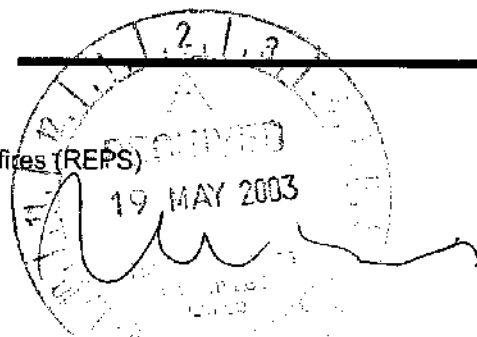


Newsome, Si



From:  
Sent: Saturday, 17 May 2003 4:52 PM  
To: Panopoulos, Sophie (MP); Committee, Bushfires (REPS)  
Subject: Bushfire Inquiry

House Select Committee on the recent Australian Bushfires, Department of House of Representatives, Parliament House Canberra 2600.

RE: Bushfires of the summer of 2003

I would like to be given the opportunity to appear before the Inquiry. There are many instances that have to be addressed following the recent bushfire disaster of the summer of 2003, if is only my intnetion to address a few of these.

1. Conditions that led up to the fires.
2. Politics that caused the conditions that led up to the fires.
3. Ability of the CFA and DSE to put out a large fire at present or in the future.
4. Where to next?

My background.

Left school in 1974 and for the following ten years worked in the bush of Gippsland as a commercial beekeeper. Joined the CFA in either 1974 or 1975 and remained an active member until I resigned in 2001 because I couldn't find the time for all the training deemed necessary.

Late 70's became involved in the conservation movement, taking stands against such things as the damming of the Franklin River in Tasmania and took a stand against abuses within the timber industry. Also took a stand against the absence of care for the environment from the conservation movement in regards to their uncaring opposition to the protective burning advocated by most experienced bushmen.

A Hindu proverb-

You can't conserve something you don't love,  
You can't love something you don't understand,  
You can't understand something you don't know.

I have great sympathy for the human loss and suffering associated with the fires, however I have confined the majority of my submission to the environmmetal devastation which could be best described as a "programed cockup".

THE INQUIRY MUST ADDRESS THE ENVIRONMENTAL DEVESTATION CAUSED BY AN UN-NATURAL BUILD UP OF FLAMABLE FUELS WITHIN THE FOREST ENVIRONMENT.

THE INQUIRY MUST ADDRESS THE HUMAN SUFFERING AND LOSS CAUSED BY THIS BUILD UP PREVENTING EFFECTIVE SUPPRESSION OF THE FIRE ALSO.

THE INQUIRY MUST SHOW THEY HAVE CLEARLY ADDRESSED THESE ISSUES.

1. Conditions that led up to the fires.

It is well understood outside of the Cult Mentality of the Green Movemnet that an increase in fuel loads leads to an increase in fire intensity. There are many references to this, the following comes to hand-

In the papers from Fighting Fire with Fire, a symposium on fuel reduction burning in forests, 17th September 1983, R G Vines from the CSIRO Division of Forest Research says-

"The total release of heat from a fire has been specified by Bryam (1959) in terms of fire intensity, I." "The term I measures the heat output of a line of fire per unit of time, and since R, the rate of fire spread, is in many instances proportional to the fuel concentration w (McArthur 1967), it follows that I is proportional to w squared. Thus, if fuel concentrations are increased by, say, a

factor of 10, the fire intensity or rate of heat evolution may be increased by a factor of 100."

People who have lived their lives working in the bush, many of them from families with a few generations in the area put it simpler. They have been saying that if we don't do the protective burning that our eucalypt forests appear to have evolved with (from Aboriginal and lightning source) then fires will be devastatingly hot, of an intensity that makes suppressing them impossible under drought and bad weather conditions and this will cause environmental suffering, human suffering and property loss.

THE INQUIRY NEEDS TO CLEARLY SHOW THAT THEY UNDERSTAND THIS.

#### RECENT HISTORY

The following is taken from an article I wrote for the newsletter of the Bairnsdale Field Naturalists in 1993. It gives a brief insight into some of what could have been learnt from the 1939 fires but wasn't learnt within government circles.-

People within the conservation movement on various occasions have suggested that as we don't know enough about the burning practices of the Koories to use fire as a forest management tool.

