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INTRODUCTION

My name is Scott Dizais, I'm 31 years of age and I reside at Victoria. The property size is 120 hectares and our primary operation is beef production. Followed very closely by biodiversity protection and management. My business has just recently been recommended for Environmental ISO14001 Quality Assurance. I have farmed here for 10 years. I have quite a passion for environmental management and ecological asset protection, my property is listed on the 'Land for Wildlife' scheme.

I believe, that in the near future, the protection of the environment will be a definitive test of land stewardship and statesmanship.

I am a member of the local Benambra CFA and for nearly 6 weeks I fought the fires in our district. On January the 26th, the bushfires destroyed a lot of country, both crown and private, all around town. All the surrounding bush as well. The CFA tanker that I was on saved 5 houses that day. The houses are those of people in the community that I know, that I work along side of and that I can call friends. On this same day I lost my home and sheds, contents, infrastructure and a fair bit of equipment. A convection wind storm of enormous magnitude tore through my property destroying infrastructure, remnant vegetation and some huge old growth eucalypt trees that were ripped from the ground and strewn across the paddocks. Fortunately I was on a CFA tanker fighting fires on the other side of town. I would have lost my life had I have tried to save my own property.

A lot of work has gone into developing my farm to a standard of high production, excellent land stewardship, extremely diverse and healthy ecological values and a very high standard of workmanship in farm constructions. This was all undone in one day.

(a) The extent and impact of the bushfires on the environment, private and public assets and local communities

Total annihilation is what happened to the environment. The death of wildlife was something I've never seen before. Birds, still with all their feathers un-scorched, lying dead all over the place, they had asphyxiated while trying to escape the inferno. Kangaroos, wallabies, wild dogs all suffered the same fate. Un-burnt bodies lying dead, littering the bush. This, aside from all the fauna that was burnt; just remnants of skeletal remains and charred bodies scattered here and there. One neighbour, whom I crewed with on the CFA tanker, lost over half his breeding herd of cows in a small triangle of bush. For them, it must have appeared to be the last place to run where it could have been safe, only to be asphyxiated before being engulfed in flames.

*** BUSHFIRES OF THIS MAGNITUDE CAUSE MASSIVE DEATH AND DESTRUCTION**

The burn was very hot in a lot of areas. When a fire of this magnitude burns the environment, it has the effect of excessively heating the soils and can sterilize the burnt area. There is a volatilization of carbon and natural mineral nutrients and it kills existing plant structure, seeds and tubers. The biota of the soil is also killed off to a much greater depth.

*** HOT FIRES OF THIS INTENSITY CAN STERILIZE THE SOIL**

It was strong winds and the fires own convection wind all added to the intensity of the fire. Strong wind driven fire is unpredictable and burns unevenly. It burns intensely in some areas

and lightly burns or skips other areas all together. That leaves pockets of vegetation to repopulate the surrounding burned vegetation after the fires have passed.

***UNPREDICTABLE AND UNEVEN BURNS MAKE POST FIRE ENVIRONMENTAL MANAGEMENT EXTREMELY DIFFICULT**

Low rainfall during winter and a failed spring accentuated the problem further by supplying so much dry fuel. Four days after the fire, there was approximately 80% ground cover of dry leaf litter over the ground. This highlights the enormous amount of dry fuel on the ground that would have accumulated after nearly four months of hot, dry, El Nino weather patterns that our district experienced.

*** IT WOULDN'T HAVE MATTERED HOW MUCH FOREST FUEL REDUCTION HAD BEEN DONE PREVIOUSLY, THERE WAS NO STOPPING THIS FIRE ONCE IT HAD GOT OUT OF CONTROL**

The lack of rain and drought conditions had the effect of reducing water supplies for all purposes. In 2002, Southern Australia had experienced the lowest average rainfall since 1910. Surface and average daytime temperatures have increased extraordinarily when compared to the 5 major droughts since 1950. Higher temperatures mean an increase in water evaporation rates, accelerated soil moisture loss and dryer vegetation. The seriousness of this matter came to attention when at least 3 permanent water holes along the Morass Ck were pumped dry to supply fire-fighting operations. A large majority of district dams for stock are also dry making water supply in remote areas of the fire extremely difficult. Domestic water supplies at households was also very stretched due to the drought.

*** CURRENT WATER MANAGEMENT POLICIES ACROSS THE COUNTRY ARE NOT ADEQUATE FOR AUSTRALIA'S NEEDS IN THE 21ST CENTURY**

The bushfires, in my experience of them brought the whole community of Benambra together, with all differences and opinions of each other set aside to focus all energies for a common good. I think the fact of the fires looming for so long cemented this further. It was a great leveler and it also brought out many heroic acts from the same people whom you wouldn't normally expect. It was a great chance for individuals to express their different abilities to help their fellow people whom they live in the same town as.

*** DISASTERS LIKE THIS BRING OUT THE GOOD IN PEOPLE**

After the fire it has been quite the opposite. The intense organization and co-ordination whilst the fires were on was not to be seen. Donated fodder, fencing materials, labour assistance has divided the community to worse than it was before the fires. Ill feelings towards people who got more than their fair share of donated goods, people who took more than they needed, people who could more than afford to repair damage and feed their stock putting their hands out are some of the things that have caused division back into the community.

