The Links between Cattle Grazing and Fuel Reduction in the Grazing Zones of the High Country

caring since 1835
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Ever since European settlement, the Mountain Cattlemen who ran their cattle in the Victorian High Country have been strong advocates of fuel reduction as one vital management tool to reduce the impact of wildfire and encourage diversity and sustainability of native flora and fauna.

The central theme of this paper is management of Victoria's public land. Management of the land is different from the management of visitors where most of the Parks Victoria budget appears to be allocated.

"The views of people with vast generational experience must be given due recognition."
MCAV submission to the 2009 Bushfire Royal Commission

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Ever since European settlement, the Mountain Cattlemen who ran their cattle in the Victorian High Country have been strong advocates of fuel reduction as one vital management tool to reduce the impact of wildfire and encourage diversity and sustainability of native flora and fauna.

The well documented devastating environmental outcomes for the high country as a result of the 2003 Alpine fires and the 2007 Great Divide fires "will take decades, even centuries perhaps" [1](.ABC Radio 774, 2009) before conservation values are restored.

Never in 170 years of continuous alpine grazing has low intensity grazing caused the level of impact to conservation values as that caused by poor public land management witnessed since the creation of the Alpine National Park.

"Fire management must be the cornerstone of public land management" (Stretton, 1939)[2] in Victoria, the most fire-prone state in the world. Low intensity, controlled cattle grazing is one of the management tools available to public land managers.

Arbitrary exclusion of an important fire management tool that comes at no cost to the fire prevention budget is extraordinary folly when "fire management is the first priority"[3] of public land managers in Victoria.

Early Beneficial Management of the Environment

When the cattlemen first came to the High Plains after 1835, they followed on from the ancient fire practices of the Aborigines and lit cool fires in the autumn after mustering.

It is widely accepted that Aborigines lit regular fires when they left the High Country after the summer moth season. These fires, plus those created naturally from lightning strikes, meant the land experienced continual fires, but at low intensity, because the fuel was burned regularly. This meant that even on the sensitive snow grass plains and in the Mountain and Alpine Ash, where hot fires cause extreme damage, deleterious environmental impact rarely occurred.

In the early days the country was similar to open parkland and this is confirmed by reports from the early explorers and settlers, writing, painting then later photographing the Australian bush. It is recorded in the ship's logs and officer's journals that they also observed fires were alight throughout the country, particularly in autumn but also in other seasons.

[1] ABC 774 Fuel Reduction Forum, comments by Kevin Tolhurst 23 November 2009
[2] Comment by Judge Leonard Stretton at the 1939 Royal Commission
[3] Personal communication from Andrew Graystone, Parks Victoria Manager, Fire and Emergency Services November 17th 2009 to Max Rheese Victorian Lands Alliance

Extract from William Hovell's Journal - Lake George to Port Phillip 1824.

> *"The plain I before spoke of I think is of some extent but the grass has not been burned and appears brown and dry. In every direction the grass is on fire, and by what we can see by their signals one to the other, by their different fires, the trees which have been barked, and occasionally coming across their tracks, I think they (the blacks) must be very numerous."* (Hovell, unknown)

Over the early years the cattlemen continued with the Aboriginal fire regimes and kept the grass trimmed down on their selections and very importantly on their runs. Grazing cattle did this in the higher altitudes and the cattlemen concentrated their burning on the lower scrubbier sections of their runs. The grazed grass lands therefore remained short and green throughout the summer and the cool fires reduced fuel loads and kept the land as open as they had found it left by the Aborigines. This in turn reduced the intensity of inevitable wildfires which cattlemen knew had the potential to threaten the grasslands with hot damaging fire events if fuel loads were not well controlled.