"What can be said with some confidence is that Aboriginal people throughout Australia used fire as a very important tool for managing their environment and used it with a great deal of knowledge and skill. What is not known for Victoria, in any more than the broadest terms, is how, when, where and why they used fire and what effects these fires had." Charles Meredith - Fire in the Victorian Environment, A discussion Paper. 1988.

First we should try to come to an understanding of the relationship between eucalypts and fire in the Australian and Gippsland environment. The plant kingdom has some strange relationships and conflicts between competing species as any gardener who has studied companion planting will understand. Many plants have mechanisms evolved to eliminate competition. Pine roots give off chemicals that inhibit competition which partially explains the minimum of other plant species competing for nutrients in pine forests. The response to competition for nutrients shown by pines may be quite common in the plant kingdom.

When the first settlers came to the midwest states of America they found a curious distribution of trees and prairie grass. Forests were growing side by side with treeless prairie with no differences in soil or topographical differences to explain it. The distribution of vegetation was never understood until it was found that some of the prairie grass species produced toxins that inhibited symbiotic fungi necessary for the wellbeing of the forest trees. This is an excellent example of the complexity of relationships within the plant kingdom and how a species or vegetation type evolves mechanisms to gain dominance over their competitors. (reference Organic Gardening and Farming, October 1966.)

If we think in this context and realise that eucalypts and fire had a simbiotic type relationship in pre-European times, we have the best hope of gaining an understanding of the Australian and Gippsland ecology.

Eucalypts, with the exception of the ash type species are considered fire tolerant, but they could be best thought of as fire promoting. Many of the species shed large quantities of bark, leaves and twigs and these contain chemicals which inhibit their breakdown by bacteria or fungi. They also have a very great drying effect on their local environment and this, combined with their tendency to create highly flammable litter loads on the forest floor greatly aids the fire that eliminates the eucalypts competition.

Various studies of pollen types and carbon levels in lake and bog sediment throughout southern Australian have shown an increase in the diversity and amount of eucalypt pollen with a noticeable increase in the amount of carbon taking place from 40-120 thousand years ago. It

is generally accepted that the increase in carbon levels is associated with the coming of the aboriginals and their practice of using fire for hunting and to modify their environment. The pollen studies suggest that originally eucalypts were a minor species and with the coming of the aboriginals became dominant.

For two decades prior to the 1939 fires Victoria's public land was either under the control of the Forests Commission or the Department of Crown Lands. The fact that there were two bodies is significant because because it caused two different land managements in relation to fire.

The areas of forest in the catchment of the rivers that Melbourne depended on and areas of prime timber were predominantly under control of the Forest Commission and the isolated areas of public land along the Great Dividing Range to the East of the state were under the control of Crown Lands.

For nearly all of the twenty years prior to the 1939 fires the Commissioner of Forests was a Mr A V Galbraith. His views on protective burning by graziers leasing public land were expressed in a publication called "The Gum Tree" in 1926.

"The noted fire raiser by selfish design is the grazier, especially the licensee of Crown Lands. In fairness to the great number of graziers who realise their interests and obligations in the preservation of our forests, this term will be confined to those who, either holding authority from the Crown, or illegally grazing on afforested lands without authority, have no conception of such interests and responsibilities.

Such a man is the scourge of the forest. His only concern is the fattening of his beasts of profit, and certainly not of the economic welfare of his country. Therefore he fires the forest regularly for his own purpose, for grass and muster, destroying whole tracts of country bearing untold wealth of valuable timber trees, in every stage of growth."

Graziers leasing land from the Forest Commission were forced to give an undertaking that they would not burn their leases and it soon became apparent to these experienced bushmen that it was unsafe for both man and cattle in the forest as litter built up and their value for grazing soon deteriorated. The vast majority of leases on land under the control of the State Forest were not renewed and the protective burning of the graziers soon stopped.

Graziers leasing Crown Lands simply had to give an undertaking to protect their leases from fire. This was generally done in the isolated areas along the Great Dividing Range to the East of the state by protective burning, generally carried out in the autumn.

So for the twenty years preceding the 1939 fires two quite different fire regimes were applied to public land.

An extract from the minutes of the Royal Commission into the 1939 fires support this-

John Alexander Cameron, pages 702-703-

Question: Do you still have grazing licences in Crown Lands as well as in forest areas?