*** DISASTERS LIKE THIS CAN BRING OUT THE BAD IN PEOPLE**

The extent and impact that the fire has had on our community was very substantial. For a lot of people it was 5-6 weeks of no income. Off farm income earners would have normally been at work earning their incomes. It also took those people who would normally going about their farming businesses away from the jobs necessary to keep their stock alive during a tough season.

*** DISASTERS ERASE TIME OUT OF PEOPLE'S LIVES. I CAN UNDERSTAND WHAT THE AUSTRALIAN CONSTRICTS IN VIETNAM MIGHT HAVE FELT. THEY LOST A YEAR OF THEIR LIVES.**

As far as public assets were concerned, there was a lot of flora and fauna burnt, possibly some species extinctions, roads and signs were damaged, but certainly not to a great extent. Bulldozers clearing containment lines all over the place, in my opinion did more destruction to the environment than even the fire it self. This is one area of my fire experience that makes me the most irate. Most of the dozer operators that were involved in the clearing of containment lines should not be allowed to set foot on such equipment in, what was in some places, a pristine environment.

***THERE IS ASSET LOSS. MOTHER NATURE WAS TRYING TO ERASE THE MISTAKES SHE HAS MADE AND REPAIR THEM THE WAY SHE KNOWS HOW. ONCE AGAIN HUMANS GO IN AND DO MORE HARM THAN GOOD**

Air pollution was a major environmental impact. The smoke from the fires were said to have been seen via satellite photos. Respiratory and eye irritation were some health complaints made by firefighters. Green-house gas emissions are another issue

*** THE BUSHFIRES HAD A GLOBAL IMPACT**

(b) The causes of and risk factors contributing to the impact and severity of the bushfires, including land management practices and policies in national parks, state forests, other Crown land and private property.

I was working off farm at my trade of plastering on a job on the other side of Mt Hotham the day the Victorian fires started. Four lightning strikes in a thunder storm that lasted no longer than 15 minutes set blazes in the vicinity of Mt Buffalo, Harrietville/Feathertop and Mt Beauty. It took four days before anything was done to extinguish these fires. By then it was obvious that they weren't going to be put out. Hindsight is 20:20 vision, but I firmly believe that the severity of these fires could have been reduced by the DSE reacting immediately to the starting of these fires. Rappel crews could have been helicoptered in, the fire fighting summer crew could have spent 3 or 4 hours walking in, like they are paid to do, or the fires could have been aerial bombarded until they were out.

***FASTER RESPONSE TIMES TO EXTINGUISH THE FIRE ARE NECESSARY**

The drought allowed the bush to carry such a large fuel load. No amount of controlled burning over the years would have aided to reduce the severity of this fire. Some examples of this I am fortunate enough to know about in my area. One section of bush was burnt for fuel reduction 2 years ago leaving the area quite void of undergrowth, habitat flora etc. the fire raced through there just as swiftly and destructively as anywhere else. The fires impetus was not broken as the fuel reduction burn theory would have us believe.

*** CURRENT FUEL REDUCTION PROCEDURES DO NOT WORK**

Large amount of forest fuel is a very touchy argument. What is considered dangerous levels for fire risk management is often not that beneficial environmentally. Some Environmental Vegetation Classes, EVCs, do not require fire as a source of regeneration. Large amounts of humus, built up on the ground over all these years without being burnt create topsoil, this provides local flora with the nutrients they require. Large amounts of leaf litter and decaying branches and fallen trees, hollow logs, all provide the habitat for all our native ground dwelling fauna. Most importantly all this biomass is nature's way of providing the water purification system that gives Australia's down stream users the best quality water in the world.

*** MORE RESEARCH IS NEEDED TO FIND A BALANCE OUTCOME FOR LONG TERM ECOLOGICAL SUSTAINABILITY**

Exotic species of flora introduced to Australia and their proliferation in our environment by the help of European settlement and the standard farming practices in my area, I believe was the greatest cause of the uncontrollable ness of these fires. Introduced annual species of grass that have infiltrated the environment, dry off in summer, leaving a high amount of extremely fine, combustible fuel on the forest floor. Native perennial plants are soft and green thus reducing the fire risk. Hard hoofed animals also enjoy the palatability of these plants in summer due to their high nutritional content. They get grazed out before and during the plants seed set and they don't get a chance to populate again. An exotic grows in its place, or a native woody shrub does, thus out competing the palatable green herbages that otherwise would be there.

***EXOTIC FLORA AND FAUNA IN OUR FORESTS INCREASE FIRE FUEL LOADS AND ARE DETREMENTAL TO AUSTRALIA'S ECOSYSTEMS**

Blackberries and English Broom would have to be the most prolific under story weed in southern Australia. So much tracts of bush have been choked by these weeds that the whole ecology of the indigenous vegetation community has been interrupted forever. The amount of these weeds and the size that they grow to has been reported to raise the level of the fire force to areas of the above canopy that wouldn't usually be affected by fire, thus giving opportunity for the fire to burn in the forest crown. These are really nasty weeds. I believe there is a virus developed by the CSIRO that kills blackberries, but can't be used because it also kills the native raspberry. Something has to be done so that blackberries and broom have no chance of proliferating again. There is a huge seed bank of these weeds still present in the soil. Young blackberry plants are sprouting all over the bush already, particularly along water ways. This is an ideal window of opportunity to erase them. The financial cost of effective chemical control of these weeds is enormous and they are quite operator unfriendly chemicals to handle.