Howitt (1891) observed the changes that occurred after European settlement of Gippsland:

> *The influence of settlement upon forests has not been confined to lands devoted to agriculture. From the day the first pioneers drove their herds down the mountains any cause which would lessen the force of annual fires would alter the balance of nature, and thus produce new and unexpected results. The annual crop of grass was burnt off by aborigines, this tended to keep forests open and prevent open country from being overgrown. Sheep and cattle lessened the annual crop, and settlers (protected) their improvements. The valley of the Snowy River and the mountains were in many parts clothed with grass and but a few large scattered trees. After some years of occupation whole tracts of country became overgrown by forest and arborescent shrubs. The Black Thursday fires of 1851 followed from and reinforced these changes, "open forest" that had been occupied by aboriginal people became "dense scrub", and red gum woodlands declined and died. (Howitt 1891)* (Jurskis, 2006)

About 1920 'patch burning' was banned by the newly formed Forests Commission. This was ignored for some years by the cattlemen who knew the directive was not sound management. Eventually stronger application of the "no fires" rule meant cattlemen gradually ceased the practice. Many abandoned their runs as the land "scrubbed up" and became impractical, overgrown and dangerous.

Those who lived and worked in the High Country have always known that under 'modern' management (which began arguably in 1920), some areas became unsuited to even cool burning because they had increasing fuel loads. Hot fires in those areas would destroy the environment. In the absence of the Aborigines, the cattlemen knew the answer was grazing.

The areas not particularly suited to cool burning under modern management include most of the higher snow grass plains and the Mountain and Alpine Ash country. Where those areas were grazed however, they enjoyed reduced fuel loads in the event of a wildfire. As outlined earlier, before settlement, these higher sensitive areas were burnt regularly, but mostly only with cool fires.

Now that the lower areas do not have regular cool burns, (as the Aborigines carried out, or were done by nature) the higher areas need intervention management of fuel. It is needed because hot wild fire from the lower altitudes in the middle of summer will carry across the upper level grasslands that are not grazed, with disastrous environmental results.

After 1920, the buildup of fuel began, especially in the non grazed areas of the High Country. The lack of patchwork burning and cattle grazing meant that vegetation grew unchecked and gradually choked the forests with scrubby understory which shaded out the grasses and changed the viable landscape and environment forever. Wildfires, which still occurred regularly, increased in intensity, causing increased environmental damage because they were too hot.

Grazing and Fuel Reduction

Some thousands of years ago, the mega fauna became extinct in Australia so altering the fauna/flora/fire balance. We are unable to return mega fauna but some eminent people in this field have raised the possibility that cattle could be a good surrogate.

Grassland that is not grazed by cattle quickly becomes long and rank. The grass forms mats of dead material which is highly inflammable. It has been observed that on many of the ungrazed parts of the High Plains, grass mats encourage erosion when there is rain which makes deep runnels under the dead grass canopy while it is draining away.

It is instructive that in late summer, on the forest roadsides, where the grass is short and green, kangaroos, wallabies and wombats can be found, chancing their life against fast driven vehicles, rather than further back on the unpalatable grassland where it is safer for them.

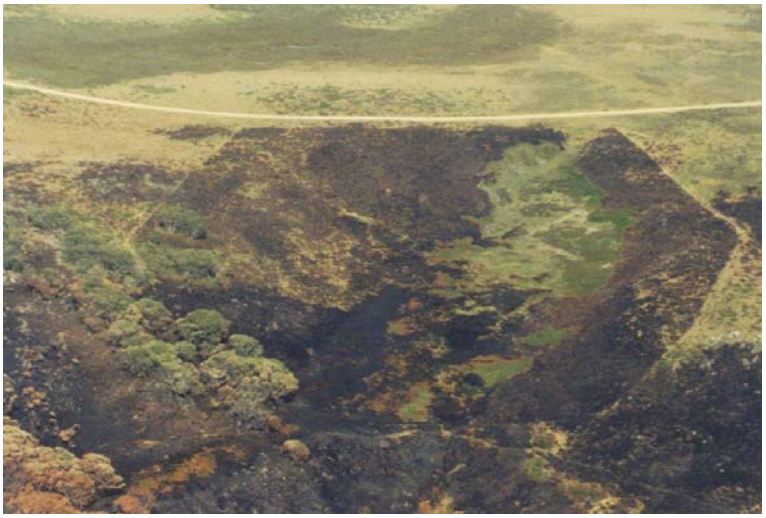
Caption: This photo was taken in Kosciusko national park where grazing had been prevented for more than 20 years at that time. The snow grass is long and matted and rotting. A wildfire would cause extreme environmental damage to the land. Grass mats of dead material are avoided by grazing animals because they know all the protein has leeched away.