Cameron: I have them only in Crown Lands at present. I did have grazing interests in the forest area but let them go on account of the Fire (Forests) Commission's fire restriction policy.

Question: When did you do that?

Cameron: Some years ago- as soon as it became apparent that the forest was dangerous to put stock into.

On Black Friday, January the 13th 1939 and during the proceeding week the predominance of forest on public land along the Great Dividing Range from Melbourne to the New South Wales border were burnt in the fires.

The value of protective has been questioned by many modern authors, however none that I am aware of seem to be aware of the beneficial effects of the protective burning carried out by mountain cattlemen previous to the fires of 1939.

Areas such as the Central Highlands of Victoria where cattlemen were prevented from burning from the early 20's suffered enormously. There was massive destruction to the timber resource and the environment generally. Throughout large areas of the Central Highlands eucalypts seem to have been eliminated from whole areas. The destruction in these areas either resulted from fires killing the mature trees in either 1926 or 1932 and the 39 fires killing the regrowth before it had a chance to set seed or it simply became too hot because of the build up of litter.

In areas to the east of the state where burning practices were carried on up till 39 there was considerably less destruction. A submission to the Timber Industry Inquiry by the Department of Conservation, Forests and Lands, on December 4th 1984 (page 47) stated that the 1939 forest fire, which devastated a large proportion of the mountain ash (*E. regnans*) forest type in Victoria, caused a major disruption of wood flows in the state. The fires set in train an initial concentration of sawmill activity on the salvage of fire-killed mature resource, followed by a relocation in the post war years of sawmilling activity from the central forests to the eastern and alpine forest areas of the state.

This was a change from the central forests under control of the Forest Commission where there was massive destruction to the forests under control of Crown Lands where protective burning minimised destruction.

The fire passed through the area of the Great Divide from Mt Skene to Omeo during the extreme weather conditions of Black Friday.

THE 1939 FIRES DEVASTATED AREAS WHERE THE GOVERNMENT HAD STOPPED GRAZIERS DOING PROTECTIVE BURNING AND LEFT MATURE TIMBER STANDS IN THE ISOLATED AREAS WHERE MOUNTAIN CATTLEMEN HAD CONTINUED THEIR BURNING PRACTICED. THE PROTECTED ASH STANDS WERE THE BASIS FOR GIPPSLANDS ASH TIMBER RESOURCE FOR THE NEXT 50 ODD YEARS. THE BURNING PROTECTED THE ENVIRONMENT TO A LARGE DEGREE IN THE AREAS IT WAS CARRIED OUT.

INITIALLY GOVERNMENT PRESSURE TO STOP PROTECTIVE BURNING RESULTED FROM TIMBER INDUSTRY PRESSURE AND NOT GREENIES.

2. Politics that caused the conditions that led up to the fires.

The problems that led up to the catastrophe could be best described as detached decision making.

(a) Previous and present governments with members and electorates predominately detached from the bush by distance.

(b) Governments pursuing the vote of a Green Cult detached from reality and understanding of the ecology.

(c) Governments detached from accountability and responsibility.

(d) Timber industry influence.

(a) Forest management is increasingly being driven from the city with little understanding of the consequences and little care. City based politicians seem to have no understanding of basic forest ecology.

(b) THE GREEN CULT

I have had an association with various conservation groups and with the exception of the Tasmanian Wilderness Society of the late 70's and early 80's I have encountered none who appeared to be genuinely concerned with the environment.

We are seeing massive ecological destruction to the forests and the rivers are equally suffering with the effects of siltation, fine sediment, ash and charcoal on the aquatic life. We are seeing a Green Cult apparently uncaring and uncaring if it continues to happen.

I quote from a Mt Beauty farmer, quoted in "A case of Burning Neglect, A report from North East Victorians regarding the 2003 bushfire crisis.-

"If you look around you can't see a bird or wild animal for miles.  
The whole place looks like it has been sterilised."

I have spoken out against the timber industry in the past and would like to clearly state that I believe that clearfelling is environmentally far less damaging than the devastation advocated by the Green Cult.

(c) Governments detached from accountability and responsibility. Someone has to be responsible for the economic loss, human suffering and ecological devastation and responsible for preventing a repetition.