***WORK MUST BE DONE TO ERADICATE WEEDS IN OUR NATURAL ENVIRONMENT. ONGOING CONTROL PROGRAMS MUST BE MAINTAINED**

The severity of fires to private property is an issue that I feel quite strongly about. The people in my district who endured the most damage by fire to their properties, have only themselves to blame. I was very fortunate to observe during the fire, all of my farming counterparts properties at close hand. I am observant and interested enough to take in the condition of their farms, they quality of infrastructure, layout and quality of pasture and I possess the knowledge to identify plant species present.

Presentation and the condition of a farmers property, is a reflection of the owners attitude, ability and professionalism as a business operator and land custodian

- Pastures : Ignorance was a contributing factor to landholders losing their pastures. Their traditional farming practices have allowed their pastures to be over run by these exotic, poor nutritional value annual grasses that leave a lot of dry trash in the summer, even with the drought. One species in particular, Sweet Vernal Grass, puts out a toxin before seed set that deters anything from eating it. These same peoples pastures and soils are so degraded by their farming practices that only these rubbish grass species exist, which leave dry residual trash, which burns

- The Department of Defence's fire risk reduction policy promotes management for native pasture proliferation. Native perennial grasses are green in Summer.. I am aware of this through tendering for the grazing lease on some of their Victorian properties.
- My property has established deep rooted perennial pasture species. Even though all my bush and house were burnt quite violently none of my pasture was burnt. There was fresh green shot clover in the pasture sword during the fire period. Green grass does not burn

*** BETTER FARMING PRACTICES AND MORE IMPORTANTLY BETTER, LAND STEWARDSHIP ACTIONS MUST BE IMPLEMENTED. IF THIS ATTITUDE DOES NOT EVENTUATE BY SOME LANDHOLDERS, THEY SHOULD NOT BE ALOUD TO PRACTICE THEIR BUSINESS**

Lack of weed control by both the government department and private property owners and managers definitely was a major contributing factor to the fire. Some of the reasons for this could be

- complacency and laziness
- economic and financial reasons
- access and geography
- lack of diligence once control programs commence
- massive weed populations and enormous seed bank in the soil

***THE ENORMITY OF AUSTRALIA'S WEED PROBLEMS PUTS THIS ISSUE IN THE TOO HARD BASKET**

Australia is the 5th largest land clearer in the world and the largest in the developed world. Land clearing is known to reduce rainfall and increase erosion, thus making dry seasons more likely and the land more vulnerable to the effects of it.

***A RECENT GOVERNMENT STUDY CONCLUDED THAT LAND CLEARING WAS THE MOST ENVIRONMENTALLY DEGRADING ACTION IN AUSTRALIA**

(c) the adequacy and economic and environmental impact of hazard reduction and other strategies for bushfire prevention and control

I'll make one point clear, there was no way that humans were going to stop this fire. It was admirable that from Benambra Control, there was not one thing that wasn't tried and implemented in the attempt to control the fire. No lives were lost, nor the town and its assets.

***CURRENT FUEL REDUCTION TECHNIQUES DO NOT WORK, NOR DOES TRYING TO NEUTRALIZE FIRES THIS SIZE**

The matchstick mentality of a lot of the local farmers who have high country grazing leases is not one of good land stewardship. An explanation I got from one of our districts high profile graziers was as follows " 30 years after white man had settled the continent the soft grassy woodlands weren't there any more because the Europeans didn't bum the land like the Koori's. instead of these large areas of clear bush and large tracts of grass, woody weeds came up everywhere" so he concluded that the bush must be burnt every year for regeneration and fire prevention. He failed to mention that after 30 years of grazing land that hadn't seen hooved animals before, would have opened up the sword to let these woody species of plants proliferate. This same chap quoted in the Weekly Times that the only reason his home property didn't burn was that his property was overstocked, reducing fuel loads. I was there, the only reason his property wasn't burnt was because a CFA fire tanker that was there putting water on fire! He also stated that in his high country lease there is a scientific control plot that is excluded from cattle grazing. This plot burnt where all the hard grazed area around it didn't. I

could nearly guarantee that it burnt because of the exotic grass dry matter that has built up and choked out any indigenous flora.

***TRADITIONAL, INDIVIDUAL MONEY INTERESTS PLAY A BIG PART IN WHY BETTER ENVIRONMENTAL MANAGEMENT OF OUR PUBLIC ASSETS ISN'T HAPPENING**

I suppose that if one has to control burn, a lot more research should be done before it commences. Thorough identification of the flora and fauna communities that are going to be burnt would be the first step. This takes time and money and in the ever changing environment, this is nearly impossible. I guess the point that I'm trying to make is that if there are rare and endangered plants or animals in an area, or the vegetation class isn't fire regenerative then fuel reduction burning would be a costly mistake biodiversity wise.