Caption: The photos above were taken of Watch Bed Creek in the North Bogongs after the 2003 Alpine fires. The North Bogongs were closed to grazing in the early 1990s. Note the utter devastation of the area. Experienced cattlemen say that if the area had still been grazed, the effect on Watch Bed Creek would have been minimal.

Caption: Nunniong Plateau - Photo Commins family. The fenced plot (ungrazed) demonstrates that grazing reduces fuel loads. The visual evidence is indisputable. These plots are very important and different to the Bogong High Plains plots. The Nunniong plots are fenced with netting thus preventing grazing by rabbits and hares. The various trial plots on the Bogongs over the years have only been fenced with wire to exclude cattle but not other grazing animals. Therefore for many years, the MCAV has questioned the veracity of the Bogong trial work.

Areas in the High Country that were grazed by cattle over summers until 2005 remained short and green. It is documented and has been photographed, that Alpine wildfires in 2003, 2006 and 2009 were reduced in their intensity or actually went out when they reached grazed areas. Some scientists with a personal interest argued against these actual facts after the 2003 fires to achieve their aim which was to remove all grazing.

Caption: South Bogong High Plains - these 2 photos clearly demonstrate how the 2003 alpine fires went out when the fire reached the grazed Alpine grassland. (Simon Turner photo)



Caption: Alpine fires 2003. South Bogong - This photo clearly demonstrates how the fire only burned in the lower forest and in the fenced non grazed grassy area. The fenced plot which had excluded cattle for ten years is burned, the fire clearly stopped at the fence and the grazed area is not burned. (Simon Turner photo)

Caption: Cattle grazing on the right, no grazing on the left. Raspberry Hill, Bogong High Plains 2003

Caption: White Timber Fire – Dargo High Plains 2009. Observers at the time reported that the fire smouldered and went out when it reached the grazed areas of that forest run. (Photo Treasure family)

Now each summer, the areas of the grassy High Plains closed to cattle since 2005 have long dry matted grass which is building up year by year and will explode in an intense environmentally damaging fire. This situation has been exacerbated where recent fires have burnt, because there has been increased grass growth due to the reduction in the canopy.

Wildfire in this situation has an intensity that destroys certain trees especially the Mountain and Alpine Ash. These trees do not display epicormic growth and critically cannot produce seed stocks until maturity, when the re-growth trees are at least thirty years old.

After a high intensity wildfire, the crowns of the trees are destroyed and ash re-growth then becomes mixed with grass. Any subsequent grass fire will destroy the re-growth and that species of ash will be removed and lost, perhaps forever.

These types of hot fires also threaten sphagnum moss beds which formerly had the protection of short green grass, a result of regular grazing and before grazing, regular cool fires lit by the Aborigines and regular lightning strikes. The Bogong High Plains mountain cattlemen observed and told subsequent inquiries how grazed snow grass on the South Bogongs protected the bogs from fire in 2003. This direct observational evidence was ignored.

Caption: This sphagnum moss bed is situated in the ungrazed North Bogongs (VIC) and was burned in the 2003 Alpine fires. It reverted to grass land as the right hand picture demonstrates. Mountain cattlemen point out that no bogs were burned in the grazed South Bogongs in the 2003 fires. (Photos Simon Turner)

The MCAV has never claimed that grazing *prevents* Wildfire or reduces the incidence of fire. It rightly claims that grazing reduces fuel loads thus reducing the intensity of wildfire thus protecting the environment especially in the higher, hot fire sensitive zones.