The cheapest short term "management" may actually be place the land under the mismanagement of the National Parks Service who do very little. It is then subject to an absence of management which is supposed to be natural. There seems to be a belief that regular fire isn't natural and when I have subject those with this view to analysis, its my view that they have no rational basis for this absence of management. This mismanagement suits the city based Green Cult and this is politically correct.

A change to National Parks means a loss of resource available to the timber industry and this means a loss of highly skilled machinery operators available in the event of a fire.

(d) Timber industry influence.

The annual reports of the Forests Commission and its predecessor for the 40 odd years prior to 1939 clearly indicate that it was timber industry pressure that drove the anti protective burning push that greatly contributed to the devastation of the 1939 fires. Even today, it is generally believed that the protective burning that the early cattlemen carried out in the Alpine Ash stands can't be effectively done even though it is clearly evident that it was done with excellent results.

The use of the farce that clearfelling represents the natural devastation of wildfire to justify the ecological devastation has also contributed to the belief that the timber stands in the higher rainfall areas shouldn't be protectively burnt.

The timber resource has suffered from the stupidity of the timber industry as the environment has suffered from the stupidity of the environmentalists.

3. Ability of the CFA and DSE to put out a large fire at present or in the future.

CFA

I spent a fortnight at the fires, a week in Mt Beauty and a week at Swifts Ck, I have never seen dissatisfaction amongst the CFA volunteers like it is at present.

I was a member of the Briagolong CFA from 1975 until 1996 when I moved to Seymour and transferred to the Trawool brigade. In 1998 I transferred back to Briagolong when I returned there again to live. Both changes required me to undergo a Criminal Record Check, something a skilled volunteer should not have to go through when transferring from one brigade to another.

In 1999 I moved to Warrendyte South and enquired about transferring to the local brigade, it was either Warrendyte or Warrendyte South. I was told that they were very short of volunteers and I would be very welcome and asked to come down to the station on the Sunday morning. I turned up at the station and saw one group of people polishing an immaculate truck and another group scrubbing an immaculate floor.

I was told that I would have to come down to the station three Sunday mornings from 9am until noon a month and one night a month. I presume it was to scrub an immaculate floor and polish an immaculate truck. I didn't have time for such activities so remained a member of the Briagolong brigade until 2001.

I have had close to 30 years experience working in the bush, have a heavy rigid truck licence, experience in driving CFA tankers and other trucks in the bush as well as other skills that would have been very useful in an urban fringe brigade.

I resigned from the CFA in 2001 because I couldn't keep up the necessary training while moving around Victoria working.

When I attended the fires at Mt Beauty I was able to work efficiently on night shifts on unfamiliar CFA tankers with crew I hadn't previously met. Many of the crew had been working long hours for many days previously and my availability was greatly

appreciated.

When I enquired about re-joining the CFA for the fires I was told that "it would take a month to get a Criminal Record Check done on me". Both recent checks had been negative as I don't have any criminal record.

I maintain very good levels of physical fitness and have a very good capacity for physical work such as can occur at fires.

I quote from "A case of Burning Neglect. A report form North East Victorians regarding the 2003 bushfire crisis."-

"The 2003 bushfire crisis provided an unambiguous indication that the role of the CFA volunteer has been thrown on the junkheap in favour of highly paid, under motivated fire fighters governed by an Occupational Health and Safety strategy that leaves fire fighters far from harm and productivity."

I fully support the above quote from "A Case of Burning Neglect".

DSE

Twenty years ago the then Department, whatever it was called, with the co-operation of the CFA, could have had the lightning strikes out in a few days. Today they don't have the understanding or motivated manpower.

During the early 90's I spent four summers on the summer crew of the Department of Conservation and Natural Resources and during that time we were trying to oppose the requirement that overalls be worn at all times at fires. The overalls made it extremely hard and fatiguing to do physical work such as required to put in a rake hoe line. We were told that we had to wear them to protect against radiant heat. Heat exhaustion is a far greater concern and we believed a two part trousers and full sleeve shirt combination was the most suitable.

Extinguishing the fires in the early stages would have required a reasonable number of motivated, physically fit people, unhindered by irrational dress codes. It would seem that in this day and age the understanding doesn't exist amongst those in charge of the fires of the value of a rake hoe line combined with back burning. The understanding required for successful backburning doesn't seem to exist nor does the confidence.

DSE STRATEGY

The best description of the fire fighting strategy that I heard of was "Throwing money at it until it rained".

