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To The Secretary, Senate Standing Committee

Re senate inquiry into the operation of the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999:

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Scope of this Submission

This submission concentrates on point 5 of the senate inquiry into the operation of the Environmental Protection and Biodiversity Consservation (EPBC) Act 1999: specifically;

"the effectiveness of Regional Forest Agreements, in protecting forest species and forest habitats where the EPBC Act does not directly apply; "

Executive Summary:

Section 38 of the EPBC Act specifically exempts Regional Forestry Agreements (RFA's) however, the RFA's are still supposed to protect endangered species. This submission will demonstrate that the structure that has been put in place to replace the EPBC Act in Victoria depicted in Figure 1 below is failing to deliver its environmental protection requirements at most levels and this is having a devastating effect on our rare, threatened, endangered and critically endangered species.

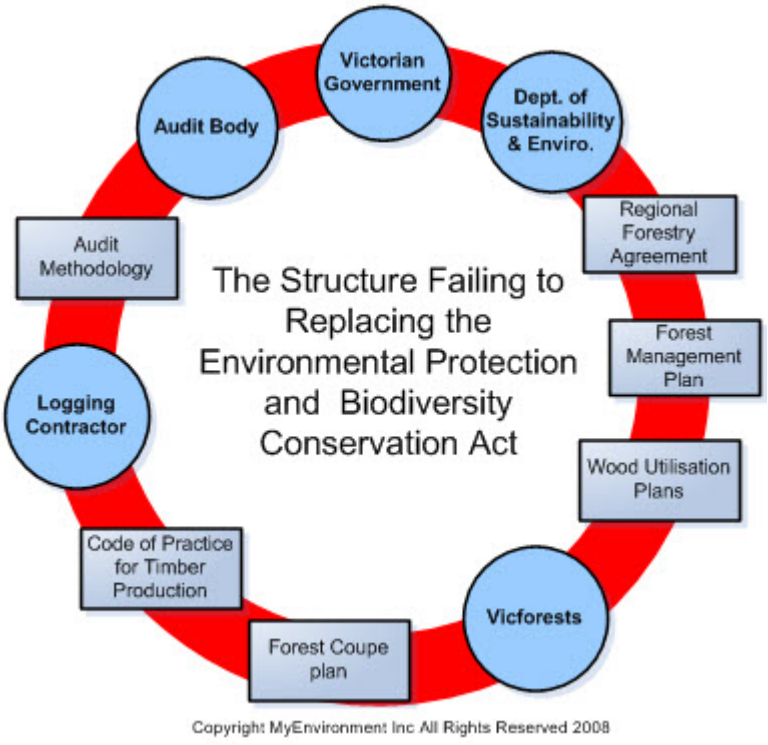

Figure 1: The Structure failing to replace the environmental protection and biodiversity conservation Act in relation of Regional Forestry Agreements

This submission shows that the process under the RFA is failing to protect endangered species and in fact the RFA's have not been reviewed since being introduced.

We strongly recommend that exemption of any native forest logging be taken out of the EPBC Act and that it is made much more prescriptive in its wording so as to protect our endangered species

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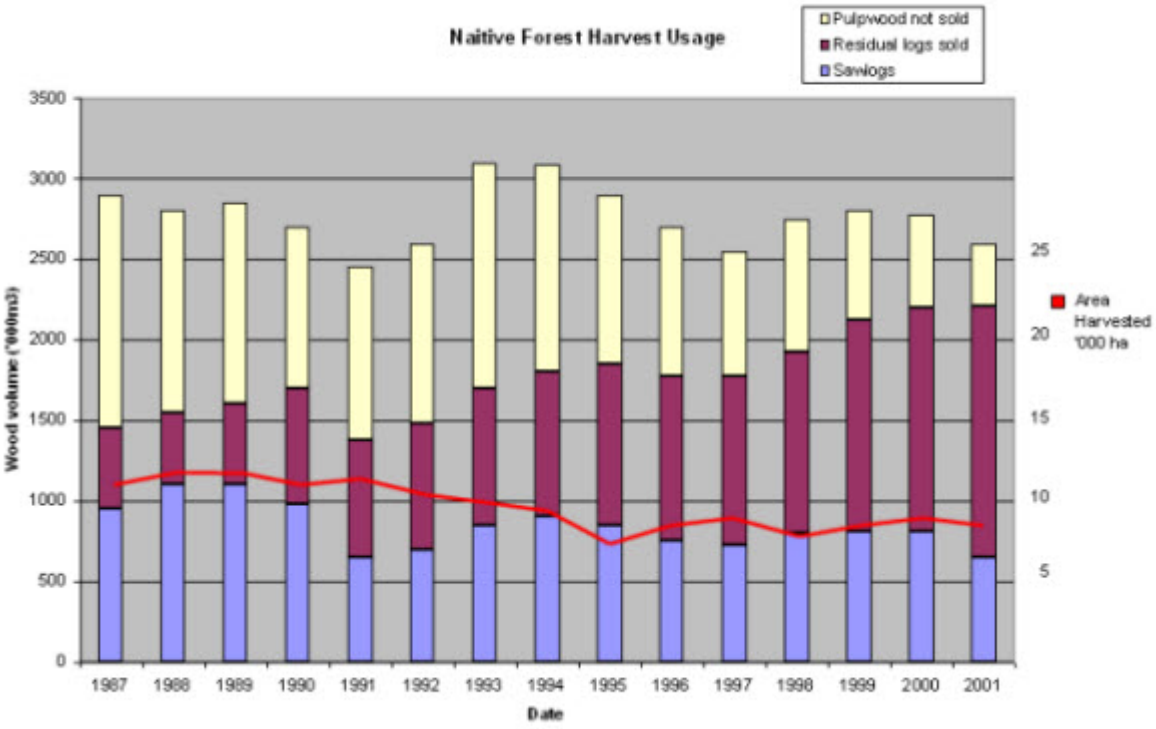
Victorian Government

Since the signing of the Regional Forest Agreements (RFA's) successive Victorian governments have continued to support the transition of the high value, labour intensive, native forest logging industry to one of woodchip driven, low value, low labour, commodity market. Today approximately 80% of all timber being "harvested" from native forests is now going to export or domestic woodchip.



Source: Annual Reports of the Forest Commission (1979 to 1983) and Dept of CFL to 1989, 1990 to 1995 area data from regeneration treatment figures, 1996 to 2001 areas harvested provided from NRE (unpublished reports).

The Victorian Government have encouraged this transition via contracts with industry such as the wood pulp agreement with Paperlinx which guarantees wood supply for as little as $7 per tonne whilst available plantations remain in the ground which would cost approximately $35 per tonne. Meanwhile tax payers are subsiding the native forest woodchip industry by paying for transport, the value of water lost from logging catchments, government staff and roads. Due to this loss of value in the industry Vicforests last year (Vicforests Annual Report 2007) posted a net loss of negative $15,000 from a 99 million dollar turnover.

This transition has seen government agencies and forest management legislation progressively skew regulations and guidelines to favour the wood chipping of native forests however, the environmental protection of threatened and endangered species both in the legislation and in a practical on the ground application have been widely ignored. The faith by the Victorian government in the structure underpinning the Regional Forest Agreements has been uplifted by audits carried out by the Environmental Protection Authority (EPA) however, these audits have been found to be statistically un representative and biased towards logging operations rather than environmental objectives. This is covered in more detail in the EPA section of this submission.

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References:

Vicforests Annual Report 2007
http://www.vicforests.com.au/documents/VicForests%20Annual%20Report%202007.pdf

GLP Woodlot Project 2002

Annual Reports of the Forest Commission (1979 to 1983) and Dept of CFL to 1989, 1990 to 1995 area data from regeneration treatment figures, 1996 to 2001 areas harvested provided from NRE (unpublished reports).

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Department of Sustainability and Environment

The Department of Sustainability and Environment (DSE) are responsible for identifying areas of native forest to be logged in order to fulfil the governments contractual agreements with industry and these are allocated to a wood utilisation plan. In order to assess areas for potential environmental sensitivities one would expect the minimum requirement to be an on the ground survey of such areas however, often these surveys are only conducted from the air. This has lead to significant areas being allocated for logging when they should not be.

The following is a summary from appendix 1 – Baw Baw Report Chapter 9 Rainforests
http://www.myenvironment.net.au/index.php/me/content/download/1103/6626/file/bawbawreportchapter9.pdf

> The issue of rainforest conservation has been the centre of intense environmental debate for several decades. The escarpments of Mount Baw Baw contain several Rainforest Sites of Significance and these have been impacted by forestry operations, especially in the construction of the South Face Road. This chapter provides an overview of the issues and the impacts of forest management on rainforest sites throughout the Mount Baw Baw area in the following:
>
> • By providing recognised definitions of Rainforest (Section 9.2)
>
> • Listing Rainforest Sites of Significance around Mount Baw Baw (Section 9.3)
>
> • Describing inconsistencies between scientific surveys and the Central Highlands Forest Management Plan listing Rainforest Sites of Significance (Section 9.4)
>
> • Rainforest Sites of Significance and the Impacts of road construction and Logging (Section 9.5)
>
> • The impacts of Logging Cool Temperate Mixed Rainforest (Section 9.6)
>
> The construction of the South Face Road has resulted in the degradation of a Rainforest Site of State Significance through the permanent removal of a section of the stand. The infection of the fatal pathogen 'Myrtle Wilt' in the forest following the intrusion significantly furthered the degradation. In addition, the extensive clearfelling of Cool Temperate Mixed Rainforest has also changed the floristics' of the region. These rainforest communities provide important habitat and refuge for the Baw Baw Frog

In a more practical example an area of forest allocated by DSE was marked out as a coupe by Vicforests which included rainforests. An independent report (Appendix 2 Royston range scientific proof that rainforest was planned to be logged) conducted by Practical Ecology and paid for by not for profit charity The Central Highlands Alliance Inc showed that the rainforest did exist and the coupe boundary was the subsequently moved.

The Central Highlands Alliance inc also commissioned a report on the Baw Baw region called the Baw Baw report. This report is highly relavant to the current senate enquiry as it details may of the values in the Baw Baw region that would be protected by the EPBC Act if section 38 were omitted.

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The following is a summary of Appendix 3 Baw Baw report chapter 2– Values of Mount Baw Baw
http://www.myenvironment.net.au/index.php/me/reports/baw_baw_report/chapter_2_values

During the early 1980's, the Ministry for Conservation carried out several studies and surveys on the Central Gippsland region of Victoria to identify sites of natural significance. The results of these studies were published in several reports and all identified Mount Baw Baw and its associated escarpments as containing sites of outstanding natural value. These are listed below:

• Site of Global Zoological Significance (Section 2.2)
• Site of National Botanical Significance (Section 2.3)
• Site of National Geological and Geomorphological Significance (Section 2.4)

Further to these, later studies by the Commonwealth and Victorian Governments revealed that the area surrounding Mount Baw Baw also contained:

• Sites of National Estate Value (Section 2.5)
• Sites of Landscape Value recognised under the National Trust (Section 2.6)

This chapter explores the significance of each of these attributes and provides reference to the source documents from which they are detailed.

Environmental assessments may be conducted in areas of high environmental value however, through the freedom of information act a not for profit charity called the Central Highlands Alliance Inc in conjunction with Lawyers for Forests Inc discovered that critical chapters from environmental assessments of areas prior to DSE allocating regions for logging were not only suppressed but had the chapters which recommended no logging in certain areas removed.

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The following is a summary of the Baw Baw Report chapter 5 Supressed Science
http://www.myenvironment.net.au/index.php/me/reports/baw_baw_report/chapter_5_suppressed_science

Suppressed Science

Summary

In late 1993, the then Department of Conservation and Natural Resources (DCNR) completed a study, 'Ecological Survey Report No.46 - Flora and Fauna of the Eastern and Western Tyers Forest Blocks and Adjacent South-Eastern Slopes of Baw Baw National Park, Central Gippsland, Victoria' (Davies et al 1993). The report was the first DCNR ecological survey for the Central Highlands' Gippsland area and was carried out by the Flora and Fauna Survey Team set up by the State-wide Planning Policy Advisory Group – an initiative of the then Minister for Conservation, Forests and Lands. The report was commissioned as the result of public concern over the potential impacts of major road networks and logging on environmental values in the forests of the Central Highlands of Victoria. The report initially comprised of the following chapters:

1) General aspects of the Upper Tyers River Catchment

2) Vegetation

3) Mammals

4) Birds

5) Amphibians and Reptiles

6) Fish

7) Butterflies

8) Conservation of Flora and Fauna

9) Significant Communities and Habitats

10) Effects of Land Use Activities on Flora and Fauna

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11) Biologically Significant Sites and Wildlife Corridors

Upon the publishing of the report in 1994, Chapters 8, 9 and 10 were removed. Chapter 11 became Chapter 8, however, the biologists' recommendations for the management of Biologically Significant Sites and wildlife corridors were removed in Chapter 8. Upon being published, the report was withdrawn by the DCNR, and what remained of chapter 8 (originally chapter 11) and the map locating the sites, were removed. The report was reissued with the pages of chapter 8 and the map simply 'missing'. The removal of this information prevented forest management from being adequately informed about the significance of the region (Hansard 1999). Since then, the Upper Tyers River Catchment has been subject to extensive clearfell logging. The Central Highlands Alliance Inc. located the deleted chapters and presents their findings and recommendations below. The following also provide testimony of why the chapters were deleted. These are covered in the following sections:

• Purpose for reporting on the Upper Tyers River Catchment (Section 5.2)

• Details of the 'Deleted; Chapters (Section 5.3)

• Biologically Significant Sites and Wildlife Corridors (Section 5.4)

• Significance of Sites Identified (Section 5.5)

• Why were the Chapters and the Map detailing the Sites deleted? (Section 5.6)

• What are the Impacts? (Section 5.7)

• Sites of significance as outlined in the Central Highlands Forest Management Plan (Section 5.8)

• Implications for future management (Section 5.9)

The Chair of the Senate hearing on the Regional Forest Agreement Bill described the act of suppressing this information as a fairly serious charge (Hansard 1999). It reveals that forest management acted in the interest of meeting 'unsustainable' timber and pulp license commitments at the expense of forest biodiversity and the public good.

The chapters that were removed by the DSE contained areas that are outlined in the aforementioned Baw Baw report and some contained critically endangered species and areas of national geomorphological significance specifically;

Baw Baw Frog

The following is a summary of the Baw Baw report Chapter 3 Baw Baw frog
http://www.myenvironment.net.au/index.php/me/reports/baw_baw_report/chapter_3_baw_baw_frog

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Victoria's Only Endemic Frog

Summary

The Baw Baw Frog (Philoria frosti) is endemic to Mount Baw Baw and its associated escarpments and is listed under the IUCN red list as 'critically endangered (IUCN 2004). The confinement of the Frog to the mountainous environment of Mount Baw Baw predisposes it to rarity as they have a restricted distribution (Hollis 2004). The species has recently experienced a massive population decline and is extremely sensitive to logging and other forms of environmental stress (Hollis 2004). In

1996, the majority of the current known population was found on the western and southern escarpments of Mount Baw Baw. These forests were to be logged under existing licensing arrangements. In response to the discovery and given the significance of the Baw Baw Frog, the Department of Sustainability and Environment (DSE) proposed a 'scientific logging experiment' to take place in these forests to determine whether the frog can survive a 'logging operation'. This experiment will be further explored in Chapter 6.

This chapter will provide an overview of:

• Key findings of current scientific research on the Baw Baw Frog (Section 3.2)

• The cause of the decline in the species' population (Section 3.3)

The Full chapter can be found in Appendix 4 of this submission or by visiting the following link; http://www.myenvironment.net.au/index.php/me/content/download/1095/6602/file/bawbawreportchapter3.pdf

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Leadbeaters Possum

The following is a summary from The Baw Baw Report Chapter 7 the Leadbeaters Possum
http://www.myenvironment.net.au/index.php/me/reports/baw_baw_report/chapter_7_leadbeaters_possum

Victoria's Faunal Emblem

Summary

The Leadbeater's Possum is a small arboreal marsupial that is one of the significant species inhabiting the forests surrounding Mount Baw Baw. It was thought to be extinct for the first half of the 20th Century until it was rediscovered in 1961 (Lindenmayer and Possingham 1996). Upon its rediscovery near Lake Mountain in 1961, the known global population range of the Leadbeater's Possum is currently restricted to the Central Highlands of Victoria. These include populations throughout the Mountain Ash, Shining Gum, Alpine Ash Forests and Snow Gum Woodlands surrounding Mount Baw Baw (Lindenmayer and Possingham 1996, DSE 2003, DSE BioMap 2006). The species is listed as 'Endangered' under the IUCN red list and its population trend is in decline (last count as of 2006 stands at approx. 2,500 individuals) (IUCN Red List). It has been widely documented that clearfell logging poses a serious threat to the survival of the species through the loss of hollow bearing trees. As most logged sites around Mount Baw Baw are clearfelled, the forest structure has been undergoing dramatic change rendering the landscape unsuitable for the species to inhabit. These issues are explored in the following sections:

• Habitat requirements for the Leadbeater's Possum (Section 7.2)

• Impacts of Logging on the Leadbeater's Possum at Mount Baw Baw (Section 7.3)

• Impacts of Logging on Dead Stags (Section 7.4)

• Surveys at Tyers River West Branch (Section 7.5)

• Protection requirements for the Leadbeater's Possum (Section 7.6)

A significant number of Leadbeater's Possum colonies have been found around Mount Baw Baw that fall outside the Zone 1A Special Protection Zones set aside under the Central Highlands Forest Management Plan. These unprotected colonies are under extreme risk of being destroyed by logging as the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 has exempted all logging carried out under a Regional Forest Agreement (RFA). A number of these colonies fall within the boundaries of the coupes listed as part of the Baw Baw Frog Logging experiment

The full PDF of this chapter can be found in Appendix 5 of this submission or by clicking on the following link
http://www.myenvironment.net.au/index.php/me/content/download/1098/6611/file/bawbawreportchapter7.pdf

Geology with National Significance

The following is a summary from chapter 8 of the Baw Baw Report regarding the dynamiting of the Torres of National Significance
http://www.myenvironment.net.au/index.php/me/reports/baw_baw_report/chapter_8_south_face_road

All in the Name of Tourism

Summary

In 1995, the then Department of Natural Resources and Environment (DNRE) began substantial works of its largest and most complex infrastructure project, the South Face Road (EPA 2001). The majority of the road straddles the mid southern escarpments of Mount Baw Baw within the Upper Tyers River Catchment and opened previously inaccessible forests for logging. The purpose of the South Face Road was to provide a permanent transport route to move timber from coupes west of Mount Baw Baw to mills located in the east (EPA 2001). These include the

major Gippsland facility, the Maryvale Pulp Mill and the Neville Smith Timber Mill at Heyfield. The construction of the road has had a wide spread negative impact on the sites of significance along the escarpments of Mount Baw Baw. These include increased erosion and turbidity for the many rivers in the region, degradation of Rainforest Sites of Significance (detailed in Chapter 9), degradation of Sites of Biological Significance (detailed in Chapter 5) and the destruction of Sites of National Geological and Geomorphological Significance through rock blasting. This chapter provides an overview of:

• The EPA Tyers River Catchment Audit Findings (Section 8.2)

• Onsite observations made by The Central Highlands Alliance Inc (Section 8.3)

• Quarrying of Granite Tors (Section 8.4)

• Assessment of Quarrying made by Neville Rosengren (Section 8.5)

The construction of the South Face Road poses a severe environmental risk to the region. As the granodiorite derived soils in the region are highly susceptible to erosion, several sections of the road have 'collapsed', exposing the Upper Tyers and Tanjil River Catchments to continued erosion and increased sedimentation. The road has also permanently fragmented the forest, disrupting connectivity for 'non-flying' species, such as the Leadbeater's Possum, to forage (Lindenmayer and Franklin 2002).