*** BE DILIGENT IN RESEARCH. EXAMINE EVERY OPTION AND SCENARIO. MISTAKES ARE CHEAPER AND BETTER MADE ON PAPER THAN IN PRACTICE**

I think that high country grazing should be stopped. It is fair to say that I am qualified to comment on this. I have a grazing licence in my area, I have used it twice in 10 years. It is more work than it is worth. I have assisted other producers in regards to operating their grazing licences. Their bush grazing operations are, in my opinion, inefficient. I also have a passion for the environment. I have seen first hand what cattle do to the bush. The cattle eat all the soft green herbage that don't burn in summer, because they're green. Then they shit all over them so they can't grow. Woody shrubs and bushes grow in their place. The cattle also disperse exotic plant species that are also now given an opportunity to compete.

*** REMOVE GRAZING CATTLE FROM THE HIGH COUNTRY**

98% of beef producers in Victoria don't have alpine grazing leases and there are a lot more beef producers who do a better job, make more money than any of the traditional graziers in the high country. The high country cattlemen whined and complained that they weren't allowed to put their cattle back in the high country after the Caledonia fires. From a governmental perspective ½ to 1 dozen families might have been financially affected but the water quality for hundreds of thousand down stream users had to be considered. When any other farmer runs out of grass to feed their stock they agist out or purchase fodder. These high country cattlemen can do the same.

*** THESE GRAZING PRACTICES ARE OBSOLETE IN TODAY'S FARMING ENVIRONMENT AND WATER QUALITY ISSUES ARE OF NATIONAL AND GLOBAL INTEREST. PROTECT WATER QUALITY**

On the other hand, how does the government effectively control populations of feral, hard hoofed grazing animals such as deer, horses, goats ,pigs etc?

*** THE GOVERNMENT HAS TO DO ITS DUTY OF CARE AS WELL**

I think that if there is going to be any burning, an act of nature should do it, like as has happened here.

The way the DSE is managing our natural assets they shouldn't be allowed to do what they do. Local knowledge of timing and conditions to burn combined with the DSE operations would be a better combination. This waiting for authority to do things from head office in Melbourne from some boffin that is still on his lunch break at 3 o'clock on a Friday is just not on. Nature dictates when and where things can get done in regards to fuel reduction burning. Work with nature, not against her.

*** AUTHORITY TO ACT SHOULD BE LOCALISED**

I would rather not burn, let the humus build back up and have a healthy ecosystem and protect it for its water quality and biodiversity values. As a farmer, the top soil and good water is my

greatest asset. It must be protected and nourished and enhanced at all costs. This also has to apply to our natural public assets.

*** TOPSOIL AND WATER QUALITY ARE THE FOREMOST IMPORTANT ASSET THAT HAS TO BE PROTECTED AT ALL COST**

(d) appropriate land management policies and practices to mitigate the damage caused by bushfires to the environment, property, community facilities and infrastructure and the potential environmental impact of such policies and practices

Noxious weed control

By far the most detrimental issue relating to Victorian forest management is the proliferation of weeds. Blackberry, English broom, bent grass, sweet briar, vernal grass, St. Johns wort are to name a few in our area. Perhaps more money responsibly allocated to the CSIRO to develop better and safer biological controls would be of benefit. This money could be raised by increases in timber and forest produce royalties. It is crucial that something is done about weeds as soon as possible. Never again are we going to have a window of opportunity to control these weeds. Rivers and creeks are now accessible. Bulldozed control lines placed everywhere during the fires make access to a lot of previously inaccessible places a lot easier to implement weed control programs. The cost of chemical control puts this task out of the question. I would like to see more government responsibility when it comes to managing weeds

*** RESEARCH AND IMPLEMENTATION OF WEED CONTROL HAS TO COMMENCE. WE HAVE A NARROW WINDOW OF OPPORTUNITY THAT MUST BE EXPLOITED. THE FINANCIAL COST COULD BE HIGH**

Introduced animal species

I think that removing the grazing licenses from the high country would be beneficial now in both the short and long term. Short term it would lessen any effects of erosion and compaction damage to sensitive areas. It would give the flora species a chance to grow back in good condition, without being eaten off by cattle as soon as they appear. Long term it would give indigenous biodiversity a chance to establish from scratch. These massive fires are nature's way of starting again. Compared to the rest of the state, there aren't many graziers that use the bush, state or national park for grazing their cattle. I know from experience that these graziers are some of agricultures inefficient, they only do it out of tradition, farmers in South Gippsland and the western district do not have bush grazing licenses and do a lot better job when it comes to producing beef. Cattle in the high country play a large part in the proliferation of weeds and damage to flora and biodiversity values. They are not the only source. Deer, horses etc are quite prolific. They are also hard hoofed herbivores eating the same plants. Birds and ants also spread much seed. Exotic biodiversity all plays its role in degrading our natural resources. Remediating some of these issues is well within the current political and economic environments ability to do something. Remember, Crown land is a public asset. Its management has to benefit everybody, not just the traditional cattlemen that have used it since white occupation.

*** EXOTIC ANIMALS SHOULD BE ERADICATED. THEY DO MORE HARM THAN GOOD**

Existing bush infrastructure – roads and tracks

Existing roads and tracks could be better maintained. This would make fire risk assessments easier due to speed of response. The cost could be quite high since there are a lot of kilometers of roads around the bush. The DSE employs lots of skilled staff and has the equipment to do this. Maybe they could use their machinery a bit more often and a bit more efficiently. Otherwise engage the Army to do it. It would give them some unique on the job training and it is taxpayer funded.