I constantly heard of dozer lines put in on ridges with no intention to burn back and when the fire jumped the lines the uncontrolled "control lines" were simply moved to another ridge.

There seemed to be no understanding of the relationship between fire behaviour and weather. The more extreme the weather the greater the rate of spread of the fire. During weather conditions when a meaningful contribution could be made towards putting the fire out very little was done, during adverse weather very little could be done.

Back burning from rake hoe, dozer lines or roads is the only way to put out fires of this nature.

THE INQUIRY MUST ESTABLISH THE DEGREE THIS IS UNDERSTOOD WITHIN THE PEOPLE PAID TO OVERSEE THE EFFORT TO PUT OUT FOREST FIRES.

THE INQUIRY MUST HAVE SHOWN IT HAS DONE THIS.

UNDER PRESENT CONDITIONS EXPERIENCED CFA CAPTAINS WITH SUFFICIENT KNOWLEDGE TO MAKE DECISIONS ARE BEING PREVENTED FROM BEING ABLE TO WORK EFFECTIVELY IN THIS RESPECT.

It's my view that the use of water bombing planes on fires of this magnitude is not as cost effective as men on the ground, properly managed, back burning from established control lines.

Water bombing planes may be excellent in the early stages when the fire is small and in particular in remote areas.

THE INQUIRY MUST ESTABLISH IF IT IS UNDERSTOOD THAT THE WATER BOMBING PLANES ARE ACTUALLY EFFECTIVE IN THE EARLY STAGES OF FIRE SUPPRESSION AND TO WHAT DEGREE THEY WERE INITIALLY USED.

#### THE FUTURE

We have to raise our understanding of the ecology to manage it, we can never do this if we think we already understand.

The following was written in 1992 for the Bairnsdale Field Naturalists newsletter and I include it in the hope it will give a small insight into the complexity of the Victorian ecology.-

The controlled use of fire during autumn and spring as a means of reducing the intensity of summer fires and thus aiding their control has been subject to much controversy for many years.

It has been suggested that too frequent a fire regime may lead to loss of species diversity, loss of soil nutrients and a number of other ecological problems. Various research efforts have supported or suggested this, but most experienced bushmen who, by observation have concluded the opposite, that too infrequent a fire regime has caused these problems.

Rarely, if ever, is there black and white in conflict, just two sides partially right, to varying degrees who refuse to acknowledge the areas where the opposing side may be right. Perhaps that is the case here. But what can be said with a degree of certainty?

If anyone looks through the journals of the explorers and pioneers of this country, there is no doubt whatever the aboriginals used fire extensively and regularly to modify their environment. Geoffry Blainey in his book "Triumph of the Nomads" dedicates a chapter to their use of fire and its effect on the Australian environment. Eric Rolls in his book "A Million Wild Acres" likewise devotes a chapter to the subject.

Both reach the same conclusions-

Triumph of the Nomads p77 " The burning of large areas of Australia at least once in every few years was not simply the result of breakaway fires. In many regions the hunters seem to have set fire to the grasslands for the same reasons that the farmers plough and fertilize the soil. They were cultivators, using fire in the hope of producing lush grass for the game when the next showers fell."

Eric Rolls quotes from a number of sources and concludes-

"Every explorer, almost every early writer, commented on fire. Later explorers commented when they found unburnt areas" "It seems impossible to exaggerate the amount of burning in Aboriginal Australia."

Space doesn't allow the quotation of many of the numerous first hand references but two have been selected. Explorer, Major Mitchell in his "Journal of an Expedition into the Interior of Tropical Australia" (1848) said

"Fire, grass, kangaroos and human inhabitants, seem all dependant on each other for existence in Australia, for if any of these being wanting, the others could no longer continue... But for this simple process, the Australian woods had probably contained as thick a jungle as those of New Zealand or America, instead of the open forests in which the white man now find grass for their cattle. The omission of the annual periodical burning by natives, of the grass and young saplings, has already produced in the open forest nearest to Sydney, thick forests of young trees, where, formerly, a man might gallop without impediment."

The second reference is Edward M Curr in his book "Recollections of Squatting in Victoria" He wrote extensively about the changes in grassland and forest as well as changes in the natural balance of insect life resulting from the dispossession of the Aborigines from the land and their management of the land with fire having stopped.