The full version of this chapter can be found in Appendix 6 of this submission or by clicking the following link
http://www.myenvironment.net.au/index.php/me/content/download/1099/6614/file/bawbawreportchapter8.pdf

Following the removal of the chapters by the DSE the sustainable yield for logging in Victorias forests were calculated and wood pulp agreements signed.

When logging commenced in areas containing the critically endangered and IUCN red listed Baw Baw frog the central highlands alliance submitted reports to government and flew leading amphibian research scientists to talk to government. The DSE proposed 'Adaptive management' experiments to see if the last 2000 of the species would survive clear fell logging . Due to the efforts of not for profit organisations and unpaid volunteers 5500ha of this area have now been made a protected zone.

Incredibly when the South face road slipped into the Tyers river the Torres of geomorphological significance that were located in cleared logging coupes were dynamited to fix the road.

The recovery team for the Leadbeaters possum was supposed to be managed and outcomes implemented by the Department of Sustainability and environment. This has failed to occur at any meaningful level.

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The 600 km Fire line

The DSE illegally continued logging firebreaks through national parks and endangered species habitat. Again this was brought to the attention of the federal government by not for profit volunteers.

A precautionary measure or a political stunt? The jury is out on whether this fuel break is anything more that timber grab?

Deep in the heart of Victoria's Central Highland's wilderness, a vast fire containment line 270 km long and up to 90 metres wide has dissected forests and National Parks. It cuts through endangered species habitat and pristine ecosystems to allegedly buffer Melbourne's water catchments against the future threat of a bushfire.

The selling of the logs taken from these forests raises the question whether the control lines are an abuse of the state's emergency powers to allow the logging industry to access logs that would be otherwise out-of-bounds. There have also been questions asked by fire fighters whether the line itself increases the fire risk.

The final fire breaks are proposed to be permanent and run for 600 kms with widths of 20-60 metres. These highway sized scars traverse mountains and ridges fragmenting National Parks and state forests. Habitat of Nationally listed endangered species such Leadbeaters Possum and the Baw Baw frog have been clearfelled and the logs sold. Both of these actions are in direct breach of Federal and State laws. The bark and other vegetation has been piled into 'Uluru' sized mounds to decompose, risking further ignition. Last February, one of these piles was struck by lightning. The fire was so intense, bulldozers and other fire fighting equipment were unable to get near it.

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The fact that bush fires spot kilometers ahead of a front questions the effectiveness of using the break to back burn into wet forest. The state's Environment Minister, Mr Thwaites, has been unable to support this measure as having any scientific basis. However, the logging industry has taken massive volumes of very high quality timber.

In the 2003 bushfires, the illegal logging of the Snowy River National Park saw the Victorian Auditor General investigate the theft of thousands of tonnes of logs from the Park. He was highly critical of the process which allowed this to happen and the clear conflict of interest in hiring a logging company boss to oversee the back-burn line. It appears that the state government is now happy to oversee the very same type of looting operation.

There is no scientific literature that supports back burning in wet forests as these wet forests already contain micro firebreaks like fallen wet logs, luxuriant damp understorey, rainforest gullies and water rich mosses and lichens. These combine to cradle our water catchments. Prescription burning these forests will result in drying out and destroying these very attributes that impede fire.

It has been suggested by the scientific community that the most likely reason why Melbourne's catchments haven't burnt yet is due to their vast, undisturbed old growth forests. The bulk of the state's forests have been logged over the last century, transforming them from moisture-rich, diverse, old growth forests to fuel heavy, thickly regenerating tree crops of the same age and height. This is turning our forests into a tinder-box which makes them even more fire-prone. 'Control burning' is not the answer; we need sensible forest management that is not dominated by the demands of the logging industry.

It is clear from these reports and examples that the Department of Sustainability and Environment are fundamentally failing to implement environmental protection of significantly endangered species under the Regional Forest Agreements

References

The BawBaw Report
The Central Highlands Allinace Inc
http://www.myenvironment.net.au/index.php/me/reports/baw_baw_report

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Regional Forestry Agreement

In relation to endangered species recovery, environmental protection the agreement is failing to protect or enforce any guidelines. Logging and woodchip interests are being pandered to. The RFA's were supposed to be reviewed every 5 years for their effectiveness on protecting endangered species and this has not taken place for a single RFA in Victoria since they were signed.

Forest Management Plan

The forest management plans were supposed to be reviewed every 5 years and to date there has not been a review.

A sustainable yield assessment was supposed to have been conducted 2 years ago but this has not taken place.

Baw Baw logging rates were supposed to be massively reduced due to over logging but this has not been enforced.

Wood Utilisation Plans

Public safety zones are now making it very difficult for any public scrutiny

Vicforests

Lack of training of staff in identifying ecologically significant areas and species such as rainforest and Leadbeaters habitat. We have been told by people that do the surveys that they are not suitably trained to identify areas such as Leadbeaters habitat.

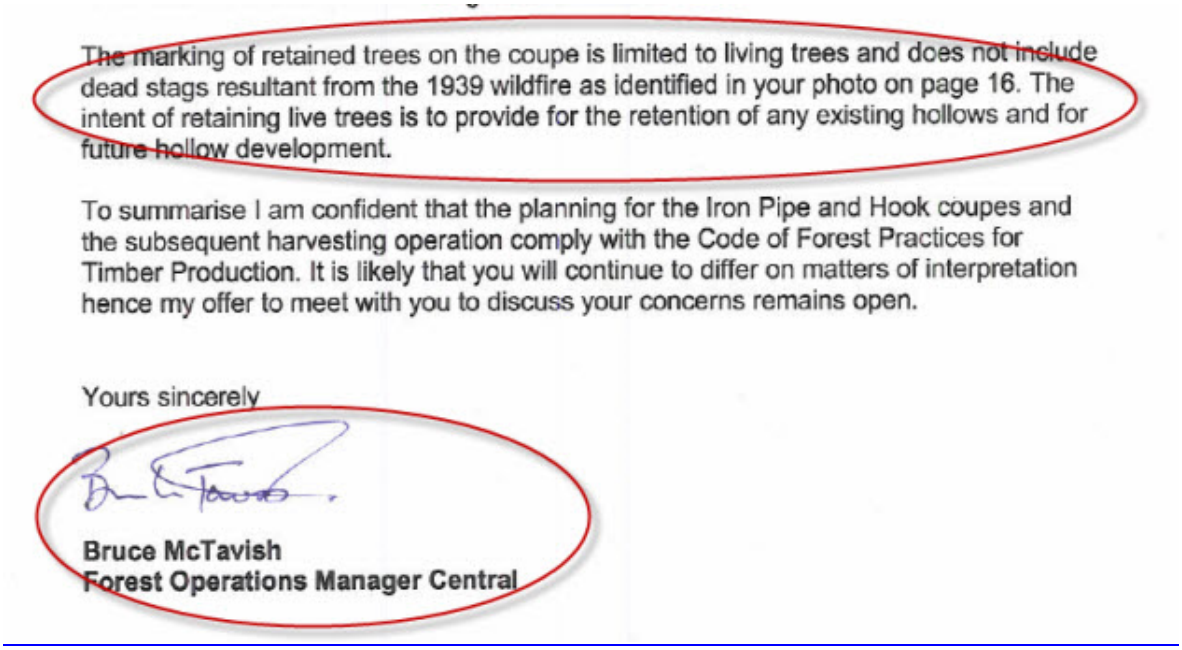
Forest Coupe Plan

The code of practice for timber production states that instructions on the coup plan must be followed. However in the Royston Iron Pipe coupe review we found that Leadbeaters habitat trees were not marked with tape as per the coupe plan. See Appendix 7 Royston Report

As a potential breach of the Code and therefore at the time a potential breach of the law we were instructed by the DSE to contact Vicforests ie those that had breached the law to discuss this with them!

Incredibly the response from the Vicforests manager stated that under his interpretation of the code that when it came to the endangered Leadbeaters possum they should only retain "Living" habitat trees not dead habitat trees since they fall over

This is a detailed view of Vicforests plan to buldoze a road through zone 1a endangered leadbeaters habitat and then take out zone 1b because their interpretation of the code is that you only keep living trees as habitat trees not dead ones where the possums currently live.



The marking of retained trees on the coupe is limited to living trees and does not include dead stags resultant from the 1939 wildfire as identified in your photo on page 16. The intent of retaining live trees is to provide for the retention of any existing hollows and for future hollow development.

To summarise I am confident that the planning for the Iron Pipe and Hook coupes and the subsequent harvesting operation comply with the Code of Forest Practices for Timber Production. It is likely that you will continue to differ on matters of interpretation hence my offer to meet with you to discuss your concerns remains open.

Yours sincerely

Bruce McTavish
Forest Operations Manager Central

This is a perfect example of how the entire RFA process is failing to protect endangered species on the ground because the regulations are open to interpretation and that interpretation is being used to benefit wood chipping interests rather than protect endangered species.

The Governments response is always that the EPA audits show that there is good compliance with the code and therefore nothing to worry about but as discussed in detail in the audit section of this submission. All audits are done after the clearfell logging operation is complete so in this specific example there would be no evidence that the dead habitat trees containg the endangered species ever existed.

Code of practice for Timber Production (Code)

There is a complicated interaction of documents and beaurocratic departments which make up the regulation and enactment of logging operations. These include:

• The Regional Forest Agreement (RFA)

• The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act),

• The Forest Management Plans (FMP) for forest Management Areas (FMA)

• The code of forest practice for timber production (CODE)

In all cases the RFA's over ride the EPBC Act, the Forest Management Plans in some cases over ride the Code. In cases where the EPBC Act would not allow logging the RFA's are allowing it.

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Background:

In the face of an environmental catastrophe fuelled by industry self regulation that would have destroyed Australia's "clean green image" and Australia's reputation on the international timber market, in 1989 almost 200 years after the first tree fell the Victorian Parliament ratified the first Code of Forest Practices (Code) for timber production in Native forests.

In 1996 the code was re written but contained ambiguous wording and was open to interpretation allowing government regulators to encourage native forest practices to support logging for wood chipping.

Clauses in the 1996 Code made much of the implementation meaningless e.g. The definition of guidance on page 9 is "Forest mangers are not obliged to conduct any of the actions covered under guidance" although "Guidance" made up a large amount to the practical environmental on the ground protection.

The Code was reviewed in 2006 but rather than strengthening the original premise to protect the environment the Department of Sustainability and Environment introduced measures such as "thinning" which clearly transition the native frosts from a state of nature to one of intensive agro forestry namely for wood chipping.

The code was recently reviewed and re released in 2007. A detailed review of the proposed changes was conducted by The central highlands Alliance Inc read more.

The 1996 code stated that native forests are not to be converted to "timber production", whilst the revised code does not make this as clear and in fact focuses more heavily on "timber" conversion activities like:

- Thinnings
- Fertilizers
- Intensive harvesting practices
- Seed selection

It was identified by many environmental not for profits including The Wilderness Society, ACF and TCHA that the new code was being massaged to encourage forest practices that would benefit wood chipping and adversely affect biodiversity. Despite previous undertakings that the code would prevent the transition of native forests to production plantations the new code has 21 references to "Thinning" which is regular heavy machinery disturbance of the forest to thin out the number of trees and type. Much of the understory and critical food source for many endangered species is being destroyed during this process.

In other words the current revised code is focusing more heavily on converting native forests to "timber production" than on protection of the environmental values For this very reason the 2007 revised code was opposed by environmental groups who submitted concerns to the independent consultancy GHD. Unfortunately the Department of Sustainability and Environment used these comments to further close loop holes in the code. The Labour government of the time tried to rush the changes through and the changes to the code were illegally gazetted by the Victorian Environment minister of the time the Hon. John Thwaites (Ironically of legal background). Hence it wasn't passed till 2007.

Unfortunately the current code does not have a structure that reflects the bureaucracy that governs it.

The code is ambiguous because it references many other documents that govern it whilst those governing documents are much less prescriptive and much less binding.

A detailed review of the background section of the revised code and a review of the revised 2007 code is found in appendix 8 and appendix 9 of this submssion

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References:

A review of the background section of the 2007 Victorian code of forest practice http://www.myenvironment.net.au/index.php/me/submissions/victorian_code_of_forest_practice/a_review_of_the_background_section_of_the_2007_victorian_code_of_forest_practice

A Review of the 2007 Victorian Code of Forest Practice
http://www.myenvironment.net.au/index.php/me/submissions/victorian_code_of_forest_practice/a_review_of_the_2007_victorian_code_of_forest_practice

Logging Contractor

Encouraged to remove dead habitat trees for occupational health and safety reasons.

Audit Methodology

The Central Highlands Alliance ('TCHA') – a **regionally based environmental group** has spent considerable time and effort reviewing the EPA's Environmental Audit of Timber Production on public land and the audit process. In particular, TCHA have paid close scrutiny to the sampling methodology for coup selection and have provided the previous environment minister, the EPA and more recently SKM with numerous areas for improvement. **We wish to advise that based on a statistical analysis of the current coupe sampling methodology used by the EPA for the 07/08 Environmental Audit of Timber Production on public land that it is not possible to compare audit results between years**. This conflicts with the premise of the audit which is to show that the logging industry is demonstrating continuous improvement. read more

TCHA believe that there has been a short fall in the Environmental Audit of Timber Production on public land **process as it does not focus on environmental issues (**as detailed in Attachment 1 1.4 Shortfall in Audit Process page 5) **TCHA would like to suggest that to balance this short fall the government consider requesting the EPA to focus on auditing proposed logging coupes for the 08/09 audit (**i.e. auditing the coupes this year before they are logged next year). Specifically focusing on aspects such as endangered species habitat, old growth, and rainforest. Then, after the logging takes place next year and once an environmentally representative audit has been designed for the new code, (rather than measuring the number of drains and whether the log landing was dug up) the auditors could assess whether the logging practice breached significant environmental issues i.e. the core premise of the code of forest practice.

A detailed review of the Audit process can be found in Appendix 11 in this submission as can recommendations to make the audit more relevant to protection of endangered species in Appendix 12

Finally due to a delay in the review process there will not be an audit for the 07/08 year.

References

Forest Audit Program Failings
http://www.myenvironment.net.au/index.php/me/submissions/forest_audit_program_failings

Audit Body

The audit body to date has been appointed by the EPA

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Appendix

Appendix 1 Baw Baw Report Chapter 9 – Rainforest

http://www.myenvironment.net.au/index.php/me/content/download/1103/6626/file/bawbawreportchapter9.pdf

9.0 Cool Temperate Rainforest and Forest Management

9.1 Introduction

The issue of rainforest conservation has been the centre of intense debate for several decades. The escarpments of Mount Baw Baw contain several Rainforest Sites of Significance and these have been impacted by forestry operations, especially in the construction of the South Face Road. This chapter provides an overview of the issues and the impacts of forest management on rainforest sites throughout the Mount Baw Baw area in the following:

- By providing recognised definitions of Rainforest (Section 9.2)
- Listing Rainforest Sites of Significance around Mount Baw Baw (Section 9.3)
- Describing inconsistencies between scientific surveys and the Central Highlands Forest Management Plan listing Rainforest Sites of Significance (Section 9.4)
- Rainforest Sites of Significance and the Impacts of road construction and Logging (Section 9.5)
- The impacts of Logging Cool Temperate Mixed Rainforest (Section 9.6)

The construction of the South Face Road has resulted in the degradation of a Rainforest Site of State Significance through the permanent removal of a section of the stand. The infection of the fatal pathogen 'Myrtle Wilt' in the forest following the intrusion significantly furthered the degradation. In addition, the extensive clearfelling of Cool Temperate Mixed Rainforest has also changed the floristics' of the region. These rainforest communities provide important habitat and refuge for the Baw Baw Frog.