*** THESE UTILITIES ARE AN ASSET AND ARE OF PUBLIC BENEFIT. EVEN THE ROMANS SHOWED GREAT IMPORTANCE IN ROADS. THE ROMAN ARMY BUILT THEM AS WELL**

Departmental workforce

It goes without saying that the work ethic in the DSE is pretty slack. Everyone from the field to all those behind a desk could work a bit harder and learn to take responsibility for their own actions whether they are right or wrong. From my account, some members of the Summer Crew were just straight out bludgers, getting paid top money to be at a fire. One in particular adamantly wanted to control an accessible grass fire with a bulldozer, when 6 DSE 'pigs' were sitting around doing nothing. I knew that the particular area was ecologically sensitive and unique and nearly had to use neutralizing force to get the fire put out with water. Thus averting much worse environmental damage. Stories like this were quite common during the fires. Unnecessary damage was done to the environment through the ignorant behavior of DSE staff and contractors.

*** SOMEONE PLEASE FIX THE GOVERNMENT EMPLOYEE STEREOTYPE WORK ETHIC**

We have to ask the question ; What kind of mandatory educational training and awareness system could be enforced or implemented prior to employment?

*** TIGHTEN UP AND RAISE THE STANDARD AND ELIDGIBLITY CRITERIA OF TRAINING AND AWARENESS PROGRAMS**

Controlled burning

If it is so necessary to do controlled burning then proper accurate research into the EVC (Environmental Vegetation Class) should be done to assess whether or not burning would be beneficial to stimulate biodiversity and manage forest fuel loads. Think about this over winter, prioritizing those areas that are most critical. Practice "mosaic burning" and do some long term detailed monitoring. This process would have the added benefit of a more detailed ecological inventory. It would be quite costly to implement due to the skill level involved in the planning stage. Also, the labour that might be incurred during implementation would have to have adequate skills and equipment.

*** REDUCE THE FUEL, REDUCE THE HEAT. BUT NOT AT THE DETREMENT OF THE EXISTING ECOSYSTEM**

Timber harvesting

So much timber is wasted in current timber harvesting practices. This process leaves so much trash behind. I'm not saying take everything, however, the waste is just huge. Logs that could be utilized for higher value products have often been processed for low grade product – chips, pallets etc. Compulsory regulations and guidelines must be implemented for higher, more efficient use of our timber resources. this wouldn't be too hard or too costly to fix. I believe that the German forest industry is very good in regards to high product utilization.

*** BETTER UTILIZATION OF OUR BIODIVERSITY ASSETS MUST BE MANDATORY**

Controlled harvesting of medium aged timber in managed forest timber coupes. Periodic thinning of trees in these coupes. Not just a job that gets done once, it has to be constantly done. With operations that don't do unnecessary damage.

*** INCREASED PLANNING, THOUGHT, CARE AND ONGOING MANAGEMENT OF OUR EXISTING LOGGING AREAS**

Sure salvage logging has its economic benefits by utilizing a damaged resource and it makes people feel warm and fuzzy to know that after a major fire, the burnt timber is not wasted. As if the fire wasn't damaging enough. I think it is like kicking a bushfire victim. Post fire, the forest ecosystem is working very hard just to heal itself. How much more damage do you want to do at the upper reaches of a water catchment by harvesting the trees that have few green leaves, enough to photosynthesize and re-grow, reseed and provide food and shelter for any fauna that lived.

*** CAREFUL PROTECTION AND MANAGEMENT IS THE KEY, NOT THE 'RAPE AND PILAGE' WHILE YOU CAN ATTITUDE**

(e) any alternative or developmental bushfire mitigation and prevention approaches, and the appropriate direction of research into bush fire mitigation

Quicker fire extinguishing response approaches would be great insurance. The financial cost of major bushfires is a known quantity. The cost of employing fire rappel crews to be on call during peak fire periods wouldn't be that much compared to the cost of all the extra personnel used once the fire is declared out of control.

*** IMPLEMENT FASTER FIRE EXTINGUISHING RESPONSE OPERATIONS**

Fire bombing equipment, in particular the 'Elvis' type helicopter were absolutely essential. Especially early in the fire when the visibility was good. Perhaps the government could sell an F/A-18 to by another helicopter. Or maybe have a share arrangement with another country in the northern hemisphere, to alternate between fire seasons respectively.

*** A WELL EQUIPED AND READY FIRE FIGHTING FORCE WILL OPERATE MORE EFFICIENTLY AND EFFECTIVELY**

Probably a controversial direction of research into bushfire mitigation, but I feel a very important one, is meteorological predictions and weather forecasting. It was quite obvious, with the prolonged El Nino weather phenomenon, that 2002/2003 was going to be a tough fire season. Better thunder storm activity predictions could enable better response procedures to be implemented.

*** BETTER RISK ASSESSMENT INFORMATION IS NEEDED TO AID DISASTER PREPARATION**

Fires also can be started from the human element. Peak fire danger periods could be more diligently monitored. Harsher penalties for fire starters could also be beneficial deterrents.