"As the state of this continent is gradually undergoing some changes consequent on our introduction of the domestic animals of Europe, so, as I have already said, it seems to me that its condition when we took possession of it, was largely attributable to the customs of the aboriginal inhabitants. Small in number- a few hundred thousand- their existence, at first glance, would seem inconsequential. Mere hunters, who absolutely cultivated nothing- the spear, the net and the tomahawk- could have produced no appreciable effect on the natural products of a large continent. Nor did they; but there was another instrument in the hands of these savages which must be credited with results which it would be difficult to overestimate. I refer to the fire-stick; for the blackfellow was constantly setting fire to the grass and trees, both accidentally, and systematically for hunting purposes. Living principally on wild roots and animals, he tilled his land and cultivated his pastures with fire; and we shall not, perhaps, be far from the truth if we conclude that almost every part of New Holland was swept over by a fierce fire, on average, once in every five years."

There are many other sources of information in explorers and pioneers notes that either in combination or singularly indicate much of Australia was subject to regular burning, either accidentally or intentionally in pre-European times.

However this should be qualified. It would appear that much of the present Strzelecki Ranges as well as much of the rest of the upper reaches of the Latrobe River may have been too wet to burn except in an unusually dry year. Any arguments put forward that the Aboriginies regularly burnt the land are not intended to relate to these areas.

Locally, in Gippsland, perhaps the notes presented to the Royal Society of Victoria by Alfred Howitt in 1890 give us the best understanding of the effects of Aboriginal burning. Howitts notes were printed in one of Bairnsdale Field Naturalists previous newsletters so I won't quote directly from them. Howitts notes can be summarised by simply stating that he put forward a strong case to indicate that extensive areas of Gippsland were burnt very regularly.

There are numerous sources of observations of Aboriginal burning and notes on the changes associated with the dispossession of them from their land. How can there be the conflict that there is today about the use of fire and suggestions that prescribed burning may be too frequent?

Let us first try to understand Aboriginal burning regimes and the ones of Europeans that followed. I spoke with the late Phillip Pepper, Aboriginal elder and a person who had gone to a great deal of trouble to understand the ways of his ancestors. He told me that the Gippsland Aboriginies left strips around swamps and along rivers, creeks and gullies unburnt as habitat for the game that they hunted. Open grassland in between was burnt regularly to maintain conditions favourable to the game that they hunted.

The first thing in support of what Phillip Pepper said is that the burning regime that he describes is the one most suited to the hunter-gatherer life style of the Aboriginies. While the kangaroos and other game they hunted liked the open grassland for feeding, they needed the security of the cover along streams and the like for shelter. Swamps without a vegetation cover around them wouldn't attract the nesting water birds.

The second thing in support of this burning regime is the recording of similar burning practices around Australia. George Augustus Robinson recorded similar burning practices by the Tasmanian Aboriginies, they put out fires around copses of vegetation to retain shelter for the game.

A R King in a paper titled "The influence of colonization on the



forests and prevalence of bushfires in Australia" quotes from many first hand observations of early navigators and explorers. One is included here- Stokes, L Discoveries in Australia. Voyage of HMS Beagle during 1837-43 (1846)

P228 Near Albany, WA "On our way we met a party of natives engaged in burning the bush, which they do in sections every year. The dexterity with which they manage so proverbially a dangerous agent as fire is indeed astonishing. Those to whom this duty is especially entrusted, and who guide or stop the running flame, are armed with large green boughs, with which, if it moves in a wrong direction, they beat it out. Their only object in these periodical conflagrations seems to be the destruction of various snakes, lizards and small kangaroo, called wallaby, which with shouts and yells they thus force from their covert, to be dispatched by spears or throwing sticks of the hunting division." "I can conceive no finer subject for a picture than a party of these swarthy beings engaged in kindling, moderating and directing the destructive element, which under their care seems to almost to change its nature, acquiring, as it were, complete docility, instead of the ungovernable fury we are accustomed to ascribe to it."

Something further that supports this burning regime are the descriptions of the land in records kept by pioneers and explorers that first came into Gippsland. Alick Hunter's party came into Gippsland in 1844, crossing the Great Dividing Range from the north-east of the state to come into the headwaters of the Barkly River. This he followed till he reached the Macalister River. He describes open grassland on the hills away from the river and describes the river banks in this manner:

"All the rivers here are enclosed in thick scrub, which extends generally about a quarter of a mile on each bank, which is so thick that you are obliged to cut your way through with an axe. It was long after dark when we camped, and as we could not get through the scrub we had no water, and consequently no supper, as we had no bread baked."