9.2 Definitions of Rainforest

In an attempt to clarify the ecological status of Rainforest Communities in Victoria, Cameron (1992) states the consensus made by ecologists and used by the Ecological Society of Australia:

> The rainforests are defined ecologically as closed, broadleaved forest vegetation with a continuous tree canopy of variable height, and with a characteristic diversity of species and life forms. The ecological definition of rainforests includes transitional and seral communities with sclerophyll emergents that are of similar botanical composition to mature rainforests in which sclerophylls are absent.

In its subsequent overview of Victoria's Rainforests, Cameron (1992) states that the Department of Conservation Forests and Lands (DCFL) (Now Department of Sustainability and Environment) adopted, in part, the above definition, but with the explicit omission of any reference to the status of transitional and seral communities. The Central Highlands Forest Management Plan defines Rainforest as being:

> *Rainforest is defined ecologically as closed broadleaved forest vegetation with a more or less continuous rainforest tree canopy of variable height, and with a characteristic composition of species and life forms.*
>
> *Rainforest canopy species are defined as shade tolerant tree species which are able to regenerate below an undisturbed canopy, or in small canopy gaps resulting from locally recurring minor disturbances, such as isolated windthrow or lightning strike, which are part of the rainforest ecosystem. Such species are not dependent on fire for their regeneration* (DNRE 1998)

Cameron (1992) was critical of the DCFL's failure to acknowledge the current ecological thinking regarding rainforest definition and adopting a more structurally based and production-oriented perception of the forest environment. As pure stands of Cool Temperate Rainforest were to be

excluded from logging under the current Code of Forest Practices, the clearfell logging of Cool Temperate Mixed Rainforest and transitional communities had been permitted throughout the escarpments of Mount Baw Baw. With the revision of the Code of Forest Practices, the logging of Cool Temperate Mixed Rainforest is currently under review.

The Code of Forest Practices specifies that road planning and construction should minimise risks to environmental values, particularly soil and water quality and **avoid disturbance to streams, buffer strips, riparian vegetation and rainforest in areas not associated with approved crossings**. However, the planning and construction of the South Face Road through the Tyers River Catchment has compromised the integrity of a number of significant rainforest stands located there. The following sections reveal the inadequacy of current prescriptions to maintain values of rainforest significance in the region.

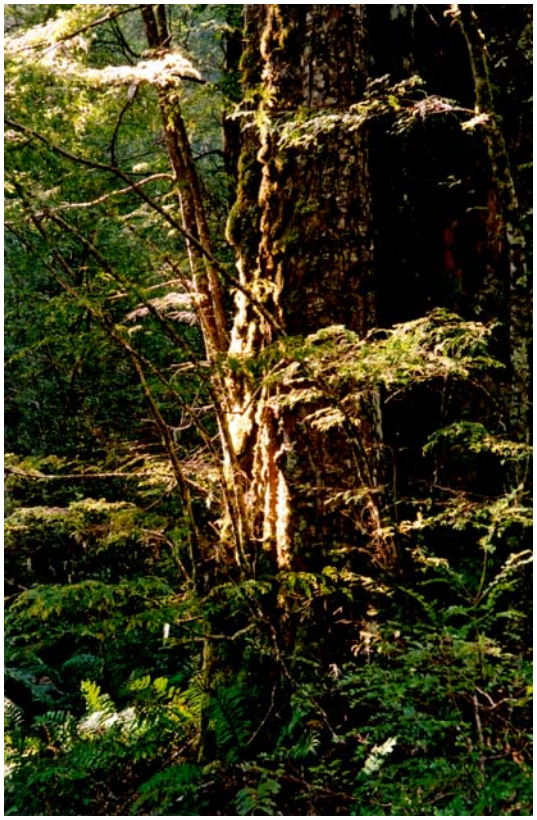


Figure 9.2.1 Cool Temperate Rainforest
Myrtle Beech, Tyers River West Branch

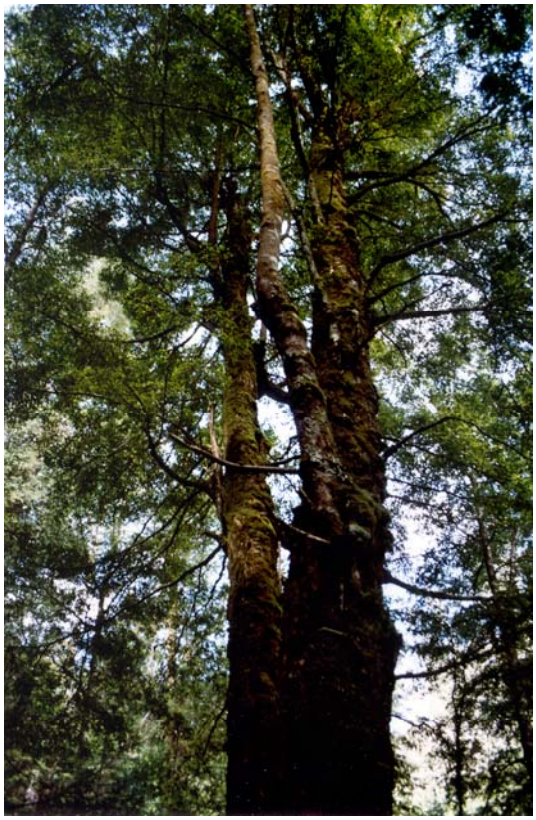


Figure 9.2.2 Cool Temperate Rainforest
Myrtle Beech, Tyers River West Branch

9.3 Rainforest Sites of Significance on Mount Baw Baw

The forests and sub-alpine woodlands of Mount Baw Baw contain a number of significant Cool Temperate Rainforest and Cool Temperate Mixed Rainforest Communities (Peel 1999). Table 9.3.1 below details three sample sites in the Tyers River Catchment, on the South Face of Mount Baw Baw.

Table 9.3.1 Evaluation of Sites of Significance for Rainforest on Mount Baw Baw

Category	Level of Assessment	Attribute	Tyers River East Branch	Middle Tyers River	Tyers River West Branch
Ecological Integrity and Viability	Landscape	Catchment Integrity	National	National	-
	Stand	Collective Stand Size, complexity	State	State (Edge of Range)	-
		Stand Integrity	National	National	-
Cultural	Stand	Scientific Value	Regional	Regional	-
		Education Value	State	-	-
Composition	Stand	Depletion	Regional	Regional	-
		EVC Richness	State	State	-
		FC Richness	State	Regional	-
		Character Richness	Regional	Regional	-
		Rarity of Type	National	National	-
		Significant Taxa	National	Regional	-
Biogeography	Stand	Taxa at National Edge of Range	State	Regional	-
		Disjunct taxa	State	Regional	-
Representation	Stand	Best of Type	National	-	-
		Representative of Type	Regional	-	-
Conclusion	**Evaluation**	**Rating**	**State**	**State**	**Regional**

Note – For definitions on ratings, refer to Appendix 11

Source – Peel (1999)

Sites of Regional Significance for Cool Temperate Rainforest around Mount Baw Baw include Myrrhee Creek, South Cascade Creek, Little Boys Creek, Bell Clear Creek and the Upper Thomson River (Peel 1999).

9.4 Inconsistencies within the Central Highlands FMP

Appendix A of the Central Highlands Forest Management Plan (FMP) details the zones throughout the Central Highlands of Victoria, including Mount Baw Baw. These include descriptions and coding of Special Protection Zones and Special Management Zones. Recognised Ecological Vegetation Classes such as Cool Temperate Rainforest are to fall within a SPZ and their significance detailed in Appendix A. With reference to Table 9.3.1 as sourced from Peel (1999), a number of inconsistencies were revealed when compared with the data in Appendix A. Table 9.4.1 is an extract from Appendix A describing the Eastern and Western Tyers Rivers.

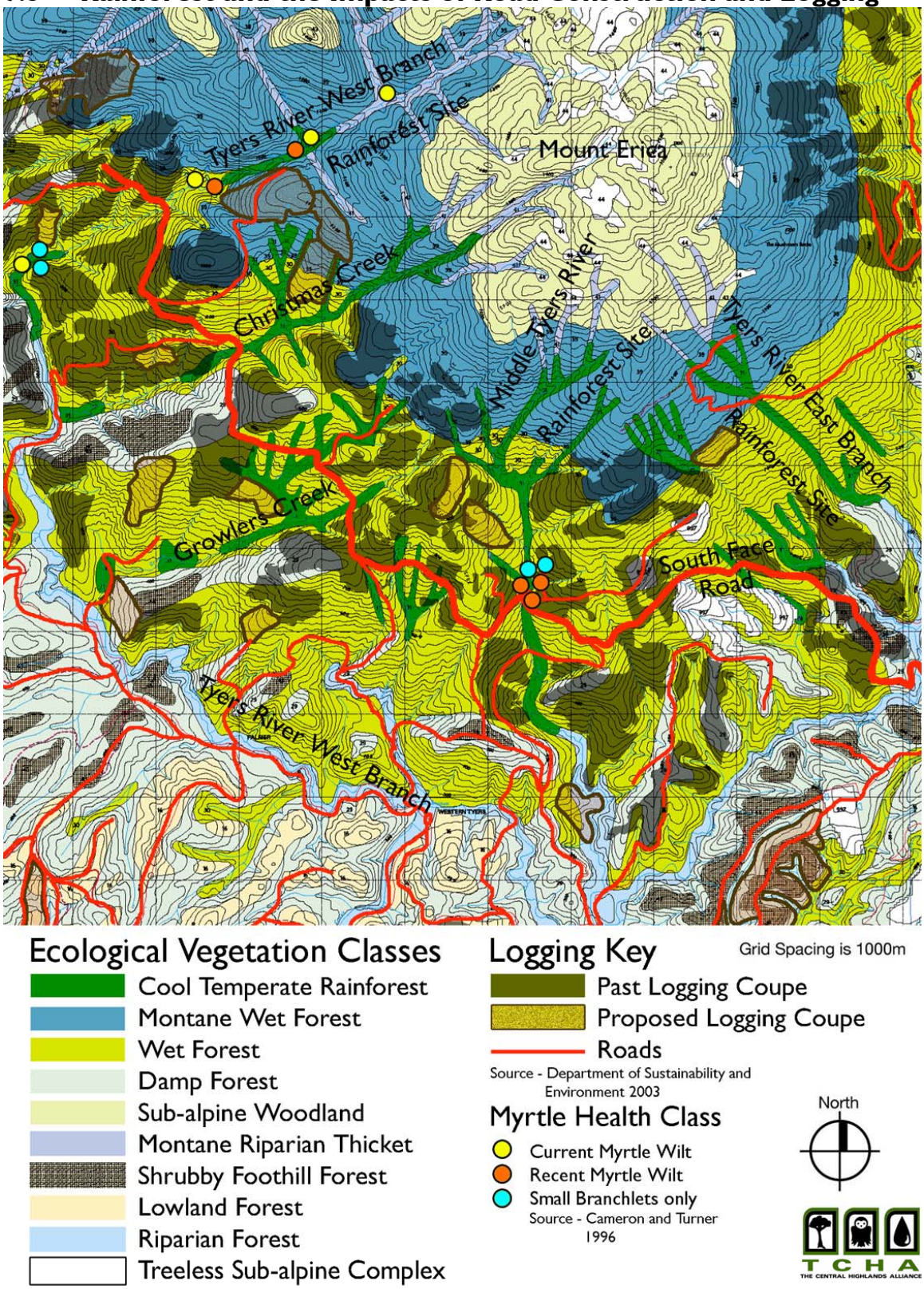
Table 9.4.1 Zoning Scheme Register of the Tyers River Catchment

Forest Block	**Site Number**	**Zone**	**Area**	**Attributes**
Eastern Tyers	482/01	SPZ	140ha	Sooty Owl habitat protection, Leadbeater's Possum Habitat 1a, **Cool Temperate Forest RFSOS Regional Significance Priority Area**
	482/02	SMZ	445ha	Landscape
	482/03	SPZ	65ha	Linear Reserve; Cool Temperate Rainforest
Western Tyers	483//01	SPZ	770ha	River Reserve, Leadbeater's Possum Habitat 1a, **Cool Temperate Rainforest RFSOS Regional Significance Priority Area**, Landscape, Growlers Creek Recreation Area
	483/02	SPZ	195ha	Linear Reserve, Leadbeater's Possum Habitat Zone 1a, Cool Temperate Rainforest
	483/03	SPZ	200ha	Sooty Owl habitat protection, Leadbeater's Possum Habitat Zone 1a, **Cool Temperate Rainforest RFSOS Regional Significance Priority Area**
	483/04	SPZ	315ha	Leadbeater's Possum Habitat 1a, Cool Temperate Rainforest, Old Growth (Cool Temperate Rainforest and Damp Forest)
	483/05	SMZ	355ha	Landscape
	483/06	SMZ	15ha	Landscape

Source – DNRE 1998

Appendix A describes the Eastern Tyers as a Rainforest Site of Regional Significance whereas the evaluations detailed by Peel (1999) recognise it as a Rainforest of State Significance. The Appendix does not detail the Middle Tyers River despite its Rainforest significance being recognised as 'State' by the evaluations detailed by Peel (1999). However, it is named under the 'Western Tyers' and its Rainforest Significance has been recognised as 'Regional'.

9.5 Rainforest and the Impacts of Road Construction and Logging



Map 9.5.1 Map detailing Cool Temperate Rainforest, Ecological Vegetation Classes, Logging, Road locations and surveys of Myrtle Wilt

Logging and road construction have been identified as significant threatening processes for Cool Temperate Rainforest and Cool Temperate Mixed Rainforest Communities (Peel 1999). Studies have revealed a quantitative relationship between logging, roading and incidences of Myrtle Wilt, a fatal pathogen that results in the accelerated death on *Nothofagus cunninghamii* (Myrtle Beech) Trees

(Cameron and Turner 1996). Peel (1999), Cameron and Turner (1996) stated that Myrtle Wilt, in conjunction with Wildfire, posed the greatest threatening process for Cool Temperate Rainforest Community in the Central Highlands of Victoria. Stands of high or relative densities of *Nothofagus* trees, especially with trees of large diameter, are more susceptible to severe attack as noted by Cameron and Turner (1996):

1. Pure stands of *Nothofagus* will be highly susceptible to fungal infection and epidemic disease development

2. Mixed Stands of *Nothofagus* with *Atherosperma* and/or *Acacia melanoxylon* will be naturally buffered against disease development

3. Mature stands of *Nothofagus* will be highly susceptible to fungal attack and epidemic disease development

4. Young regenerating stands of *Nothofagus* will be less susceptible to fungal attack, although young trees can be readily infected if they are damaged by human action or natural means

The South Face Road penetrates through a number of Mature Rainforest Stands. Figure 9.5.1 shows the South Face Road through part of the Middle Tyers Rainforest Stand. The dead trees are what remain of the Cool Temperate Rainforest that once inhabited the site. Cameron and Turner (1996) note surveys carried out on the site and these are further explored below.

Figure 9.5.1 Myrtle Beech killed by Wilt along the South Face Road, Middle Tyers River area

As to describe how the pathogen is spread, Cameron and Turner (1996) described that the dispersal processes involved operate through:

1. Below ground spread through root grafts from an infected individual tree to its immediate neighbours or by water borne fungal spores infecting wounded roots

2. Air borne spread of fungal spores

Myrtle Wilt is thus a threatening process that can affect the local 'within stand' scale and potentially the wider 'landscape' scale.

Surveys detailed in Cameron and Turner (1996) described a site along the Middle Tyers River that had been recently roaded and contained several damaged roadside trees dying of wilt. The surveys also found undamaged trees 100 metres from the road that had also been infected by the pathogen. The survey found no obvious evidence of earlier infections. Map 9.5.1 details the sites of infection overlapping with a recognised Site of Biological Significance (Davies et al 1994), a Rainforest Site of

State Significance (Peel 1999), a Site of National Botanical Significance (DNRE 1998) and the route of the South Face Road. Figures 9.5.1, 9.5.2 and 9.5.3 reveal the state of this rainforest today and that the penetration of the South Face Road has caused the rainforest to retreat from the road in both directions. This has caused a large opening in the rainforest community extending beyond the roadline that will never be allowed to regenerate whilst the road remains in place.

Figure 9.5.2 Looking upslope of the Rainforest

Figure 9.5.3 Looking down slope of the Rainforest

The South Face Road has crossed several other Cool Temperate Rainforest Communities upon where similar impacts have resulted. **This demonstrates the inability of the Code of Forest Practices for Timber Production and the Central Highlands Forest Management Plan to adequately protect Rainforest Sites of Significance along the escarpments of Mount Baw Baw.**

9.6 Logging of Cool Temperate Mixed Rainforest

Mount Baw Baw and its associated escarpments contain areas of Cool Temperate Mixed Rainforest (Peel 1999). Cool Temperate Mixed Rainforest is structurally complex and floristically diverse, containing both elements of Cool Temperate Rainforest and Wet Forest and act as a buffer to pure stands of Cool Temperate Rainforest (Peel 1999). However, the current Code of Forest Practices and the Central Highlands Forest Management Plan do not provide any specific prescription for this vegetation community. It further states that the mapping of this vegetation community is incomplete and that assessment needs to be made of its status (DNRE 1998).

Figure 9.6.1 Cool Temperate Mixed Rainforest, Upper Thomson River

Peel (1999) stated that clearfell logging has already had a significant impact on this community. He described these impacts as twofold, where the clearfell logging method significantly disadvantaged re-sprouting and obligate seeding species. The species most vulnerable were the rainforest overstorey dominants, Myrtle Beech and Southern Sassafras, and the understorey dominant, Soft Tree-fern. Peel (1999) stated that, even if some of these species survive the initial mechanical disturbance of the logging operation, the high intensity regeneration burn applied to the coupe would kill these species. This would significantly alter the structure and floristics' of the Cool Temperate Mixed Rainforest community.

