermined capacity to provide sufficient water via a heavy droplet sprinkler system for the entire roof area. All downpipes shall have installed a plugging device to prevent water run off from evacuating from the guttering. Overflow slots are available through most gutter providers/manufacturers to prevent back wash of excess water into the eaves or dwelling walls.

Yours faithfully