Some concerned and independent scientists have commented that there appeared to be deliberate misquoting of the cattlemen's point of view by other scientific people during the Esplin enquiry into the 2003 Alpine fires.

The 2003 fires were one of the Alpine areas largest environmental disasters since European settlement.

> *A study following the 2003 alpine fires in Victoria (Williams et al. 2006) purported to show that grazing had not reduced fire intensities or fire occurrence compared to ungrazed areas. However fire intensities were estimated only in heath where limited grazing has little impact on vegetation (Williams et al. 2006), whilst fire occurrence in grassland was generally low (15 out of 113 points). In any case, ignition depends on the presence of fuel not the quantity. Thus the design of the study did not allow a robust test of the hypothesis, and the conclusion that grazing to reduce fuel was not justified on scientific grounds (Williams et al. 2006) is questionable.*
> *Recent modelling (sic) within the Bushfires CRC has supported the well known facts that wildfire control is easier and safer where fuels have been reduced by prescribed burning. Obviously the area and location of burning are important, but burning a small proportion of the landscape can have a significant impact on wildfire control (King et al. 2007). There is a wealth of evidence that burning and/or grazing can prevent accumulation of fuels, and affect their arrangement and their seasonal flammability. It is a well established principle of physical science that these factors affect fire behaviour and intensity. The moderating effects of fuel reduction on fire behaviour have been repeatedly demonstrated (e.g. Underwood et al 1985, McCaw et al. 2003,) therefore it is unproductive to continue to divert resources to research and modeling that tests these established facts.* (Jurskis,2006)

Reducing the intensity of wildfire protects sensitive land, vegetation and native animals from destruction. The Aborigines knew this and we need to revert to their practices.

The Positive Scientific Views on the Value of Grazing to Fire Management

There are several eminent people with scientific backgrounds who have done extensive recent work and who have raised the possibility of utilizing grazing to reduce fuel loads in

the High Country; these include Prof. Mark Adams, David Packham OAM and Prof. Peter Attiwill. It is noticeable that previous scientific work done by Harm Van Rees, Roger Oxley and Alan Wilson is never quoted by the opponents to alpine grazing.

Ongoing research by Prof Mark Adams, Dean of Agriculture Sydney University, suggests that the model of management to provide the best fuel reduction and water yield strategies for the High Country will be a combination of low intensity burning and controlled cattle grazing.

The Negative Scientific Views

A small number of scientists have submitted negative views to the Victorian Parliamentary Inquiry and many other forums about the value of grazing. This small group of scientists constantly re-quote their previous work, and have built a collaborative body of anti grazing research, which has been used to justify the removal of grazing in the Alpine National Park. This arguably colored interpretation of the evidence has become the dominant view relied upon by some environment groups and politicians. Some of this work has been described by other scientists as "less than rigorous" (see page 12.)

The MCAV urges independent readers to be mindful that there are several scientists and so called environmentalists, who have built their careers by criticizing grazing on public land and whose opinion and evidence may be tainted by dogmas and personal views. That real possibility was raised by the independent panel established in 2000 by the Department of Natural Resources and Environment.

After hearing evidence from Dr Dick Williams, a writer of scientific papers and strident opponent of Alpine Grazing, the panel found that it needed to be careful of his evidence.

> *"Though we have accepted parts of Dr Williams evidence as is set out above and further we accept Dr Williams has impressive qualifications and has written widely in the field, nevertheless the panel does take a guarded view of his evidence bearing in mind his expressed opinion that the presence of domestic livestock is inconsistent with the basic objectives of National Park Management' (T.58)* **(Dept.N.R.E.** *independent panel, Mr. Tony Graham QC, Mr. Neville Walsh, Mr. Jim McColl 2000)*

Dr William's assertion that the presence of domestic livestock is inconsistent with the basic objectives of national park management ignores the fact that Parks Victoria license grazing by sheep in the Terrick Terrick National Park and controlled cattle grazing on Snake Island, part of Nooramunga Marine and Coastal Park, for ecological and fire benefits.