The shorter logging rotation turnovers of 80-120 years were seen to be insufficient to allow for the re-establishment of the Cool Temperate Mixed Rainforest Community given that it is reliant on a fire frequency of 250-400 years (Peel 1999). This is now causing a substantial loss of the Cool Mixed Temperate Rainforest community throughout the escarpments of Mount Baw Baw.

Figure 9.6.2 Cool Temperate Mixed Rainforest logged in the Upper Tanjil River East Branch area

Figure 9.6.3 Cool Temperate Mixed Rainforest logged in the Upper Tanjil River East Branch area showing remnants of the fire killed Myrtle Beech Trees

Figure 9.6.4 Cool Temperate Mixed Rainforest in Coupe 458-504-0007 with logging commencing. This coupe is now on hold due to the informal moratorium on Baw Baw Frog Logging Experiment

Figure 9.6.5 Cool Temperate Mixed Rainforest within and adjoining coupe 459-502-0009 showing a coupe boundary tag. This coupe is now on hold due to the informal moratorium on Baw Baw Frog Logging Experiment

Key References

Cameron, D. G. (1992) 'A portrait of Victorian rainforests: distribution, diversity and definition', In Victoria's rainforests: Perspectives on definition, classification and management. Ed. P. Gell and D. Mercer. Monash University.

Cameron, D and Turner, L (1996), 'Survey and monitoring of Myrtle Wilt within Cool Temperate Rainforest in Victoria', Department of Natural Resources and Environment

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DNRE (1998), 'Forest Management Plan for the Central Highlands Forest Management Area', Department of Natural Resources and Environment

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Appendix 2 Rainforest Assessment Royston River Catchemnt August 2005.pdf

http://www.myenvironment.net.au/index.php/me/reports/royston_report_the_code_of_forest_practice/royston_range_scientific_proof_that_rainforest_was_planned_to_be_logged

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Assessment of two Rainforest Sites within the Royston River Catchment, Central Forest Management Area

August 2005

Andrew Picone

Assessment of two Rainforest Sites within the Royston River Catchment, Central Forest Management Area

Final Version: August 2005

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Cover photo: Cool Temperate Rainforest within the study area. Royston River Catchment.

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Contents

LIST OF TABLES

1. INTRODUCTION

Practical Ecology Pty Ltd was commissioned by The Central Highlands Alliance (TCHA) to determine the occurrence of rainforest within a specified area of the Royston River Catchment.

This report provides information on the botanical composition of two rainforest stands within two small sub-catchments in State Forest currently scheduled for logging.

1.1 Project Background & Scope

Practical Ecology Pty Ltd received confirmation from TCHA to proceed with an assessment of the identified rainforest sites on 28 June 2005.

The scope of works proposed by Practical Ecology Pty Ltd and agreed to by TCHA included:

- Assessment of the rainforest site against the relevant Ecological Vegetation Class (EVC) benchmark,
- Vegetation analysis using the quadrat methodology,
- Mapping of the estimated extent of rainforest at the two sites, and
- Discuss the findings with regard to relevant policy and legislation.

1.2 Study Site

The study site is located within the Central Forest Management Area and falls within the Victorian Alps Bioregion. The two rainforest stands identified by TCHA and assessed in this report are located on two small, adjacent and unnamed tributaries of the Royston River in the Rubicon State Forest. The sites are in the Royston Forest Block on the south west slope of Mount Bullfight north east of Lake Mountain.

2. METHODS

Two rainforest sites within the study area, previously identified by TCHA, were assessed to determine their consistency with relevant EVC benchmarks and other rainforest definitions.

2.1 Taxonomy

Plant taxonomy used in this report follows Ross and Walsh (2003) for scientific names and Cross *et al.* (2001) for common names.

2.2 Vegetation Sampling

Fieldwork took place on 3 June 2005. A defined area species list was created using a life form checklist most commonly used during habitat hectare assessments. In addition two 20 x 20m quadrats were sampled to provide quantifiable data on the floristic composition of the two rainforest stands. One quadrat was surveyed in each site using regionally adapted Flora Information Recoding (FIS) sheets.

Cover abundance assessments were made using a modified example of the Braun-Blanquet scale based on Walker and Tunstall (1981) (Table 1).

Table 1. Quadrat cover abundance methodology

Cover value	Cover of foliage/branch	Number of individuals
+	<5%	Few
1	<5%	Many
2	5 – 25%	Any number
3	25 – 50%	Any number
4	50 – 75%	Any number
5	75 – 100%	Any number

2.3 Ecological Vegetation Class

An EVC is a unit of consistent vegetation displaying broadly similar botanical characteristics reflecting consistent environmental conditions (Oates and Taranto 2001). EVCs have been mapped across the state to establish conservation priorities throughout Victoria and represent the highest level in the vegetation typology hierarchy (Oates and Taranto 2001).

Benchmarks have been published online by DSE for almost all EVCs across all of Victoria's 28 Bioregions. EVC benchmarks are utilised throughout each Bioregion to asses the type and quality of native vegetation. Each benchmark is based upon consistent characteristics for each EVC found across a particular bioregion (DSE 2004b, Parkes *et al.* 2004) and provide an objective measure of a site's vegetation quality. They have been primarily created as a tool for the habitat hectare methodology as part of the Native Vegetation Management Framework's Net Gain policy (DNRE 2002).

EVCs are a systematic classification system defining plant communities into common types occurring in similar environmental conditions. Prior to fieldwork a review of relevant literature was undertaken including Peel (1999), DCE (1992), DSE (2004a) and DSE (2005),. EVC mapping published by DSE (2003) was also reviewed.

EVCs were determined in the field according to observable attributes including dominant and characteristic species and foliage cover. Other attributes such as soil and elevation are consistent with the various descriptions provided in the above mentioned studies.

2.4 Limitations

Non vascular plants were not sampled. Mosses often make significant contributions to the overall vegetation cover in many EVCs and in particular rainforest. It is highly likely that the majority of plant diversity within the vegetation sampled at the study site is comprised of non vascular species. No attempt was made to document non vascular life forms due to project time and budget constraints.

Surveys were carried out in a single day of fieldwork. Time constraints combined with undertaking the survey in winter may have resulted in some species being overlooked. This assessment is not considered to provide thorough botanical documentation of the site. It is merely to quantify the existence of rainforest based on certain ecological and botanical parameters.

3. RESULTS

Vegetation assessed within the study site meets relevant criteria for classification as Cool Temperate Rainforest. The species composition and EVC description are provided below.

3.1 Flora

A total of 26 vascular species of plants were observed within the study site's rainforests or rainforest margins and are listed in Appendix 1. Of these, the majority are characteristic of the Cool Temperate Rainforest EVC.

Quadrat data is presented in Appendix 2.

3.2 Ecological Vegetation Classes

Two stands of Cool Temperate Rainforest were observed within the study site. These stands are identified on the accompanying map as Site 1 and Site 2. Site 1 was approximately 0.8ha while Site 2 was approximately 0.4ha. Secondary Cool Temperate Rainforest and Montane Wet Forest were adjacent to each of the two rainforest sites.

Cool Temperate Rainforest is listed in the Victorian Alps Bioregion as rare (DSE 2005 [online]).

3.2.1 Cool Temperate Rainforest

The study site's Cool Temperate Rainforest is consistent in species composition with the Victorian Alps Bioregion Benchmark, the description provided in the Central FMP, and Peel's (1999) key to the *Central Highlands Montane Riparian* Cool Temperate Rainforest floristic community.

The tallest strata present at the two rainforest sites were mature to senescent examples of Alpine Ash (*Eucalyptus delegatensis*) with some individuals with girths over 10m. This species occurred overhanging the rainforest stands and, as quadrat data indicates, contributes a negligible amount to the projective foliage cover and does not diminish the site's status as rainforest. Alpine Ash is identified by Peel (1999) as a characteristic species in *Central Highlands Montane Riparian* Cool Temperate Rainforest.

Myrtle Beech (*Nothofagus cunninghamii*) is the dominant canopy species of Sites 1 and 2. The projective foliage cover of Myrtle Beech was estimated at 70%. Within both quadrats and the broader area of rainforest locally this species is present as both mature and semi-mature individuals with numerous trees exceeding 70cm diameter at breast height (dbh). The Cool Temperate Rainforest benchmark for large old trees is 70cm dbh. One individual

in Site 1 measured 110cm dbh. Southern Sassafras (*Atherosperma moschatum*), is present in both Sites 1 and 2 but reaches its best development in Site 2.

Frosted Wattle (*Acacia frigescens*) and Silver Wattle (*A. dealbata*) are present on the rainforest margins. Both species are considered characteristic of Cool Temperate Rainforest within the Central FMA and Victorian Alps Bioregion (DCE 1992, Peel 1999, DSE 2004a).

Shrubs are virtually absent from the rainforest within Sites 1 and 2 and those that were present are characteristic of the surrounding Montane Wet Forest. Soft Tree-fern (*Dicksonia antarctica*) is present in both sites but is best developed in Site 2. Ground ferns include the Lance, Fishbone and Alpine Water-ferns (*Blechnum chambersii, B. nudum and B. penna-marina* respectively). Mother Shield-fern (*Polystichum proliferum*) is also present. Common Finger-fern (*Grammitis billardierei*) was the only epiphytic fern observed.

Other species present include Tasman Flax-lily (*Dianella tasmanica*), Pretty Grass-flag (*Libertia pulchella*) and numerous herbs including Bidgee-widgee (*Acaena novae-zelandiae*), Shade Nettle (*Australina pusilla* ssp. *muelleri*) and Stinking Pennywort (*Hydrocotyle laxiflora*).

Generally both rainforest sites are similar. However, Site 1 is larger while Site two is structurally more diverse. Site 1 supports larger and older Myrtle Beech with numerous large old trees consistent with benchmark criteria. Upstream of each rainforest site are areas of secondary rainforest. Secondary rainforest is determined by the higher occurrence of Acacia species, gaps in the canopy some of which are dominated by Soft Tree-ferns and the presence of Alpine Ash.

These secondary rainforest stands do not meet the rainforest definition currently applied by DSE (CFL no date) but are consistent with EVC benchmark criteria (DSE 2004a) and the key to floristic communities and species frequency lists by Peel (1999).

Illustrated on the map provided are both the core and secondary rainforest stands.

4. RELEVANT POLICY AND LEGISLATION

4.1 Flora and Fauna Guarantee Act 1988

The Flora and Fauna Guarantee Act 1988 (FFG Act) was legislated to ensure the continued survival of all Victorian species of flora and fauna and all Victorian communities of plants and animals. A key component of the FFG Act is to ensure the sustainable use of flora and fauna resources whether they are threatened or not.

The FFG Act lists:

- Threatened species of flora and fauna;
- Threatened communities of flora and fauna;
- Protected flora; and
- Potentially threatening processes.

Cool Temperate Rainforest is listed as threatened under the FFG Act 1988.

4.1.1 Threatened Communities of Flora and Fauna

Cool Temperate Rainforest is listed under schedule 2 of the FFG Act as a threatened community. This rainforest community fulfils criteria established under the FFG Act 1988 which was considered by the Scientific Advisory Committee (SAC) when nominating the community for listing.

Cool Temperate Rainforest satisfies the following criteria:

- Criterion 2.1: *The community is in a demonstrable state of decline which is likely to result in extinction.*
- Criterion 2.2: *The community is significantly prone to future threats which are likely to result in extinction*.

4.1.2 Potentially Threatening Processes

Schedule three of the FFG Act lists numerous Potentially Threatening Processes. These processes have been identified as a threat to the survival of one or more species of flora or fauna or a community. A number of threatening processes operate across Victoria and across all land tenures while some are specific to a defined locality.

Potentially Threatening Processes that are occurring or could occur within the study site include:

- Degradation of native riparian vegetation along Victorian rivers and streams;
- Habitat fragmentation as a threatening process in Victoria;
- Human activity which results in artificially elevated or epidemic levels of Myrtle Wilt within Nothofagus dominated Cool Temperate Rainforest;
- Increase in sediment input into Victorian rivers and streams due to human activities;
- Spread of *Pittosporum undulatum* in areas outside its natural range;
- The invasion of native vegetation by environmental weeds;
- Use of Phytophthora-infected gravel in construction of roads, bridges and reservoirs.

4.2 Code of Forest Practices for Timber Production

Under the Code of Forest Practices the study site's two rainforest sites would require the following:

- A buffer of 60m (or 40m with and additional 40m modified harvesting zone),
- Must be shown on coupe plans and identified in the field, and
- Buffers must be protected logging operations.

If harvesting of the surrounding Montane Wet Forest was to occur it is expected that roads would not need to intrude into either of the two rainforest sites based on the topography of the area.

5. DISCUSSION

A draft Flora and Fauna Guarantee Action Statement for Rainforests and Cool Temperate Mixed Forests was recently released for public comment. Rainforests are a high profile EVC with strong public interest. The Draft Action Statement summarises existing government policy and conservation mechanisms. The degradation or loss of rainforest at the study site as a result of proposed logging would seem to conflict with current government policy, community expectations and aims of ecologically sustainable forest management.

The rainforests identified in the is study are easily identifiable in the field, have sharp contrasting boundaries between the surrounding Montane Wet Forest and are easily accessible. It would be expected that the management authority administering forestry operations within the Central FMA would correctly interpret and apply the Code of Forest Practices with regard to rainforest conservation.

The rainforests sites discussed in this report are part of the Royston Site of Significance for Rainforest (SOSRF). This SOSRF is of regional significance according to Peel (1999). However, little is known about the rainforest site which has been inadequately studied. No data has been systematically collected and the rainforests attributes remain largely unknown.

6. RECOMMENDATIONS

The following recommendations are made in the context of rainforest conservation and meeting policy and legislative requirements. Essentially the two following actions need to occur:

- Ensure that all current policy and legislative requirements including the FFG Act 1988 and the Code of Forest Practices for Timber Production are applied correctly and consistently across the Central FMA to ensure there are no losses of Cool Temperate Rainforest as a result of any forestry opeation.

- Undertake a flora and fauna assessment of the Royston River SOSRF to fill gaps in data and develop and adequate inventory of values and site attributes to allow an accurate assessment of significance.

7. REFERENCES

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Walker J and Tunstall BR, (1981), Field estimation of foliage cover in Australian Woody vegetation, Technical Memorandum 81/91. CSIRO Institute of Biological Resources Canberra.

APPENDIX 1. Flora observed within Sites 1 and 2 by Practical Ecology in July 2005

Spno	Scientific Name	Common Name	Family	Div
0025	*Acacia dealbata*	Silver Wattle	Mimosaceae	Dic
0037	*Acacia frigescens*	Frosted Wattle	Mimosaceae	Dic
0105	*Acaena novae-zelandiae*	Bidgee-widgee	Rosaceae	Dic
0311	*Atherosperma moschatum*	Southern Sassafras	Monimiaceae	Dic
0337	*Australina pusilla* subsp. *muelleri*	Shade Nettle	Urticaceae	Dic
0405	*Blechnum chambersii*	Lance Water-fern	Blechnaceae	Fer
0408	*Blechnum nudum*	Fishbone Water-fern	Blechnaceae	Fer
0410	*Blechnum penna-marina*	Alpine Water-fern	Blechnaceae	Fer
0413	*Blechnum wattsii*	Hard Water-fern	Blechnaceae	Fer
8191	*Cardamine* spp.	Bitter Cress	Brassicaceae	Dic
8194	*Carex* spp.	Sedge	Cyperaceae	Mon
0819	*Coprosma nitida*	Shining Coprosma	Rubiaceae	Dic
1030	*Dianella tasmanica*	Tasman Flax-lily	Phormiaceae	Mon
1039	*Dicksonia antarctica*	Soft Tree-fern	Dicksoniaceae	Fer
1270	*Eucalyptus delegatensis* subsp. *delegatensis*	Alpine Ash	Myrtaceae	Dic
1519	*Grammitis billardierei*	Common Finger-fern	Grammitidaceae	Fer
8495	*Gratiola* spp.	Brooklime	Scrophulariaceae	Dic
1723	*Hydrocotyle laxiflora*	Stinking Pennywort	Apiaceae	Dic
8634	*Lagenophora* spp.	Bottle Daisy	Asteraceae	Dic
2268	*Leptostigma reptans*	Dwarf Nertera	Rubiaceae	Dic
2001	*Libertia pulchella*	Pretty Grass-flag	Iridaceae	Mon
2283	*Nothofagus cunninghamii*	Myrtle Beech	Fagaceae	Dic
2319	*Olearia phlogopappa*	Dusty Daisy-bush	Asteraceae	Dic
1224	*Philotheca myoporoides*	Long-leaf Wax-flower	Rutaceae	Dic
2645	*Polystichum proliferum*	Mother Shield-fern	Dryopteridaceae	Fer
2904	*Ranunculus plebeius s.l.*	Forest/Hairy Buttercup	Ranunculaceae	Dic

APPENDIX 2. Quadrat Data recorded from the Sites 1 & 2 within the Royston River Catchment.