*** ENFORCE HARSHER PENALTIES FOR CONVICTED FIRE STARTERS**

Not one containment line or fire break held. Instead of rushing around the bush with anybody who owns a bulldozer clearing containment lines, when the scale of the fire is apparent, back-burning and fire diversionary tactics by this method should be used and wait no longer than half an hour for authorization, the wind might change against your favour in this time. Work with nature, not against her. If there is fire in the bush near freehold land and the freehold land is in the direction of the fire, let it come out of the bush into private land and then put it out there. It is easier put out. Otherwise back-burn back into the fire.

*** WORK WITH NATURE, NOT AGAINST HER. FIGHT FIRE WITH FIRE WHEN IT IS OBVIOUS WATER WON'T DO THE JOB**

(f) the appropriateness of existing planning and building codes, particularly with respect to urban design and land use planning, in protecting life and property from bushfires

Construction and design of some buildings located close to bushfire risk areas has a lot to be desired. Take for example, Dinner Plain and Mt Hotham. At Dinner Plain, the building regulatory requirement is for homes to have a low visible impact on the environment. Timber homes clad with cedar weatherboards and no active fire protection systems was a recipe for disaster. Mt Hotham is much the same. Ski lodges built 20 plus years ago are also made of timber and are of poor design. Due to the high value of the real estate in this area, no expense was spared in regards to fire fighting resources allocated to the area.

But what do you do? People do have a right to live how they choose to an extent. Buildings can be designed and constructed to be both element resistant and visually appealing for their environment, but they can also be quite expensive. Out of reach of most people. Then on the other hand, people choose to build in such places, so they have to live with and assume the risks involved in these places. This environmental risk factor also has effect on land values and insurance premiums.

The one thing that is not common, that is common sense would have to prevail with this issue. There is no sense in building 'the spec home' on that subdivision, on the outer rim of a town.

*** IN FIRE RISK AREAS, APPROPRIATE INDUSTRY BEST PRACTICE REGULATORY REQUIREMENTS SHOULD BE MANDATORY**

Untidy gardens, mulched wood chips and debris around the house pose a great fire risk. The CFA gave a fire prevention talk pre fires that highlighted household safety and preparation tips. The content that they provided was of a very good standard.

*** PRE FIRE, LISTEN TO WHAT AUTHORITIES HAVE TO SAY AND PREPARE YOUR HOUSEHOLD PROPERTY TO MINIMIZE FIRE RISK**

Short term planning that seems to be so popular can not be sustainable in the long term. Service issues, most importantly, supplying water to houses. The current state of our water catchments are low and getting the required volume and pressure of water to provide an adequate fire fighting supply at a peak period could mean a total redesign of water utilities in some places. This would be both very costly and a huge interruption of services reconstructing the water utilities and infrastructure.

*** SHIRES, TOWNS AND THEIR PLANNERS SHOULD POSSESS MORE FORE-THOUGHT AND SHOULD PUT MORE THOUGHT INTO THEIR TOWN PLANNING AND DEVELOPMENT PROJECTS**

Comprehensive risk assessment and counter risk planning in design and construction should be undertaken when commencing a building project. Energy, water efficiency and environmental whole life-cycle planning should be considered. Rather than slapping up that

house on the subdivided block. Considerations like this have many flow on benefits such as lowering household costs for electricity, water, heating/cooling and shire rates and fees.

*** THE 6P PRINCIPAL – PROPER PLANNING PREVENTS PISS POOR PERFORMANCE**

(g) the adequacy of current response arrangements for firefighting

I am not aware of the official procedures, but from what I saw and experienced, the procedures need to be overhauled some what.

Response times and authority to act and commit resources on a more localized level would seem to be more appropriate. This waiting for authorization from head office that work from 9 to 5 and is nowhere near the fire is ridiculous.

If a fire starts, get in there and put it out.....and do as least unnecessary damage to the environmental asset as possible. Good in theory but not so in practice.

Operational control and fire fighting tactics has to be under the control of people with a high level of practical skills and knowledge built from years of personal experience. This must also be combined with the ability to source and consider latest technology and fire fighting response and techniques. They also must possess a cool head and interpersonal communication skills that keep 99.8% of the population happy, safe, of good moral and a positive attitude towards the situation present at the time.

In our fire area everything was extremely well run. Operational support was very professional, equipment was in excellent order and fire crews always felt safe with their equipment and other team members. Aerial fire control was impeded by their authorization from a control center over 60 kms away, where weather conditions were completely different down there to where we were. Thus when our local pilots knew it was going to be safe and effective to operate, hierarchy said no because where they were the conditions weren't appropriate to fly.

*** DISASTERS AND EVENTS LIKE THIS BUSHFIRE DON'T HAPPEN EVERYDAY. LESSONS CAN BE LEARNT FROM POST FIRE REVIEWS AND ENQUIRIES. BROAD THEORIES AND STRATEGIES CAN BE CONSIDERED FROM OTHER SIMILAR DISASTERS AROUND THE WORLD**

(h) the adequacy of deployment of fire fighting resources, including an examination of the efficiency and effectiveness of resource sharing between agencies and jurisdictions

My usage and experience with CFA equipment was really good. I felt 100% safe knowing that I had access to the best equipment that was in top working order and was simple to use. Logistical support was of a very high standard, which was very assuring. Simple provisions like hot meals, daily sustenance rations and adequate re-hydrating liquids were ample and of very high quality.