Dr Williams presently is a member of the National Parks Environment and Scientific Advisory panel along with several other people who have been linked to earlier recommendations and Government decisions against grazing.

Some of this panel includes scientists who describe themselves as a collaborative group of scientists in a CSIRO fact sheet and who work together with other like minded scientists. The State Government chose to take advice from scientists connected to this group prior to it deciding to remove grazing in the Alpine National Park in 2005.

The Esplin Report

Among other activities, some of these scientists, including Dick Williams, gave advice in the preparation of the Esplin report into the 2003 Alpine fires.

The Esplin Report, following the advice of these scientists, found that the *incidence* (our emphasis) of fire was not reduced by High Country grazing. Cattlemen have never claimed this and it is a deliberate misquote of what the cattlemen have claimed for years which is "grazing *reduces* blazing" (by lowering fuel loads.) (Esplin, 2003)
This was followed up with an opinion piece in The Age, under the
name of the Commissioner and broadly stating among other things that we should get used to Mega fires. It is understood that Williams and Bradstock were involved in this. It could be argued that this was an inappropriate involvement by scientists in what was basically a political debate.
A CSIRO fact sheet prepared by a small group of scientists, including a photo by scientist Henrik Wahren states "these findings support the findings of the Esplin report etc." This can be found on various websites including Mr Wahren's. (Wahren, Williams, Bradstock, & Müller, 2006)

The modus operandi appears that firstly some collaborative scientists give advice to enquiries such as the Esplin report and then later, to strengthen their case, claim that an independent report has come up with findings which they support!

Another issue has been expressed by David Packham OAM who has raised the possibility we may be in danger of creating Alpine deserts unless frequent mild fire is re integrated into South Eastern Australia's forests. (per. Com. 2009)

David Packham AOM, (Honorary Senior Research Fellow, Monash University) writing in The Australian on February 10th, 2009 states:

> *"The decision to ignore the threat has been encouraged by some shocking pseudo-science from a few academics who use arguments that may have a place in political discourse but should have no place in managing our environment and protecting it and us from the bushfire threat.*
>
> *The conclusion of these academics is that high intensity fires are good for the environment and that the resulting mud slides after rains are merely localized and serve to redistribute nutrients. The purpose of this failed policy is to secure and uninformed city votes.*
>
> *Only a few expert retired fire managers, experienced bushies and some courageous politicians are prepared to buck the decision to lock up our bush and leave it to burn."*

Mr Packham also recently stated on ABC rural radio news that:

> *"There is a need to consider grazing as one management tool to reduce fuel.*
> *Some of the science relating to this subject has at best been careless and questionable?*
> *There is no doubt that the Mountain Cattlemen have been* ***dudded."***

The Government's position

The Parks Victoria website states

> *"The ESAG will provide independent environmental scientific advice to Parks Victoria regarding the preparation of the draft management plan for the Greater Alpine National Park."* (Rose)

It is clear that it will be difficult for Government to obtain truly independent scientific advice regarding any decision that grazing should now take a bigger role in reducing fuel loads, given the comments of the DNRE 2000 independent panel, coupled with the present situation.

The Parliamentary Inquiry

After the 2006/7 Alpine fires, the Parliament directed the Environment and Natural Resources all party Committee to enquire into the "Impact of Public Land Management Practices on Bushfires in Victoria".

The Committee took much evidence and received many submissions including the role of grazing as a tool to reduce fuel loads. It visited outlying places and spoke to experienced, practical on-ground people.

The Committee received a wealth of personal observations from people who lived and worked in the bush and knew the value of grazing. These people confirmed personally the earlier information detailed in this document. It is valuable to read the comments recorded in the report.