Quadrat 1 (O00051) 20 x 20 m				
Date: 2/07/05 Location: Lat. 37 27.17522, Long. 145 54.38327 (accuracy 30m) Altitude: ~1000 m Collector: APP Vegetation: Cool Temperate Rainforest				
Cover	Species No.	Status	Scientific Name	Common Name
2	0037		*Acacia frigescens*	Frosted Wattle
1	0405		*Blechnum chambersii*	Lance Water-fern
1	0410		*Blechnum penna-marina* subsp. *alpina*	Alpine Water-fern
2	0413		*Blechnum wattsii*	Hard Water-fern
+	0819		*Coprosma nitida*	Shining Coprosma
2	1039		*Dicksonia antarctica*	Soft Tree-fern
+	1270		*Eucalyptus delegatensis* subsp. *delegatensis*	Alpine Ash
1	1519		*Grammitis billardierei*	Common Finger-fern
1	2001		*Libertia pulchella*	Pretty Grass-flag
4	2283		Nothofagus cunninghamii	Myrtle Beech
1	2645		*Polystichum proliferum*	Mother Shield-fern

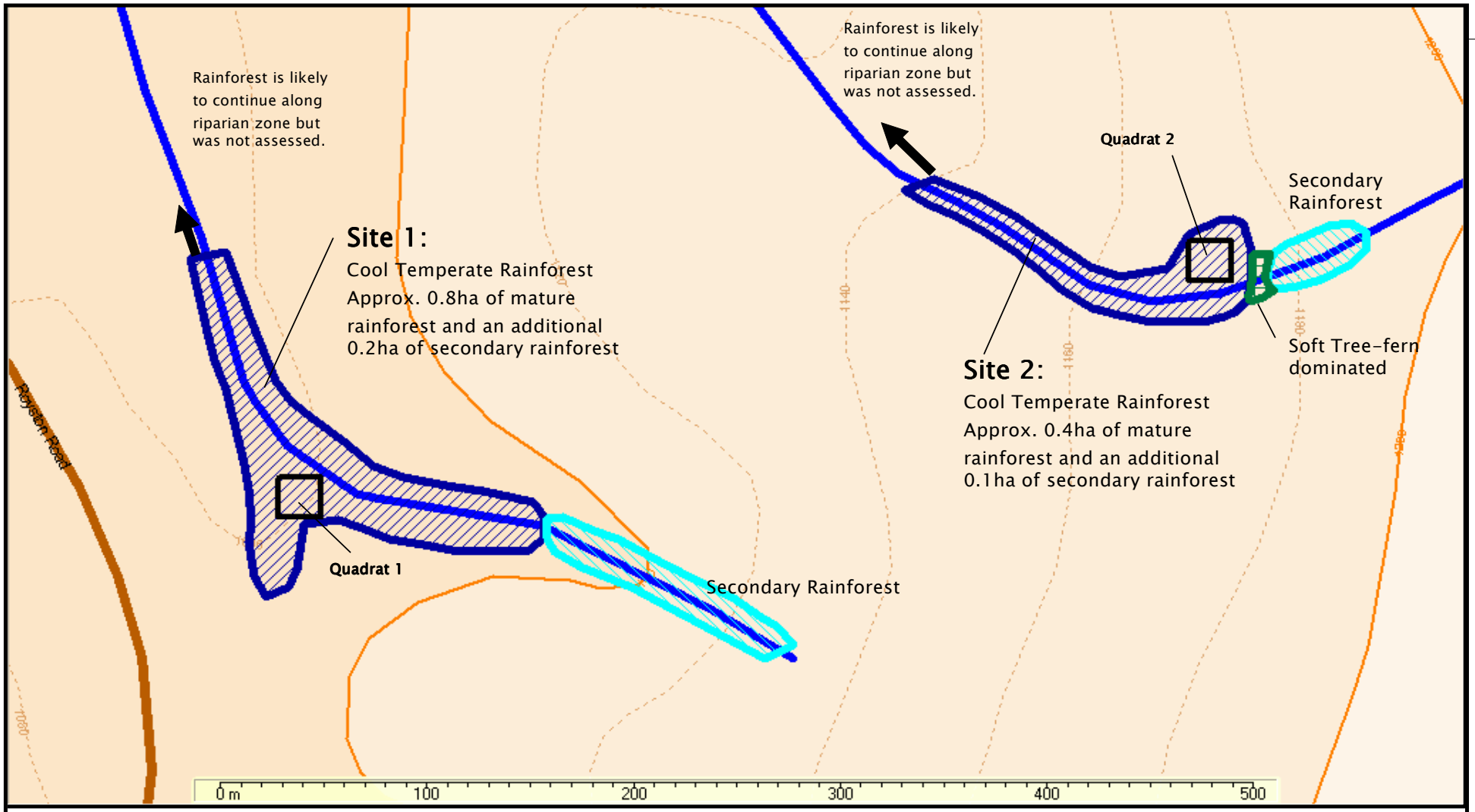
Quadrat 2 (O00052) 20 x 20 m				
Date: 2/07/05 Location: Lat. 37 27.10888 Long. 145 54.68123 (accuracy 30m) Altitude: ~1000 m Collector: APP Vegetation: Cool Temperate Rainforest				
Cover	Species No.	Status	Scientific Name	Common Name
2	0311		*Atherosperma moschatum*	Southern Sassafras
+	0337		*Australina pusilla* subsp. *muelleri*	Shade Nettle
+	0404		*Blechnum cartilagineum*	Gristle Fern
1	0413		*Blechnum wattsii*	Hard Water-fern
2	1039		*Dicksonia antarctica*	Soft Tree-fern
1	1519		*Grammitis billardierei*	Common Finger-fern
4	2283		*Nothofagus cunninghamii*	Myrtle Beech
+	2645		*Polystichum proliferum*	Mother Shield-fern

Mature Myrtle Beech within rainforest Site 1. This tree measured 110cm dbh and exceeds the benchmark criteria for large old trees in Cool Temperate Rainforest.

Montane forest dominated by mature and senescent Alpine Ash surround both rainforest sites.

The boundary between Montane Forest and Cool Temperate Rainforest is typically sharp within the study area.

Quadrat 1 within site 1. Rainforest shrubs were virtually absent from both sites.



Study Area: Sites 1 and 2
Fieldwork By: Andrew Picone and Christine Connelly

MyEnvironment Inc A0044084N
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Victoria 3777
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www.myenvironment.org.au

Appendix 3 The Baw Baw Report Chaper 2 - Vaues of Mt Baw Baw

http://www.myenvironment.net.au/index.php/me/reports/baw_baw_report/chapter_2_values/baw_baw_report_chapter_2_values

2.0 Natural Values

Figure 2.1.1 Upper Thomson River meandering through one of the Montane Fen Communities

2.1 Introduction

During the early 1980's, the Ministry for Conservation carried out several studies and surveys on the Central Gippsland region of Victoria to identify sites of natural significance. The results of these studies were published in several reports and all identified Mount Baw Baw and its associated escarpments as containing sites of outstanding natural value. These are listed below:

- Site of Global Zoological Significance (Section 2.2)
- Site of National Botanical Significance (Section 2.3)
- Site of National Geological and Geomorphological Significance (Section 2.4)

Further to these, later studies by the Commonwealth and Victorian Governments revealed that the area surrounding Mount Baw Baw also contained:

- Sites of National Estate Value (Section 2.5)
- Sites of Landscape Value recognised under the National Trust (Section 2.6)

This chapter explores the significance of each of these attributes and provides reference to the source documents from which they are detailed.

2.2 Zoological Values

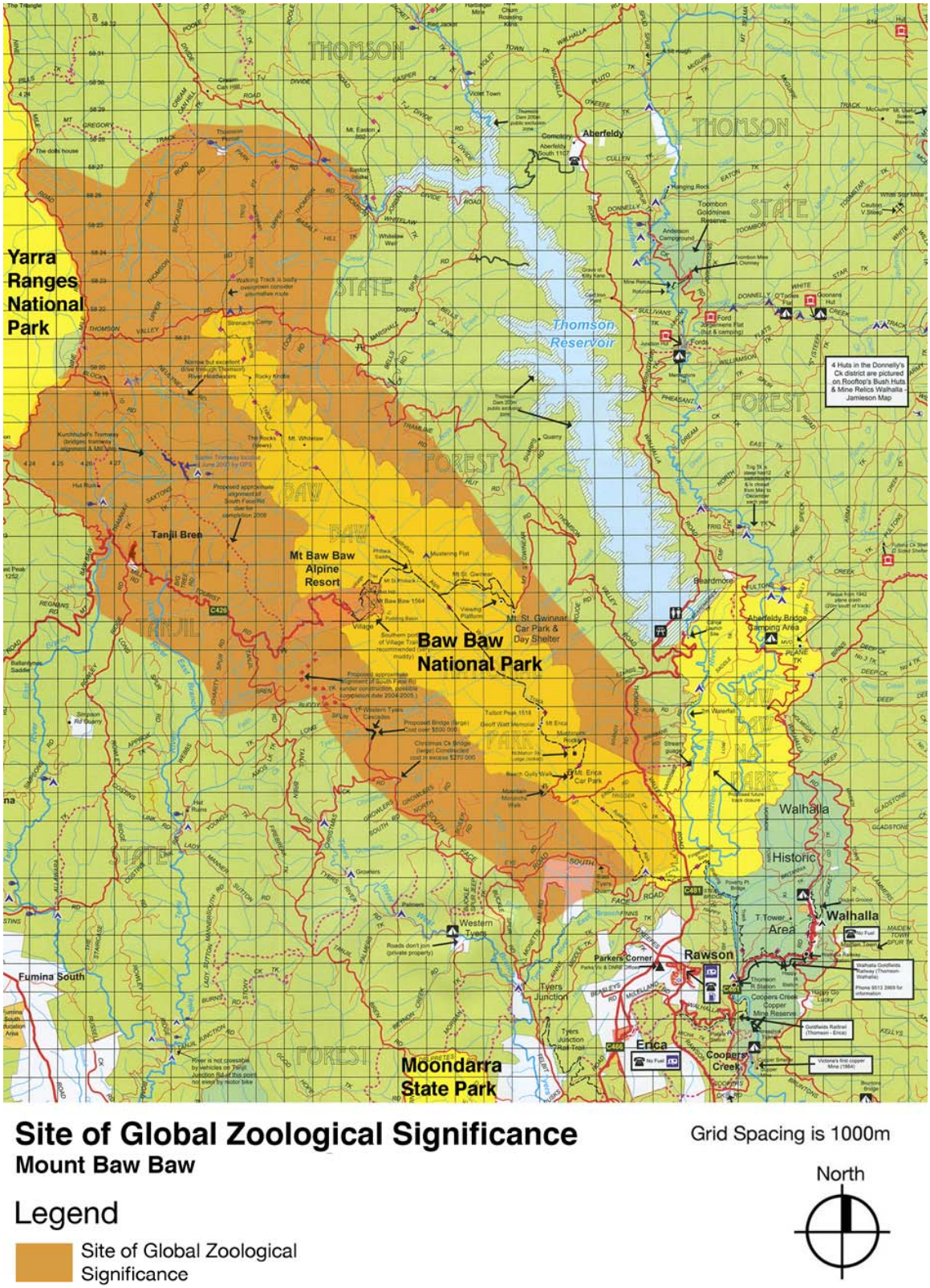
In 1982, the then Ministry of Conservation identified the Baw Baw Plateau, the Upper Thomson River and Thomson-Aberfeldy as a Site of Global Zoological Significance. The reasons for significance were:

> '……. on the basis of records of Philoria frosti (Baw Baw Frog), Gymnobelideus leadbeateri (Leadbeater's Possum), Pseudomys fumeus (Smoky Mouse), Mastacomys fuscus (Broad-toothed rat)) and Canis familiaris dingo (Dingo). The first three of these species are endemic to Victoria, and the area encompasses the worldwide distribution of one species, the Baw Baw Frog. Each of these species has quite different habitat requirements, emphasizing the environmental diversity of the area. Each of the environments supporting these species not only contains excellent examples of faunal complements typically associated with them, but each also contains particular species that are significant in their own right (Mansergh et al 1982).

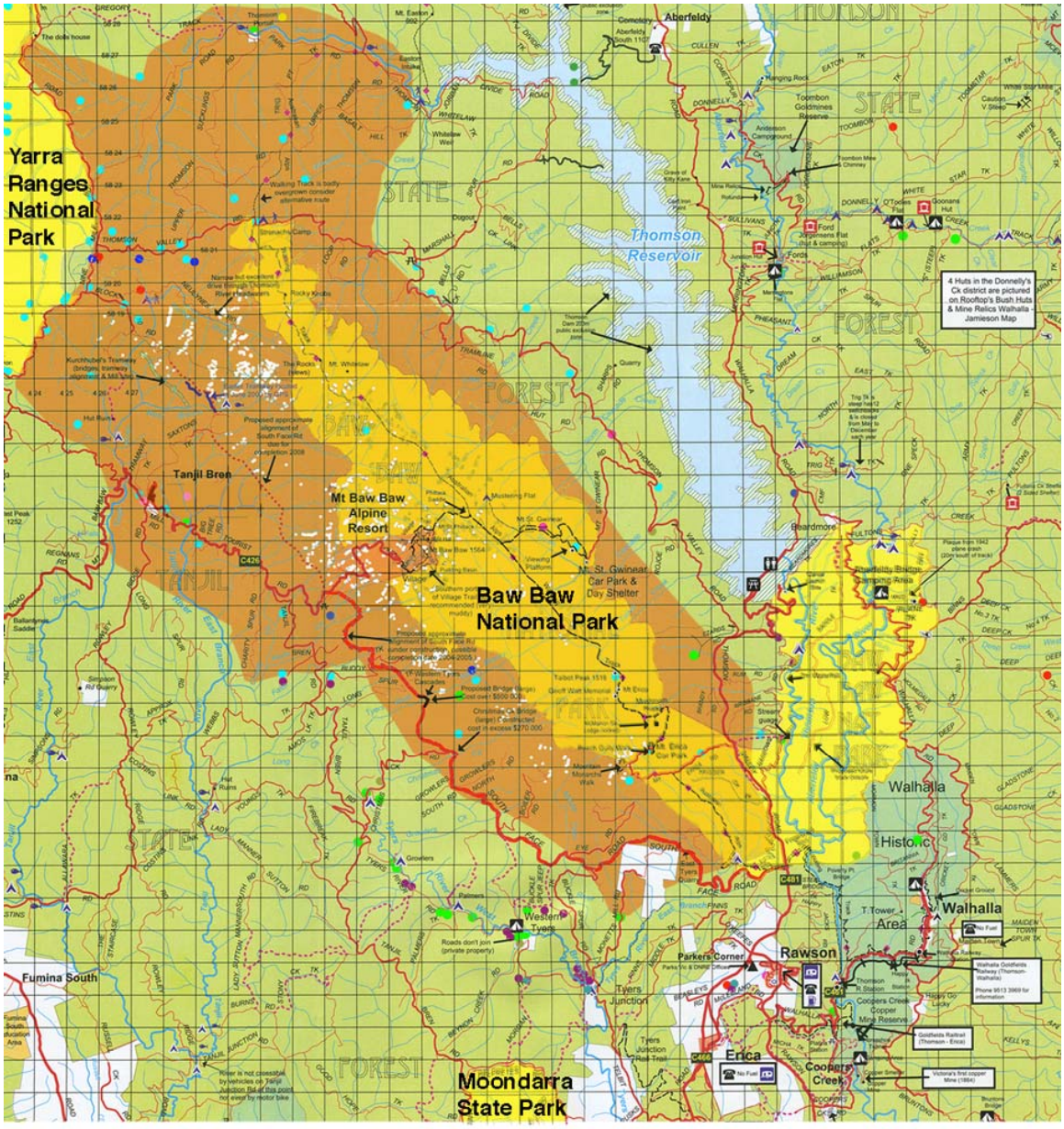
Fifteen threatened fauna species have been recorded around Mount Baw Baw. The endangered Leadbeater's Possum *(Gymnobelideus leadbeateri),* one of Victoria's faunal emblems has been recorded at several sites within the Mount Baw Baw region. The Possum joins a list of 28 native species of mammals recorded. More than 80 native bird species have been recorded, with the richest habitats being forested areas near watercourses. Significant bird species include the Flora and Fauna Guarantee Act 1988 listed Sooty Owl and the endangered Powerful Owl (Parks Victoria 2005, DSE BioMap 2006).

A total of 19 reptiles and 10 amphibians have been recorded. These include 14 lizard species, 1 tortoise, 4 snake and 10 frog species including the *critically endangered* Baw Baw Frog and the *critically endangered* Spotted Tree Frog, which was last recorded along the Thomson River in 1980 (Parks Victoria 2005, DSE BioMap 2006). However, it is the endemic nature of the Baw Baw Frog and its significant population decline in recent years that has generated intense concern.

Figure 2.2.1 The Endangered Leadbeater's Possum within sub-alpine habitat adjoining 'the Morass' near Mount Baw Baw (Photo – DSE 2005)



Map 2.2.1 Extent of the Site of Global Zoological Significance as sourced from Mansergh et al (1982)



Map 2.2.2 Extent of the Site of Global Zoological Significance with Key Fauna Sightings

2.3 The Botanical Values of Mount Baw Baw

The majority of the Mount Baw Baw and associated escarpments have been recorded as a site of National Botanical Significance. Overall, Baw Baw's vegetation communities include:

- Over 400 native vascular flora species
- 45 rare or threatened species – one being endemic to the Plateau: Chionogentias bawbawensis (Baw Baw Snow-gentian)
- Over 70 mosses and 41 liverworts with one species listed under the Flora and Fauna Guarantee Act
- A forest tree form of Tingaringy Gum *(Eucalyptus glaucescens)* recorded on the southern slopes of Mount Erica is of considerable genetic interest
- Several species on the Plateau are yet to be fully described
- Vegetation communities sharing affinities with Tasmanian plant communities

Three vegetation communities on the Plateau have been listed under the Flora And Fauna Guarantee Act 1988. These are:

- Alpine Bog Community
- Montane Fen Community
- Bog (Fen) Community
- Cool Temperate Rainforest Community
- Cool Temperate Rainforest Community occurring in alpine and sub-alpine vegetation (very rare occurrence)

(Parks Victoria 2005, Gullan et al 1984, Peel 1999)

Below is a breakdown of the significant plant species found throughout the Mount Baw Baw area as identified by Gullan et al (1984).