*** SAFETY OF HUMAN LIVES IS THE NUMBER 1 PRIORITY. CUTTING CORNERS AND COST DOES NOT ACHIEVE THIS. GOOD EQUIPMENT AND GOOD TRAINING IS THE ESSENTIAL FIRE FIGHTING ASSET**

The fire was unstoppable in Crown land. The DSE was responsible for Crown land and the CFA was responsible for private property. Working together for public asset protection such as bridges, is good policy. It was also comforting to know that if the CFA really needed help with a fire on private land and the DSE were nearby that they would give a hand.

Departmental staff were, on a whole good to work with. We helped them in asset protection back-burning. But there was a noticeable difference of attitudes between the CFA crews and the DSE crews. The DSE crews were paid and quite well at that. The CFA crews are all volunteers. Most CFA members were also locals whose livelihoods depended on the outcome of the fire. The DSE crews stopped work when their shift was up regardless of what the fire where they were at was doing. This action caused many instances where the fire which was not out of hand and burning in a controllable area got out of control, burning large areas and putting property and assets at risk. This action is just not on! CFA leaves a fire when it is safe to do so, not when they're shift is up.

*** THE CFA CONTROLS FIRES ON PRIVATE LAND vs THE DSE CONTROLS FIRES IN PUBLIC LANDS SCENARIO MIGHT HAVE TO BE TIGHTENED UP IN FUTURE, BUT STILL MAINTAIN THE FLEXIBILITY TO CALL ON EACH OTHERS RESOURCES WHEN NEEDED**

Relief crews and strike teams from all across the state and from places around outer Melbourne were of great assistance. Even with no local knowledge, they acted with the utmost professionalism, diligence and respect. Our area owes a lot to their contribution.

*** APPROPRIATE REWARDS FOR THESE MEMBERS CONTRIBUTIONS MUST HAPPEN**

Local road building contractors and a large transport firm provided water cartage to assist with fire fighting. Their presence and water supply close to the fires fronts were a critical component of the success of our operation. The driver of the large 25000 litre water tanker sat idle for nearly 3 weeks until he was needed, but when we needed him, he was there, ready willing and able. Such support is a definite winning tactic efficient and successful fire control.

*** MOBILITY OF MEDIUM SCALE EQUIPMENT IS ESSENTIAL TO FIRE FIGHTING OPERATIONS**

(i) liability, insurance coverage and related matters

One prime example of this happened on a colleagues property. He purchased the property just recently and manages the farm for its environmental and ecological values as well as for sustainable agriculture. 2 D8 bulldozers worked for 3 days 24 hours a day. Their approach to firefighting was to put it out with a bulldozer. These 2 operators committed straight out environmental vandalism. Where the fire was in his bush, it could have been diverted back on to it self by continuous control, using water when then the fire hit his pasture. One local man alone saved approximately 5 acres by just using a shovel! This spot fire could have escaped into more forest that would have in turn threatened Benambra from the South. When the bulldozer operators were confronted by the owner as to the inappropriate method of fire control and the unnecessary damage to his land, they laughed at his environmental concerns and proceeded to act even more irresponsible and continue to operate in a, lets say, a rough and uncaring way. I would like to see the contractor who did this pay for the repairs out of his own pocket. It is attitudes like this which is pushing us into an era of ecological vandalism that will doom the Earth to environmental collapse and great human suffering.

In regards to insurance companies, I've never come away from any dealings with them smiling!

*** MACHINE OPERATORS THAT WORKED AT THIS FIRE SHOULD BE PERSONALLY LIABLE FOR THE UNNECESSARY DAMAGE THAT THEY DID IN ATTEMPTING TO CONTROL THE FIRE. IT SEEMED LIKE SOME OF THEM ACTED IN A WAY TO DO THE MOST DAMAGE, KNOWING THAT THEY WOULD GET THE REHABILITATION WORK TO FOLLOW**

(j) the roles and contributions of volunteers, including current management practices and future trends, taking into account changing social and economic factors

In remote areas such as Benambra, the role of the volunteer is something that goes without question. Everybody was going to be affected one way or another by this fire. In small communities, someone always depends on another. For example – a shearer or stockman that lives in town relies on the business of the woolgrower or the beef producer. It is in his or her interest to help their fellow landholders. If a farmer gets burnt out and loses livestock, this affects everybody down the chain. The farm contractors, the local town businesses hurt because the farmer has no income and what money he does have will inevitably go into rebuilding his farm, the consumer pays a higher price for product because of supply demand principals. If food growers hurt, every body hurts.

*** NO ONE ESCAPES THE COSEQUENCES OF A NATURAL DISASTER IN A SMALL COMMUNITY**

All the women of the town that stayed in the area also helped with cooking 3 square meals a day for everyone involved. The donated time and caring from the girls, who may I add were all mature age women, was the absolute essence of people pulling together as volunteers for a common cause. Young women were also advised to leave to protect themselves and their children.