The Parliamentary Committee also took evidence from scientists including Dr. Williams. Addressing the role of grazing, the Committee report concludes by stating,

> *"The Committee notes the scientific evidence, that grazing may not be an effective or preferable bushfire mitigation strategy ALONE (our emphasis) but believes it can be used as a tool to complement other fuel reduction strategies on public land".* (ENRC, June 2008)

So despite receiving some scientific evidence that may have been tainted with personal opinions, the Parliamentary Committee found grazing has a place in future fuel reduction strategies.

The Peoples Review

The Peoples Review is an 82 page document initiated in 2007 following four years of extensive bushfire activity. Contributors included eminent fire experts David Packham AO and Prof Peter Attiwill. The report was written before the Feb 7th 2009 fires. It concentrated on the important issues of fuel loads, prescribed burning and the management of public land.

Addressing the issue of grazing as one method of fuel reduction the report states:

> *"Grazing reduces fuel loads; grazing and low intensity fires are necessary for the High Country, as evidenced at Nuniong plateau…" (page 16)* (Peter Attiwill, 2009)
>
> *"Recommendation 13 , The peoples review recommends that the grazing of domestic livestock on public land be honestly and objectively reviewed, bearing in mind the extent to which grazing can be managed to reduce fuel loads" (page 5)* (Peter Attiwill, 2009)

The Hon David Evans, former MLC for North East Province 1976/1996.

David Evans spent his professional life studying the issues surrounding public land and fire management. His knowledge of these issues is extensive.

> *"It needs to be stated clearly that no matter what actions man may take, in the case of resource management, there will be an effect.*
> *Graze land with domestic stock, there will be an effect.*
> *Take out the stock, it will not return to its previous state, but will become something different.*
> *Remove the aboriginal "fire stick farming" and the land will change.*
> *Take away the compensating land management of the early cattlemen, and the land will change more.*
> *Allow uncontrolled access to ferals, such as deer, goats, and particularly rabbits and great damage can be done – as has happened with camels in the Simpson Desert".(D.Evans per. com. to Graeme Stoney.15/10/09)*

> *"I believe you (the MCAV) needs to state strongly that much of the so called scientific evidence against cattle grazing is highly questionable, some ALMOST amounting to scientific fraud" (D. Evans per. com. 14/10/09).*

The Need for More Research about the link between grazing and fuel reduction

The MCAV has claimed for many years that not enough **independent** work has been done on the value of grazing in reducing fuel loads. Now, to the relief of the cattlemen, a most highly valued source of bushfire information has found that research on the subject has been "scant and inconclusive". An April 2009 "Fire Note" published jointly by the Bushfire Cooperative Research Centre and the Australasian Fire and Emergency Service Authorities Council states:

> *"The existing evidence about whether the combined effects of fire and grazing are effective in managing fuel loads and fire risk was scant and inconclusive."* (Bushfire Cooperative Research Centre, Issue 32 June 2009)

As well, Prof Mark Adams recently released a summary of progress of some current scientific work on the Victorian and Snowy (NSW) High Plains called 'High Fire'. Under the heading "Roles of prescribed fire and grazing in mitigating bushfire risk" Prof Adams states,

> *"We began our work with a thorough review of previous research. That review highlighted two main points: (1.) while there have been studies of grazing in the high country, there is a clear lack of research into the interaction of grazing with prescribed fire and (2) some of the research that is cited as being the 'evidence base' for major policy decisions, including decisions to remove or retain cattle grazing, could not be regarded as rigorous (i.e. well replicated at adequate scale) if judged by today's standards."* (Adams, 2009)

The document goes on to restate that there was a clear lack of replication of studies that are held to prove that grazing has a net deleterious environmental impact.

Given Prof Adams preliminary work, (which is continuing) it is important Governments revisit previous decisions as regards grazing, and grazing interaction with fire and fuel management.

Prof Adams concludes in the summary of the 'High Fire' document that:

"It will not be a surprise to many that some preconceived and city driven perceptions of fire and grazing in the High country are poorly based. The High Fire experiments need much longer periods of time before they can provide definitive evidence. That said, the early data are encouraging insofar as they have at least raised legitimate questions about many of the assertions of the past" (Adams, 2009)

The Challenge

Grazing is but one of a suite of options to reduce fuel loads on public land and all should be carefully considered. Grazing of public land is practical and very effective in areas where even cool fire is not the best option (given the doubtful track record and long term effect of modern management).