Baw Baw Plateau

Significance	National
Area	130 square kilometres
Boundaries	Baw Baw National Park, west of the Thomson Valley Road
Vegetation	Wet Alpine Heath Snow Gum Woodland Alpine Heath Wet Sclerophyll Forest

<u>Reason for Significance</u>

- Alpine Vegetation on the Australian Mainland occurs only about 500 square kilometers of land
- Sub-alpine woodland covers about 10 times this area
- Most of these areas are or have been heavily utilized for grazing in summer and skiing in winter
- The Mount Baw Baw is one of the few sub-alpine areas where grazing has been excluded
- Ski run development has been minimal
- The vegetation on Mount Baw Baw and its associated escarpments are unique in composition
- The treeless alpine vegetation occurring in the depressions between the wooded hills is unique
- The Snow Gum Woodland on Baw Baw is floristically unique from other alpine areas

Significant Species include:

- *Wittsteinia vacciniacea* (Baw Baw Berry) – common on Baw Baw, rare elsewhere
- *Actinotus bellidiodes* (Tiny Flannel Flower)
- *Mitrasacme montana*
- *Oxalis magellanica* (Snowdrop Wood-Sorrel) – Listed as rare in Victoria
- *Coprosma pumila*
- *Coprosma moorei*
- *Lycopodium selago* (Fir Clubmoss)– Common on Baw Baw, rare elsewhere
- *Lycopodium scariosum*
- *Exocarpos nanus* (Alpine Ballart) – Rare in the alps
- *Drosera acturi*
- *Baeckea utilis* (Mountain Baeckea) - endemic to Baw Baw and Lake Mountain
- *Trochocarpa clarkei* (Lilac Berry) – Common in Baw Baw Snow Gum Woodland, rare elsewhere

Upper Thomson Area

Significance	National
Area	300 hectares
Boundaries	Nine Mile Road to western slopes Mount Whitelaw
Vegetation	Wet Alpine Heathland Tussock Heathland Wet Sclerophyll Forest

Significance of Site:

- Lowest site encountered that supports alpine vegetation (1100m Above Sea Level)
- Wet heathlands are floristically comparable with same vegetation 600m higher than this site
- *Epacris coriacea*, a rare species, is common at this site

Significant Species:

- *Blechnum fluviatile* (Ray Water-fern)
- *Carex alsophila* (Forest Sedge) – listed as rare under the Central Highlands FMP
- *Epacris coriacea*
- *Oxalis magellanica* (Snowdrop Wood-Sorrel) – Listed as rare in Victoria
- *Poa helmsii* (Tall Tussock-grass)
- *Richea gunnii*
- *Richea victoriana* (Victorian Richea) – Endemic to Victoria and listed as rare

Clearfell logging has been proposed to take place within and around this site. It is one of the sites for the 'disturbance experiment' involving the logging of Baw Baw Frog habitat. Scientists, along with environmental groups have opposed this proposal (see below).

Mount Whitelaw Area

Significance	National
Area	150 hectares
Boundaries	Treeless areas surrounding headwaters of Whitelaw Creek and Tanjil Creek to the South
Vegetation	Wet Alpine Heath

Significance of Site:

- Mount Whitelaw supports the only mainland population of the Flannel Flower
- Flannel Flower, collected in 1944, has not been recorded since despite extensive searches
- Contains the most extensive area of Wet Alpine Heath on the Baw Baw Plateau
- Contains sub-communities that are floristically distinct

Significant Species:

- *Actinotus bellidiodes* (Tiny Flannel Flower)
- *Coprosma moorei*
- *Euphrasia gibbsiae* – Listed as Critically Endangered under the EPBC Act 1999
- *Huperzia selago* (Fir Clubmoss)
- *Lycopodium scariosum*
- *Montia fontana* (Water Blinks) – Poorly known in Victoria
- *Trochocarpa clarkei* (Lilac Berry) – Common in Baw Baw Snow Gum Woodland, rare elsewhere
- *Wittsteinia vacciniacea* (Baw Baw Berry) – common on Baw Baw, rare elsewhere

Central Baw Baw Plateau

Significance	National
Area	250 hectares
Extent	Mustering Flat, Currawong Flat, Summit Area of Mount Baw Baw
Vegetation	Wet Alpine Heathland

Significance of Site:

- Mustering flat contains representatives of all sub-communities on Baw Baw
- Mustering Flat contains one of a few deep perennial streams with alpine vegetation
- Mustering Flat contains rare submerged aquatic flora
- Currawong Flat contains a distinct variety of Erigeron pappochroma, endemic to site
- Summit area of Mount Baw Baw supports a rare prolific colony of club moss

Significant Species:

- *Erigeron pappochroma var oblongatus*
- *Euphrasia gibbsiae* – Listed as Critically Endangered under the EPBC Act 1999
- *Huperzia selago* (Fir Clubmoss)
- *Lycopodium scariosum*
- *Montia fontana* (Water Blinks) – Poorly known in Victoria
- *Oxalis magellanica* (Snowdrop Wood-Sorrel) – Listed as rare in Victoria
- *Trochocarpa clarkei* (Lilac Berry) – Common in Baw Baw Snow Gum Woodland, rare elsewhere
- *Wittsteinia vacciniacea* (Baw Baw Berry) – common on Baw Baw, rare elsewhere

Mount Erica Area

Significance	National
Area	100 hectares
Extent	Mount Erica, Upper reaches of Christmas and Talbot Creeks
Vegetation	Wet Alpine Heath and other communities

Significance of Site:

- The vegetation types contained within this site are floristically and structurally distinct
- Contains 'erosion pavement' vegetation (*Isotopic crassiuscula* and *Oreobolus pumilio*)
- The vegetation Stabilize the coarse granitic sands of shallow pools and run off zones
- Accretion of fine soils results in an annular growth pattern
- Enlarged islands allow for secondary colonizers (grasses and herbs)
- These islands can reach 1.5m in diameter and be raised high above the gravel bed
- The islands support a small but typical Wet Alpine Heathland

- Contains a rare erosion pavement species Oreobolus pumilio
- Contains the second known mainland occurrence of Ergeron pappochroma var oblongatus

Significant Species:

- *Carpha alpina*
- *Erigeron pappochroma var oblongatus*
- *Euphrasia gibbsiae* – Listed as Critically Endangered under the EPBC Act 1999
- *Huperzia selago* (Fir Clubmoss)
- *Lycopodium scariosum*
- *Oreobolus pumilio* (Alpine Tuft-rush) – presumed as rare in Victoria
- *Veronica nivea*
- *Wittsteinia vacciniacea* (Baw Baw Berry) – common on Baw Baw, rare elsewhere

Old Tanjil – Tyers River

Significance	State
Area	100 square kilometres
Extent	Old Tanjil to Western Tyers, Tyers River and Moondarra Reservoir. Catchment of Tyers and Serpentine Creek
Vegetation	Damp Sclerophyll Forest Sclerophyll Woodland Coastal Heathland

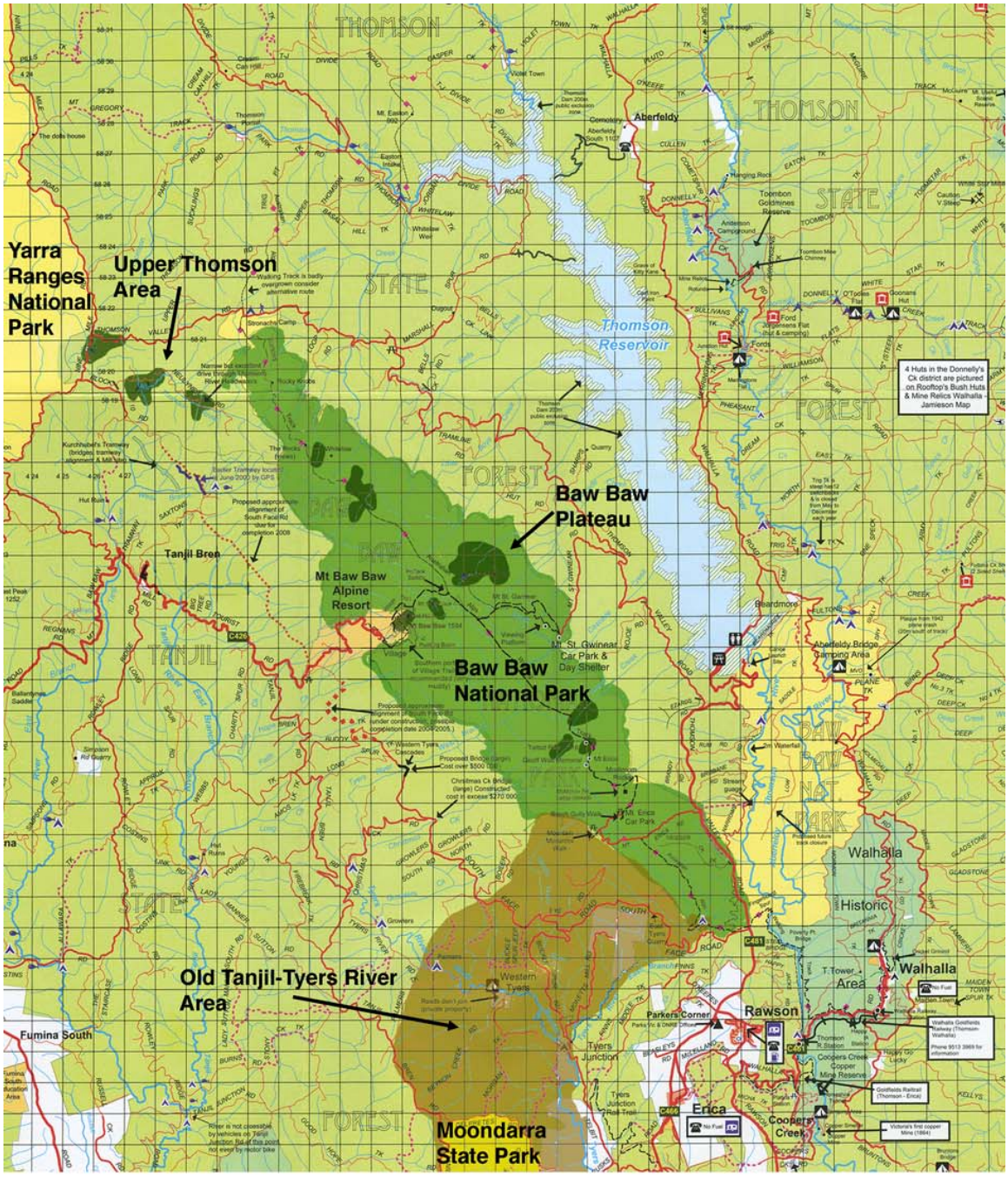
Significance of Site:

- The sclerophyll woodland is an unusual community and is restricted to this site
- The unusual features of the community include the preponderance of proteaceous shrubs
- This community presides over a layer dominated by tussock forming sedges and lilies
- The sclerophyll woodland is unlike other vegetation communities in Victoria
- Contains a unique Damp Sclerophyll Forest Community with the presence of heathland species
- Coastal Heathland communities are scattered throughout depressions within the site

Significant Species:

- *Stipa muelleri* (Tangled Spear Grass)
- *Banksia spinulosa* (Hairpin Banksia)
- *Lepidosperma filiforme* (common Rapier-sedge)
- *Lepidosperma semiteres*
- *Tetraria capillaries*
- *Epacris impressa* (Common Heath)
- *Xanthorrhoea minor* (Small Grass-tree, Black Boys)
- *Amperea xiphoclada* – Now listed as Extinct under the EPBC Act 1999
- *Eucalyptus consideniana* (Yertchuk, Prickly Stringybark)

Part of this site has been subject to clearfell logging and further coupes are proposed.



Map 2.3.1 Extent of Sites of Botanical Significance as sourced from Gullan et al (1984)

Figure 2.3.1 The Alpine Bog Community – Tyers River Headwaters

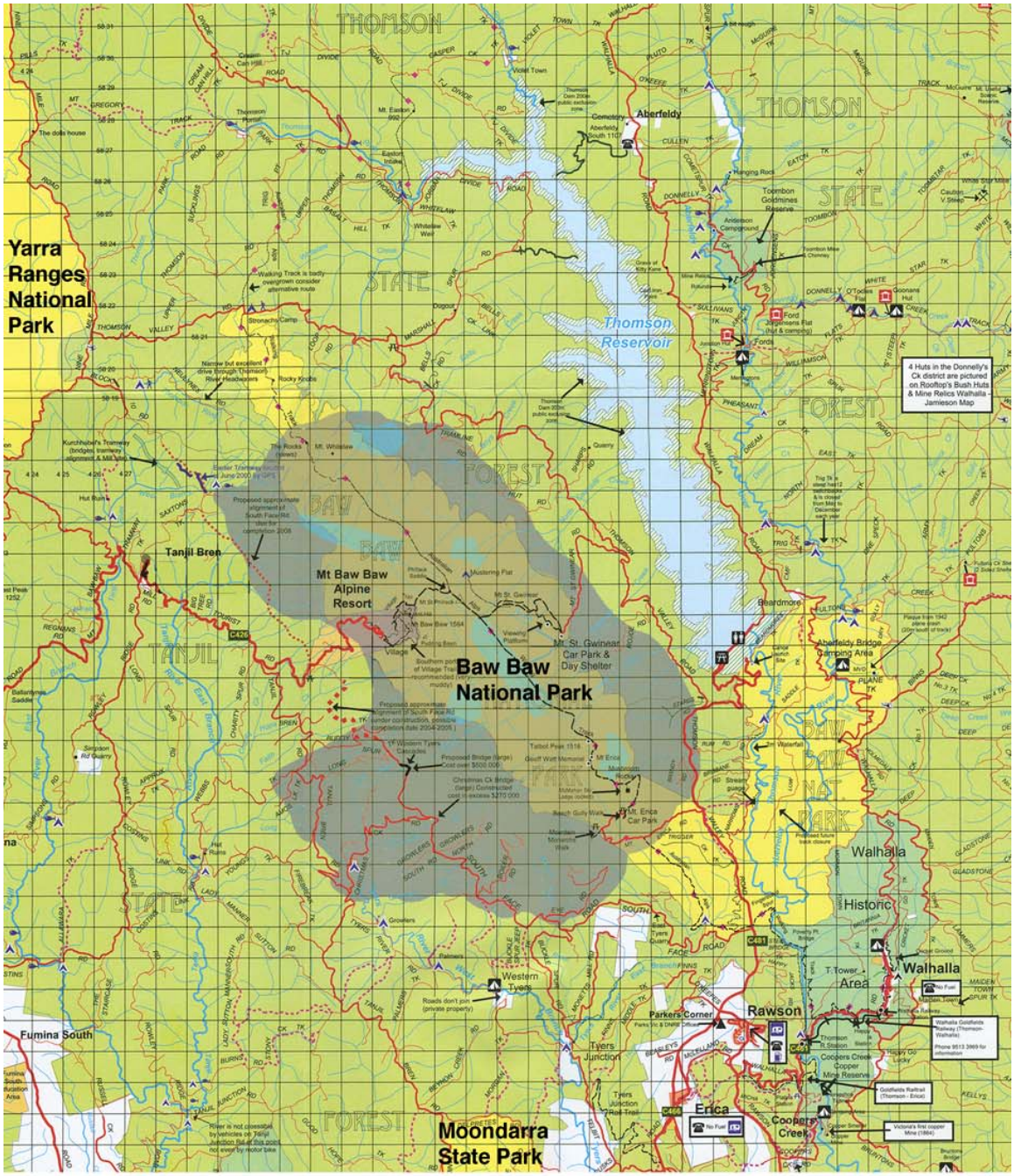
2.4 Geological Values

Mount Baw Baw and its associated escarpments are forms of resistant igneous rock composed of Upper Devonian granodiorite that were intruded into the surrounding Devonian sedimentary rock (Hollis 2004). The Plateau has evolved through a number of stages, including the removal of an unknown depth of sedimentary rocks through weathering and erosion above the granodiorite mass. As granodiorite is more resistant to weathering than sedimentary rock, the present remnant plateau was formed. This has resulted in a number of distinct geomorphological features and patterns of drainage, which contributes to the recognition of the Baw Baw Plateau as a site of national geological and geomorphological significance. (Rosengren et al 1981).

Rosengren et al (1981) ascribes this significance to:

> *The Australian mainland is poorly endowed with Alpine high plains and the Baw Baw Plateau is a distinctive feature of the Alpine Environment. It exhibits a combination of features which are only duplicated at one other site, Mount Buffalo, on the Australian Mainland.*

Map 2.4.1 details the extent of the site of significance over the Baw Baw Plateau and escarpments.



Map 2.4.1 Extent of Site of National Geological and Geomorphological Significance as sourced from Rosengren et al (1981)

2.5 National Estate Values

The register of the National Estate is a national register of places in Australia where heritage values and significant forest areas are listed. The lack of detailed National Estate information about forests had hampered the Australian Heritage Commission (AHC) to list national estate places and provide the strategic conservation advice to the Commonwealth Government as required by Section 30 of the Australian Heritage Commission Act 1975 (Australian Heritage Commission et al 1994). The report on the Central Highlands of Victoria was at the Victorian Government's request to have National Estate findings in time to be considered for the Land Conservation Council's (LCC) final recommendations for land use in the area. The report, titled 'National Estate Values in the Central Highlands of Victoria' was published in June 1994 as a draft project report.