*** THE BENAMBRA FIRE FIGHTING OPERATION WAS LARGELY SELF SUFFICIENT AND CONCERN WAS SHOWN FOR THE SAFETY OF VULNERABLE MEMBERS OF THE COMMUNITY**

Volunteer fire fighters also spent quite an amount of time away from their families, who were away being safe. I myself did not see my partner for 6 weeks. Time apart in a situation like this leads to a lot of anxiety and tension. It is very hard on the other members of ones family who have all the worry of the safety of their loved ones.

*** PROLONGED NATURAL DISASTERS AFFECT EVERYONE EMOTIONALLY TO AN EXTENT**

I think that part of the disaster money from the government should go to volunteers involved in the great Australia Day fires of 2003. I would like to see every volunteer get paid at least \$150/day/man that they were involved in the fires. this would compensate for some loss of income for the whole fire period. It would also show the volunteers some appreciation for, in this instance working hard over and above their call of duty. These fires were exceptional. I would be lucky to see something of the same magnitude again in my lifetime.

The Defence Force are volunteers, they are supplied with the best equipment and training to operate with, they get paid and have a lot of extra benefits, they are taxpayer funded and it has been a long time since they were last actively used. Surely the government could give a token amount of special circumstance funding to our CFA volunteers for their role in working to protect our national assets

*** THE POST FIRE RAMIFICATIONS OF VOLUNTEERS LOSING AN EXTENDED AMOUNT OF TIME AND INCOME FOR THE BENEFIT OF THE WHOLE STATE SHOULD BE COMPENSATED**

Personally, I was so impressed with the volunteer efforts of the CFA crews that came from the Dandenongs and the Peninsula. If they were in need of help, I would be the first one there. I can't praise their professionalism and good nature enough. I give thanks.

*** TRAINING, INCIDENT RESPONSE, GUTS, DETERMINATION AND THE AUSTRALIAN WILL TO WIN, IS THE RECIPE FOR THE PROFESSIONALISM, CARE AND RESPECT FOR OUR AREA THAT THESE FIRE FIGHTERS SHOWED WHILE THEY ASSISTED US. THIS ATTITUDE COMES FROM THE HEART**

CONCLUSION AND SOME RECOMMENDATIONS

- IMPACTS FROM MAJOR BUSHFIRES AND DISASTERS HAVE COST IMPACTS FOR EVERYONE AFFECTED THAT WILL CONTINUE FOR ATLEAST 5 YEARS TO COME
- TRADITIONAL ENVIRONMENTAL AND AGRICULTURAL MANAGEMENT PRACTICES STEMMING FROM EUROPEAN SETTLEMENT INTENSIFY NATURAL DISASTERS
- SHORT TERM ENVIRONMENTAL MANAGEMENT APPROACHES WILL NOT MITIGATE DISASTER IMPACTS IN THE FUTURE
- POOR ATTITUDE TOWARDS OUR ENVIRONMENT AND TAKING OUR ECOLOGICAL ASSETS FOR GRANTED IS DETREMENTAL TO FUTURE GENERATIONS
- CURRENT FUEL REDUCTION PRACTICES DO NOT WORK
- PROPER LONG TERM PLANNING IN REGARDS TO MANAGING OUR ENVIRONMENTAL ASSETS SUSTAINABLY MUST BE A POLICY PRIORITY
- ECOSYSTEM PROTECTION BENEFITS THE WHOLE POPULATION
- HIGHER LEVEL OF RESEARCH MUST GO INTO ANY ACTIONS THAT INVOLVE INTERFERENCE TO OUR WATER WAYS AND ENVIRONMENT
- BUSHIRE FIRE MITIGATION AND PREVENTION APPROACHES MUST BE FASTER, MORE LOCALIZED
- BUSHFIRES AND NATURAL DISASTERS ARE ACCENTUATED BY THE HUMAN ELEMENT IN THE EQUATION
- DETAILED STUDY OF WHOLE FOREST MANAGEMENT PRACTICES HAS TO BE CONSIDERED AND COMMUNICATED TO ALL INTERESTED AND INVOLVED PARTIES
- WORK WITH NATURE, NOT AGAINST HER
- DON'T BE AFRAID TO FIGHT FIRE WITH FIRE
- CONSTRUCTION AND DESIGN OF BUILDINGS IN FIRE RISK AREAS MUST HAVE INDUSTRY BEST PRACTICE REGULATORY SAFETY REQUIREMENTS
- FIRE RESPONSE TACTICS HAVE TO BE FASTER
- FLEXIBILITY IN DEPLOYMENT OF FIRE FIGHTING RESOURCES THROUGHOUT A FIRE HAS TO BE CONSIDERED, YET STILL MAINTAIN THE OPEN CHEQUE BOOK TO ALLOCATE RESOURCES TO PUT THE FIRE OUT
- IRRESPONSIBLE OPERATORS HAVE TO BE MADE ACCOUNTABLE FOR THEIR ACTIONS DURING A FIRE

- **INSURANCE COMPANIES SHOULD REWARD ANYTHING THAT REDUCES RISK IN REGARDS TO PRIVATE PROPERTY PROTECTION. THEY SHOULD ALSO USE THE NO CLAIM BONUS REWARD SYSTEM FOR PROPERTY INSURANCE**
- **VOLUNTEERS INVOLVED IN DISASTERS AND EMERGENCIES SHOULD BE ENTITLED TO SOME REWARD OR BENEFIT FOR THEIR ACTIONS**