How grazing is implemented as a valuable management tool will be a challenge for the Government. Given the situation identified above, The MCAV is left with no doubt that the "science", has been hijacked by small determined groups who have personal agendas to remove grazing because it does not fit with their ideologies of national parks in Australia. Given this circumstance, this opportunity should be revisited by the Government.

It is worth remembering that many important National Parks throughout the World, including Australia, are grazed by domestic animals so the absence of grazing is not a World standard requirement for national parks.

The Need to Make Early Decisions

The present situation is that if the Government now realizes that grazing *is after all a valuable management tool, especially for fuel reduction and then wishes to reinstate grazing, they would need to do so quickly for at least two reasons.*

First and foremost *is the need to reduce fuel loads in the High Plains grass land (those areas formally grazed). This is especially important in the Mountain and Alpine Ash where high thick grass is a threat to the Ash re-growth following several recent fires. Grass grows very strongly after a fire as the tree canopy and competition is reduced.*

Secondly*, should the decision to return grazing to assist management in the High Country be stalled or discarded, too much time will pass and the learned skills to achieve managed grazing will be lost. There will not be people left who know how to put cattle up and bring them back down again and maintain a stewardship over the High Country.*

The following recommendations have been submitted to the 2009 Bushfire Royal Commission by the MCAV.

6.6 Recommendation to the Royal Commission

6.6.1 Well managed grazing can assist in fire management by controlling re-growth, and that grazing is a viable method of reducing fuel loads.

6.6.2 Grazing should be used as a management tool and incorporated into fire management plans developed by local management committees.

6.6.3 Cattlemen operating grazing licences maintain a close link to the topography and environmental conditions and this adds to the extent of local knowledge that is so important during bushfires and other emergencies.

The MCAV submission makes the following strong point:

"The views of people with vast generational experience must be given due recognition"

Conclusion

The management of public land including fire management has been a source of constant debate since European settlement.

Almost from the start, the views on land management of the people living and working in the country have differed from those of people living in urban environments.

Central to the debate is the effect of the inexorable changing of previous land management and the creation of large areas of national parks. Currently 55 per cent of all public land in Victoria is managed under the national park estate. It is clear the actual management policies of land in these massive parks are influenced by ideology and are grossly under resourced. It is also clear that much of the valuable local management knowledge built up since settlement has been ignored and mostly lost.

NB: Management of the land is different from the management of visitors which is where most of the present Parks Victoria budget appears to be allocated.

The MCAV argues that the important debate outlined in this paper has been clouded by ideology and extraordinary and unbalanced campaigning by some scientists and conservation groups. There have been comments from informed people that their case lacks rigour and substance.

The Mountain Cattlemen's heritage and culture developed over more than 170 years, and even more importantly the value contributed by their grazing cattle have been the victims of this ideologically driven campaign.

The documented successive failures of fire management on public land in Victoria's High Country over the last six years requires a rigorous examination of all policies and management tools available to public land managers.

Continuing implementation of current flawed management policies, in the view of the MCAV, will never result in good environmental outcomes. An enlightened approach, based on independent research, would enable land managers to fulfil their statutory obligations under section 17(2) (aa) and (b) of the National Parks Act:

> *(aa) Have regard to all classes of management action that may be implemented for the purpose of maintaining and improving the ecological function of the park;*
>
> *(b) Ensure that appropriate and sufficient measures are taken to protect each national and state park from injury by fire;*

RECOMMENDATION AND REQUEST

Given the imperative that fire management is the cornerstone of public land management in Victoria and the stated first priority of public land managers, a strong case exists for the State and Federal Government to commission a truly independent scientific study to establish an evidence based view of the link between grazing and fuel reduction on all types of public land in Victoria including National Parks.

MCAV February 2010

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