A national estate value, defined by the report, is a geographically defined area containing at least one national estate value. Appendix Q of the report recognises 33,040 hectares of Baw Baw to have a convergence of National Estate Values. In comparison to closed water catchment reserves of the Yarra Ranges and Kinglake National Parks, Mount Baw Baw and its associated escarpments were found to contain the highest concentration of values within its mapped area (Australian Heritage Commission et al 1994). Table 2.5.1 details references the AHC and DCNR study in comparing the values of Mount Baw Baw to the closed water catchments of Wallaby Creek, O'Shannassy River, Watts River and the Upper Yarra Catchment – all recognised as outstanding sites due to their lack of human disturbance. The current Baw Baw National Park consists of 13,530 hectares whereas the sites of National Estate Value accumulate to a total area of 33,040 hectares (over double the current National Park area). The majority other areas listed below also reveal convergence of values and are primarily contained within the formal reserve system.

Figure 2.5.1 Cool Temperate Rainforest – Tyers River below Coupe 483-503-0023

Figure 2.5.2 Multi-Age Forest in Coupe 483-503-0023

Table 2.5.1 National Estate Values for selected areas in the Central Highlands of Victoria

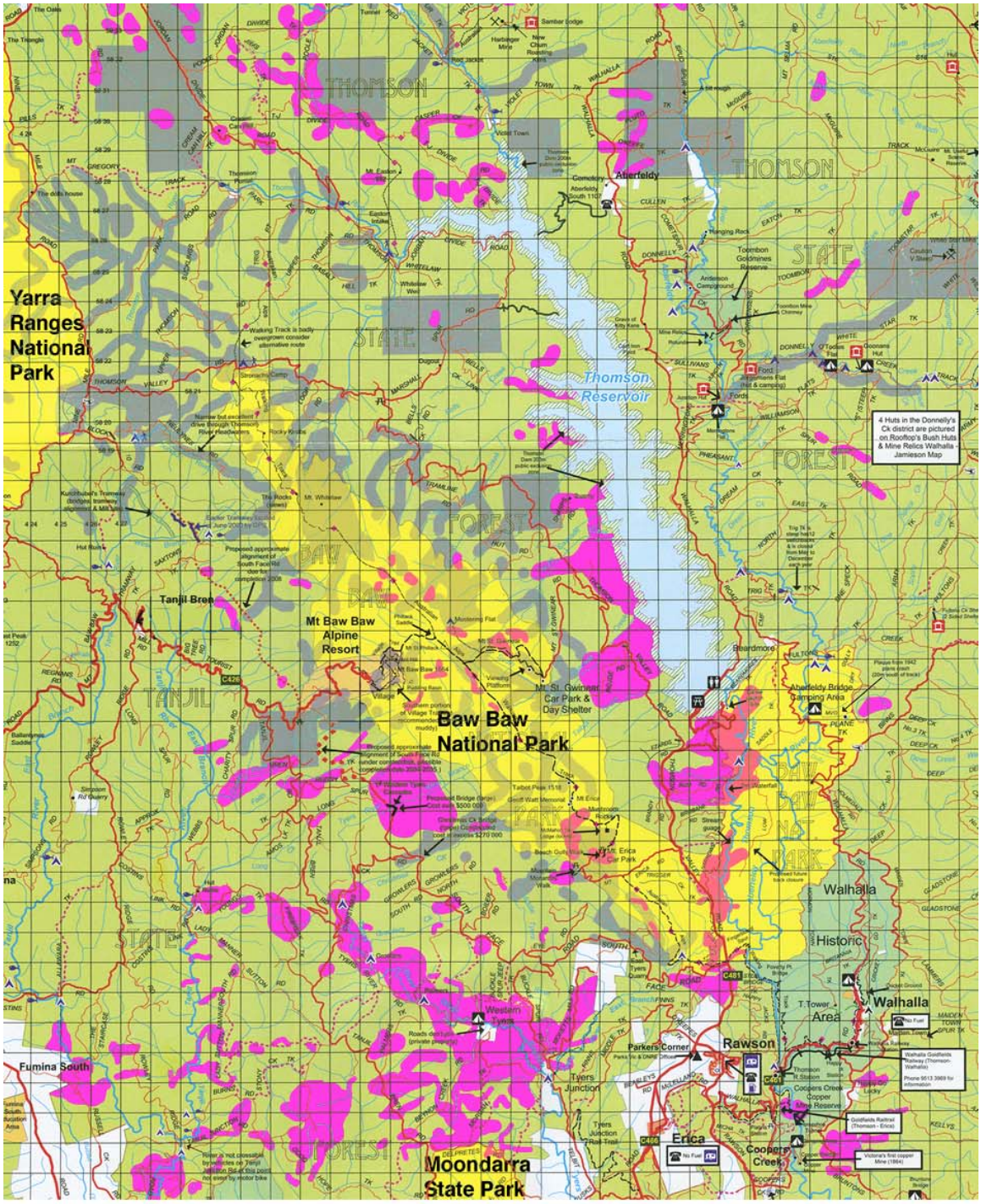
	Mount Baw Baw (Less than half in National Park)	Wallaby Creek Kinglake National Park	O'Shannassy Yarra Ranges National Park	Watts River Yarra Ranges National Park	Upper Yarra Yarra Ranges National Park
Area (hectares)	33,040	6,762	14,338	14,155	30,337
Endemic Fauna	✓*	✓			
Refuge Fauna	✓	✓	✓	✓	✓
Key Habitats	✓	✓	✓	✓	✓
Richness Fauna	✓	✓	✓	✓	✓
Rare/Threatened Species	✓	✓	✓	✓	✓
Uncommon Habitat	✓	✓	✓	✓	✓
Endemic Species - Flora	✓		✓		✓
Limit of Range Flora	✓		✓	✓	
Disjunct Species Flora	✓			✓	
Relictual Flora	✓	✓	✓	✓	✓
Refugial Flora	✓	✓	✓	✓	
Successional Stages Flora	✓	✓	✓	✓	
Remnant Vegetation					
Richness Flora	✓				✓
Threatened Species - Flora	✓		✓		
Natural Landscapes - Flora	✓	✓	✓	✓	✓
Rare Ecosystems Old Growth	✓	✓	✓	✓	
Remote and Natural Areas	✓**				
Principle Characteristics - Flora	✓	✓	✓	✓	✓
Geology and Geomorphology	✓		✓		✓
Localities of Reference Areas	✓	✓	✓	✓	✓
Cultural Richness Aboriginal	✓		✓	✓	
Cultural Richness Historic	✓	✓	✓	✓	
Pattern of History Aboriginal	✓		✓	✓	
Pattern of History Historic	✓	✓	✓	✓	
Exceptional Places	✓		✓	✓	
Principle Characteristics	✓	✓	✓	✓	
Aesthetic Values	✓		✓	✓	✓
Technical Achievement	✓	✓	✓	✓	
Highly Valued Places	✓	✓	✓	✓	
People Of Importance			✓	✓	

Not included in the 'National Estate Values in the Central Highlands of Victoria' Draft Report

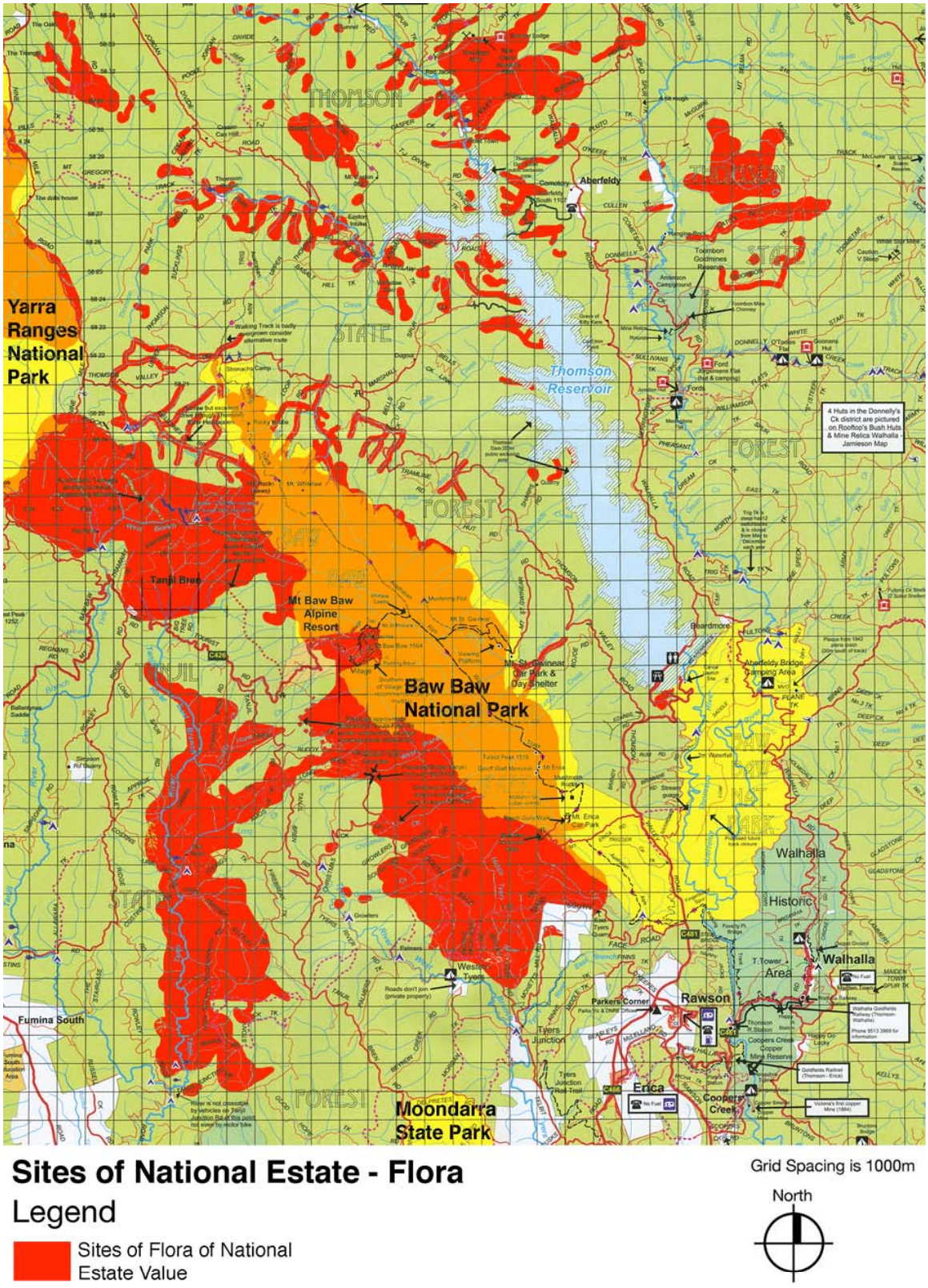
* The Baw Baw Frog is 'endemic' to Baw Baw (Hollis 2004)

** The Baw Baw National Park Plan (2005) recognises the Baw Baw Plateau a 'Natural and Remote Area'

(Source AHC 1994)



Map 2.5.1 Extent of Sites of Fauna National Estate Value around Mount Baw Baw (Source AHC 1994)



Sites of National Estate - Flora

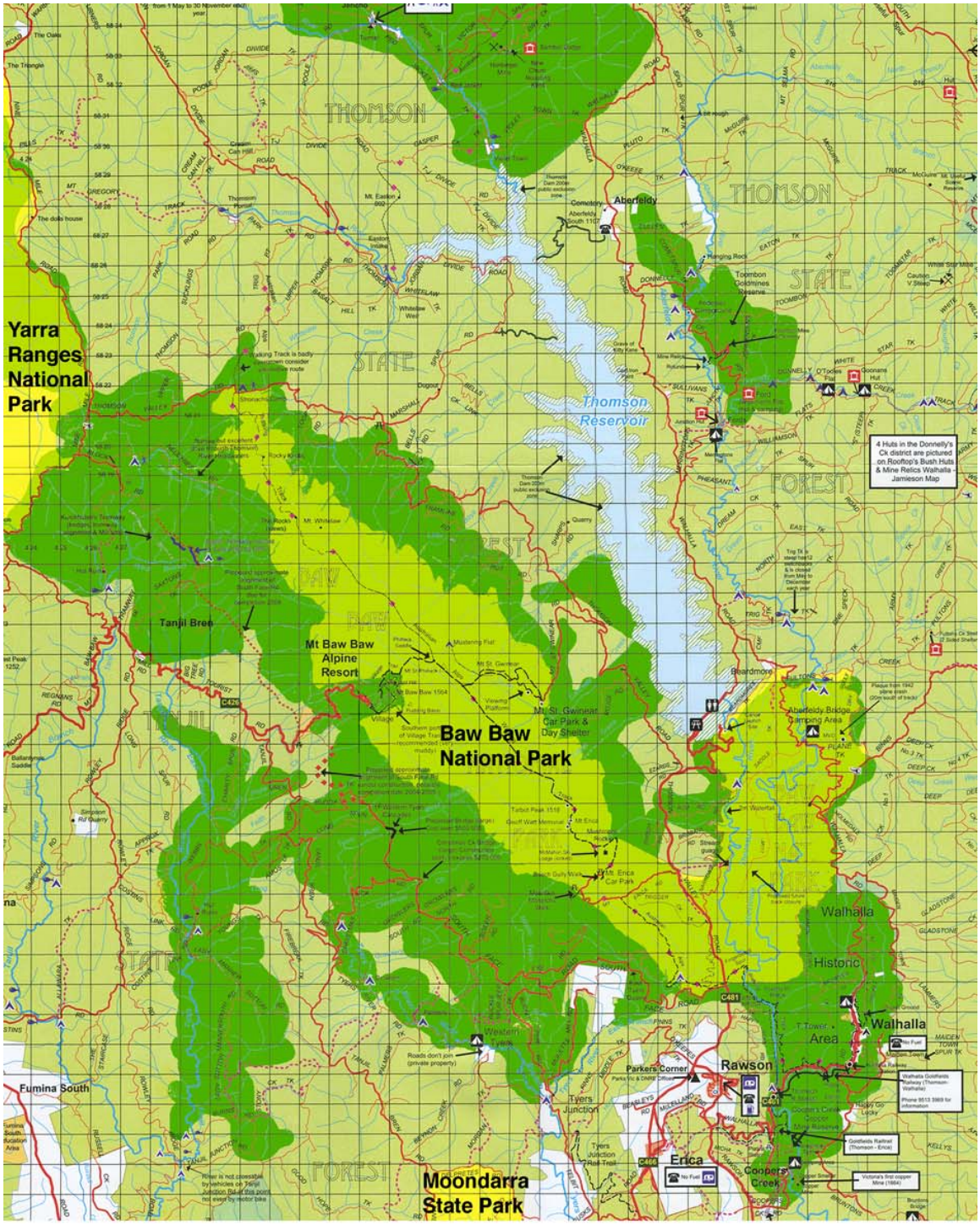
Legend

Sites of Flora of National Estate Value

Grid Spacing is 1000m

North

Map 2.5.2 Extent of Sites of Flora National Estate Value around Mount Baw Baw (Source AHC 1994)



Sites of National Estate

Legend

Sites of National Estate Value not formally protected

Map 2.5.3 Extent of Sites of National Estate Value around Mount Baw Baw (Source AHC 1994)

2.6 The Landscape Values

The National Trust of Australia has listed Mount Baw Baw and its associated escarpments in recognition for its diversity of alpine and sub-alpine landscapes and its distinctive flora and fauna. The regions' significant features can only be found elsewhere on the Australian Mainland at Mount Buffalo (Parks Victoria 2005, Rosengren et al 1981).

Key References

Australian Heritage Commission and Department of Conservation and Natural Resources (1994), 'National Estate Values in the Central Highlands of Victoria – Draft Project Report', (DCNR)

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Appendix 4 Baw Baw Report Chapter 3 Baw Baw Frog

http://www.myenvironment.net.au/index.php/me/content/download/1095/6602/file/bawbawreportchapter3.pdf

3.0 The Baw Baw Frog

Figure 3.1.1 Baw Baw Frog, Photo – G. Hollis

3.1 Introduction

The Baw Baw Frog *(Philoria frosti)* is endemic to Mount Baw Baw and its associated escarpments and is listed under the IUCN red list as 'critically endangered (IUCN 2004). The confinement of the Frog to the mountainous environment of Mount Baw Baw predisposes it to rarity as they have a restricted distribution (Hollis 2004). The species has recently experienced a massive population decline and is extremely sensitive to logging and other forms of environmental stress (Hollis 2004). In 1996, the majority of the current known population was found on the western and southern escarpments of Mount Baw Baw. These forests were to be logged under existing licensing arrangements. In response to the discovery and given the significance of the Baw Baw Frog, the Department of Sustainability and Environment (DSE) proposed a 'scientific logging experiment' to take place in these forests to determine whether the frog can survive a 'logging operation'. This experiment will be further explored in Chapter 6.

This chapter will provide an overview of:

- Key findings of current scientific research on the Baw Baw Frog (Section 3.2)
- The cause of the decline in the species' population (Section 3.3)

3.2 Key Findings of Scientific Research

The first systematic surveys of the Baw Baw Frog were conducted in 1983-84 within the sub-alpine zone of the Plateau (>1400m ASL) and estimated a male population of 10,000-15,000 male Frogs. In 1993, the then Victorian Department of Conservation and Natural Resources initiated the second survey of the species and revealed a decline in population by several orders of magnitude, measuring only 2% of the previous count from 1983-84 (Hollis 2004). However, the discovery by Hollis (2004) of populations of the Frog in the Montane Forests on the Southern Escarpment of Baw Baw saw a revised estimate of 6728 adult males. It is unknown whether these populations have suffered similar decline as to the sub-alpine populations due to insufficient long-term surveys. However, the study by Hollis (2004) defends the IUCN's red listing of the species as 'critically endangered'.