Further support for what Phillip Pepper said about the Aboriginies leaving strips unburnt to retain cover for gam comes from W A Brodribb, "Recollections of an Australian Squatter". He led a party into Gippsland in 1842 looking for grazing land. Starting in the Port Albert area he travelled extensively through much of the South Gippsland area and into Central Gippsland.

"we came to a rather large river, lined with large gum trees, and a dense forest of small trees and shrubs of great variety- extending for more than a quarter of a mile on each side of the river at intervals;" "Outside of the scrubs were long grassy plains, intersected occasionally with belts of forest."

He traveled fairly extensively and made the following statement- "The natives had burnt all the grass at Gippsland late in the summer. Heavy rains must have fallen before we reached there in March (Autumn). The whole country was very green. It had the appearance of young corn fields; the young grass was about six inches high.

This supports Howitt's contention of "Annual burning" and supports statements by authors such as Eric Rolls that we can't overstate the extent of Aboriginal burning.

While traveling through thinly timbered grassland Brodribb refers to his journey being impeded by "tea tree swamps" a reference to the impenetrable vegetation around swamps etc.

Seasonal timing of present and past burning regimes probably doesn't get questioned to the extent it should. According to Howitt it was forbidden for the Gippsland tribes to eat emu eggs. This stands to reason, eat an emu egg and you lose a potential emu, a much greater feed. Also if you carry out widescale burning when the emus (or other ground nesting birds) are nesting then you drastically reduce the

adult population. Having studied a great number of references to Aboriginal burning one thing is apparant, there are very few references to burning in the season of spring.

A report prepared for the Minister of Forests titled "Fire Protection and Fuel-Reduction Burning in Victoria" gives a breakdown on areas burnt as a monthly percentage for Victoria in the nine years from 1972/3 to 1981/2. The figures quoted are for the Eastern and Central Forest Divisions of the state.

	E	C
July	0.0%	0.0%
August	2.1%	0.0%
September	48.9%	9.4%
October	19.4%	35.9%
November	8.1%	1.0%
December	6.2%	19.3%
	84.7%	65.5%
January	10.3%	11.8%
February	.01%	8.0%
March	.08%	7.8%
April	3.8%	6.8%
May	.03%	-
June	.-	-

Fire is necessary to germinate many native species and it is likely that there has been a shift from summer/autumn burning in pre-European times to spring burning in European times. Plants germinating in late summer or autumn have all winter to establish roots. Plants germinating in spring are going straight into summer. There has been a shift back towards autumn prescribed burning so the above figures may not be fully representative of the situation today.

Anyway, the Aboriginal people were dispossessed and their burning regimes stopped. European land use was quite different. Strips of vegetation along rivers, streams and swamps etc. were a harbour for animals that competed with their introduced livestock and ate any crops the early settlers planted. Fire was perhaps the best way of reducing these dense vegetation strips however fires in the grassland were a threat to huts and fences so these were discouraged. Perhaps when Europeans dispossessed the Aboriginies fire management reversed to a degree, we'll probably never know.

In the land not suited to agriculture miners were a source of fire but they were perhaps less discriminating than the Aboriginies had been, and in a lot of cases less frequent. Vegetation types that had once been restricted to the river banks and similar areas become more extensive. Eucalypts became far more widespread and dense forests sprang up where it had previously been only sparsely timbered. (refer Howitts notes).

Gippslands forest areas are probably vastly different today than pre-European times for a number of reasons. It can be said with a degree of certainty that fires are far less prevelent now than pre-European times. However changed fire management may be as great a cause of ecological change as reduced fire frequency.

I haven't discussed the effect of lightning fires on the ecology nor the effects of their supression. There is a great deal that I don't understand so would be happy to hear from anyone that has views on any aspect of the subject of fire and the ecology.

I will finish with anotheer quote from "A Case of Burning Neglect"

"I've been observing this countryside for 66 years but the experts tell me thatthey know the land better than I do"-  
Tallangatta Valley farmer.

We will learn far more from our elders who have lived in the bush and observed it than we will from a lot of the university educated. Neil Barraclough