Key findings of the study by Hollis (2004) are outlined below:

- It has been predicted that the Baw Baw Frog will disappear with a rise in global temperature of 1-3 °C
- Baw Baw Frog is one of 33 amphibians reported to have declined in Australia
- Two-thirds of the extant populations of the Frog occur in State Forest, out of reserves, and the remaining one-third in the National Park continue to decline.
- The Baw Baw Frog is confined to a very narrow range of ecological conditions.

- The habitat preferences, moisture and temperature tolerances of Baw Baw Frog during sheltering, movement and breeding activities infers that the species is likely to be sensitive to natural and anthropogenic influences.

- The rarity of the Baw Baw Frog exacerbates its risk of extinction through habitat loss and degradation.

The study elaborates that the Baw Baw Frog species survival is challenged by:

……. a very narrow geographical range

The confinement of Baw Baw Frog to a small area on Mount Baw Baw and its associated escarpments make the species one of the most restricted amphibians in Australia.

…….a small population

Relative to populations of other amphibians, whose populations extend over significantly greater areas, the Baw Baw Frog can be considered to have a small population size (approximately 7000 adult males), particularly given its recent population decline and contraction in habitat range.

……..low rates of population increase

The potential for Baw Baw Frog to increase population size relative to other amphibians is reduced. The species has low fecundity and recruitment to the terrestrial stage has been estimated to be 8.1%. The longevity of the Frog (~14.5+ years), and prolonged time taken to reach sexual maturity (3.5 years for males and 4.5 – 5.5 years for females) relative to other amphibians, allude to a breeding strategy that has evolved to recruit in a gradual rather than explosive manner.

…….being not effective dispersers

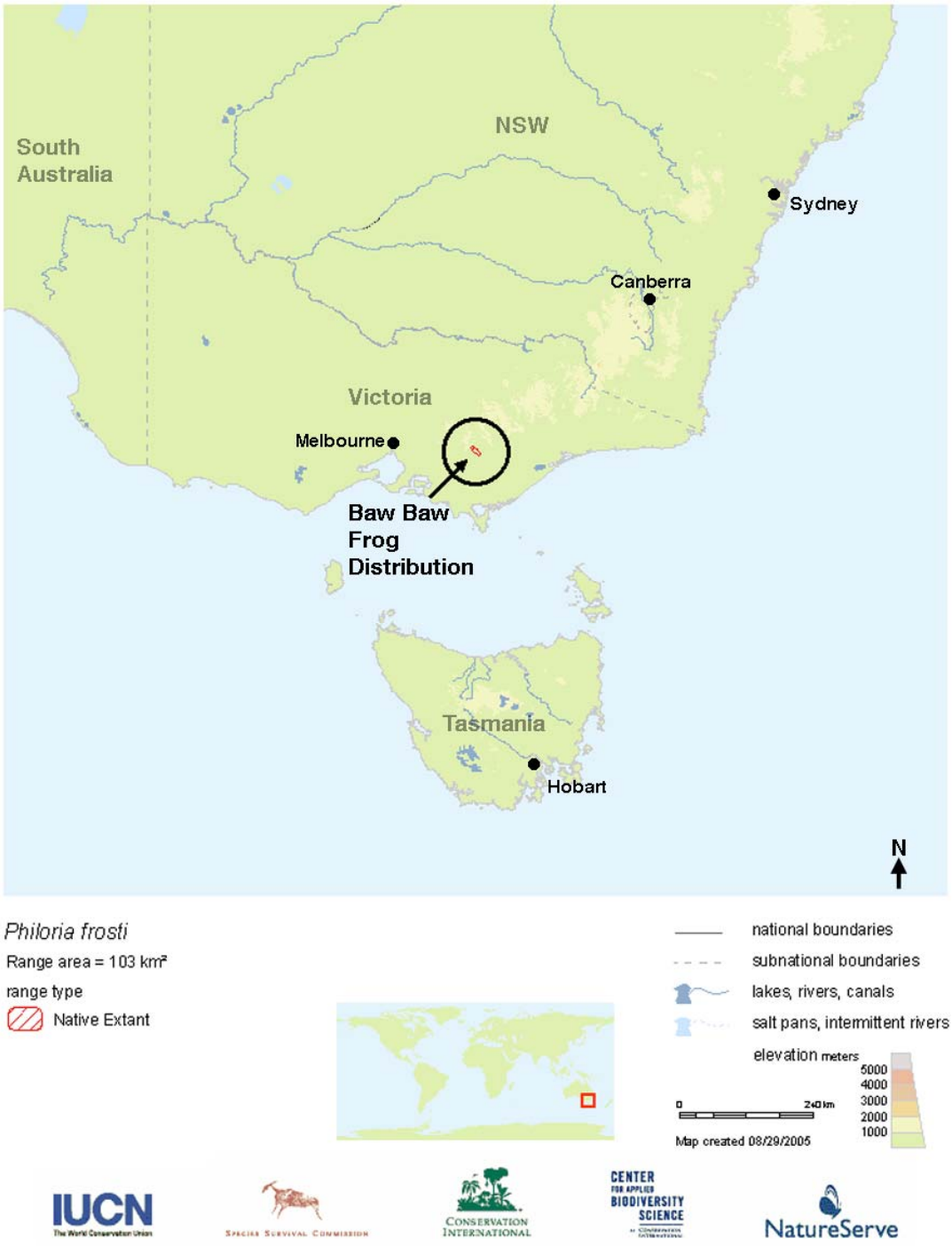
Investigation into the movement patterns of the Baw Baw Frog showed that they are relatively localized, remaining within 82 m distance of breeding sites.

…….requiring specialized niche requirements

Reliance by the Baw Baw Frog on conditions of low temperature and high relative humidity for optimal movement suggests that habitat niches utilized by the species play an important role in extending opportunities for movement and dispersal during periods of less optimal weather.

…….forming permanent or temporary aggregations

Species that form permanent or temporary population centres are more at risk from natural disturbance events or human disturbances (Hollis 2004).



Map 3.2.1 Baw Baw Frog Distribution – restricted to the Plateau and escarpments of Mount Baw Baw

3.3 Causes of Decline

The Decline of Baw Baw Frog and Potential Causative Agents

1. Loss and disturbance of Habitat
2. Increased UV-B Radiation
3. Pathogens
4. Climate Change - Local, Regional and Global
5. Natural Population Fluctuations and Weather Patterns
6. Atmospheric Pollution
7. Multiple and Interacting Factors

The study by Hollis (2004) continues to emphasize that:

- Changes in climate due to factors operating at a regional, or catchment level, may also explain the decline of the Baw Baw Frog.

- The long-term downward trend in total annual rainfall, and smoothing of fluctuations in annual rainfall, at Erica and Noojee may be as a result of the construction of the Thomson Reservoir in 1982.

- Research in China shows that large volumes of water in mountainous areas, like the Thomson Reservoir, act as a temperature moderator, altering rainfall patterns due to changes in temperature range.

- Filling of the Thomson reservoir in 1989, and subsequent downward trend in rainfall and smoothing of peaks of rainfall, correlates with the timing in decline and contraction in range of Baw Baw Frog after the surveys in 1983 and 1984.

- Clear preference by Baw Baw Frog for wetter, cooler, and habitats on the southwestern escarpment of the Baw Baw Plateau emphasizes the refugial nature and importance of this region in the future management and conservation of the species.

Findings from Hollis (2004) state the sensitivity of Baw Baw Frog to habitat disturbance suggests that forestry activities may impact directly or indirectly on the long-term survivorship prospects of the species. This impact may occur through:

1. Direct destruction of frogs and habitat;

2. Changes to climatic and hydrological conditions from activities in and adjacent to frog habitat;

3. Sedimentation of breeding habitat following activities in and adjacent to frog habitat; and

4. Fragmentation of populations, and/or destruction or modification of dispersal corridors

It has been identified that intensive timber harvesting in forest management blocks on the north-eastern and south-western escarpments of the Baw Baw Plateau over the past 20 years, including a number of areas within the potential habitat of Baw Baw Frog may have impacted on the population (Hollis 2004).

Figure 3.3.1 Cool Temperate Mixed Rainforest providing habitat for Baw Baw Frog – Upper Thomson River

Key References

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Appendix 5 Baw Baw Report Chapter 7 – Leadbeaters possum

http://www.myenvironment.net.au/index.php/me/content/download/1098/6611/file/bawbawreportchapter7.pdf

7.0 Leadbeater's Possum

7.1 Introduction

The Leadbeater's Possum is a small arboreal marsupial that is one of the significant species inhabiting the forests surrounding Mount Baw Baw. It was thought to be extinct for the first half of the 20th Century until it was rediscovered in 1961 (Lindenmayer and Possingham 1996). Upon its rediscovery near Lake Mountain in 1961, the known global population range of the Leadbeater's Possum is currently restricted to the Central Highlands of Victoria. These include populations throughout the Mountain Ash, Shining Gum, Alpine Ash Forests and Snow Gum Woodlands surrounding Mount Baw Baw (Lindenmayer and Possingham 1996, DSE 2003, DSE BioMap 2006). The species is listed as 'Endangered' under the IUCN red list and its population trend is in decline (last count as of 2006 stands at approx. 2,500 individuals) (IUCN Red List). It has been widely documented that clearfell logging poses a serious threat to the survival of the species through the loss of hollow bearing trees. As most logged sites around Mount Baw Baw are clearfelled, the forest structure has been undergoing dramatic change rendering the landscape unsuitable for the species to inhabit. These issues are explored in the following sections:

- Habitat requirements for the Leadbeater's Possum (Section 7.2)
- Impacts of Logging on the Leadbeater's Possum at Mount Baw Baw (Section 7.3)
- Impacts of Logging on Dead Stags (Section 7.4)
- Surveys at Tyers River West Branch (Section 7.5)
- Protection requirements for the Leadbeater's Possum (Section 7.6)

A significant number of Leadbeater's Possum colonies have been found around Mount Baw Baw that fall outside the Zone 1A Special Protection Zones set aside under the Central Highlands Forest Management Plan. These unprotected colonies are under extreme risk of being destroyed by logging as the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 has exempted all logging carried out under a Regional Forest Agreement (RFA). A number of these colonies fall within the boundaries of the coupes listed as part of the Baw Baw Frog Logging experiment.

7.2 Habitat requirements for the Leadbeater's Possum

The abundance of trees with hollows is a key structural forest attribute to all habitats for arboreal marsupials. There is a strong relationship between a large number of hollow bearing trees and the abundance of a range of arboreal marsupials including the Greater Glider, Mountain Brushtail Possum, Leadbeater's Possum, Yellow Belly Glider and Sugar Glider (Mackay et al 2002). The most important component of Leadbeater's Possum habitat are nest tree abundance, vegetation structure and food availability. Large hollow trees for nesting and shelter are essential for the species survival (DSE 2003) and the presence of Wattles, adjoining the nest site, provide an important source of food. As Wattles have shorter life spans of 60-80 years, frequent low intensity fire disturbance is required for some forest stands (80 years) to regenerate the Wattle without killing the Eucalypt over-storey (Lindenmayer 1996). This also results in a 'Multi-Age' forest structure occurring upon where large live and dead hollow bearing trees a mixed with younger trees. The forests surrounding Mount Baw Baw contain these attributes.

An abundance of understorey trees also form a vital interconnected network of branches that facilitate movement of non-gliding/flying species of marsupials (Mackay et al 2002). Below is a summary of forest structural attributes required for hollow dependent mammals as sourced from Mackey et al (2002):

Hollow Bearing Trees

Hollow bearing trees are important den and nesting sites for species including arboreal and ground dwelling marsupials, bats and many birds including owls, parrots and cockatoos. These are also utilised as basking sites for reptiles.

Old Growth Forest and Multi-Aged Stands

Old Growth Forest and Multi-Aged Stands are important for a range of fauna. For example, the distribution of the Sooty Owl appears to be intimately related to the presence of large continuous stands of Old Growth Mountain Ash Forest. **The highest densities of native mammals in Mountain Ash Forest have been found in Multi-Aged Stands**

Vertical Heterogeneity

Analyses have revealed strong stand age effects on vertical heterogeneity in Mountain Ash and Alpine Ash Forests. The average number of layers in a stand increases significantly with the age of the forest. Vertical heterogeneity can influence the range of foraging layers for fauna. Vertical heterogeneity may also be important for bats, which may explain higher levels of bat activity with increasing forest age in Mountain Ash Forests

Understorey Vegetation

Understorey plants, including small trees, shrubs, ferns, herbs, mosses and lichens, are essential components for a variety of forest dependent animals. The quantity of ground cover is positively correlated with the presence of a range of species of small mammals. Understorey trees also form the foraging layer for birds and bats and provide habitat for many insects.

Course Woody Debris

Mature and Old Growth Montane Ash Forest contains a greater volume of course woody debris than other age classes. Large course woody debris are a key habitat attribute for a range of fauna and provide basking sites and cover for lizards and snakes. They also provide sheltering sites for a range of fauna including the Brush Rat, Agile Antechinus and Echidna.

The presence of Leadbeater's Possum is likely to occur in forest containing:

- Numerous live and dead trees with hollows (refer to figures 4.2.1 and 4.2.2)
- Gently sloping or flat terrain
- Large amounts of loose strips of bark hanging from the lateral branches of trees
- Understorey of connecting Wattle

(Lindenmayer 1996, Lindenmayer and Franklin 2002)

Colonies of Leadbeater's Possum are totally dependent on large trees with hollows and these require 120-400 years to develop – a period of five to eight times the length of current clearfell logging regimes (Lindenmayer and Franklin 2002). As a result of these logging regimes, **less than 5% of Ash type forest provides viable habitat for the Leadbeater's Possum in forest blocks where logging is permitted** (Lindenmayer 2000).

Figure 7.2.1 Multi-Aged Forest with Live Hollow Trees – Tyers River West Branch Area
Known site of Leadbeater's Possum

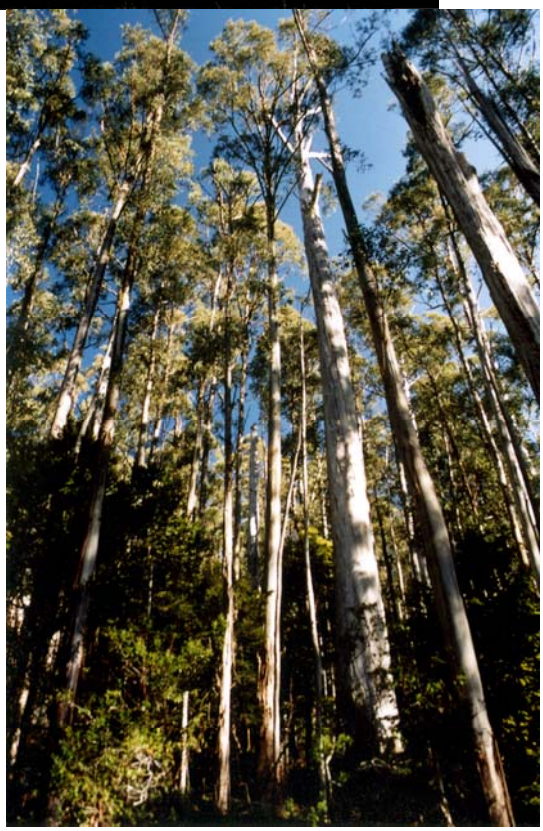


Figure 7.2.2 Regrowth Forest with Dead Stags

7.3 Impacts of Logging on Leadbeater's Possum at Mount Baw Baw

Although many sightings have been made of the Leadbeater's Possum around the forests of Mount Baw Baw, much scientific research has focused on the forests in the Yarra Ranges National Park, Stevenson River Catchment, Cumberland Reserve, Lake Mountain, Ada Forest Block and Powelltown. It is agreed that research conducted at these sites are applicable to the forests of Mount Baw Baw.

Logging has been identified as a major threat to the survival and potential evolutionary development of the Leadbeater's Possum. Lindenmayer and Franklin (2002) identify clearfell logging results in:

- The significant reduction of hollow bearing trees that are used as nesting sites for the Leadbeater's Possum
- Large areas of forest being rendered unsuitable for hollow dependent animals, including the Leadbeater's Possum, and the recurrent application of clearfell logging on 50 year rotations ensures that these areas will never again become suitable for the entire range of hollow dependent fauna
- Landscape composition being altered and the limited remaining areas of Old Growth becoming isolated among extensive stands of young forest regenerating after logging
- Forests that are fragmented by clearfell logging may not be viable in the medium to long term for hollow dependent species.

Currently, the Yarra Ranges National park supports about 20 percent of the existing total area of 170,000 hectares of ash-type forest in the Central Highlands of Victoria. This results in 80 percent of the population range occurring in forests subject to logging (Lindenmayer and Franklin 2002, Mackey et al 2002). If the Yarra Ranges National Park were to be the only conservation strategy, the population is at a high risk of extinction if a high intensity wildfire were to burn through the entire park (Lindenmayer and Franklin 2002).

Research has revealed the high probability of regional extinction of the Leadbeater's Possum in forests allocated to timber and pulp extraction. A study based in the Ada and Stevenson River Forest Blocks revealed a high probability of the species becoming extinct in those blocks over the next 150-300 years as remaining Old Growth Forest coverage has become severely fragmented and depleted through past fire salvage and clearfell logging operations (Lindenmayer and Possingham 1996, Mackey et al 2002).

Figure 7.4.1 Multi Aged Forest after clearfell logging within Site Of Global Zoological Significance, Tyers River West Branch – Live Old Growth Trees are killed and are exposed to windthrow

As detailed in Chapter 4, the forests surrounding Mount Baw Baw have been subjected to extensive clearfell logging throughout the sites of significance. As shown in figure 7.4.1, clearfell logging operations destroy Multi-Aged stands of forest and contribute to the loss of hollow bearing trees, a listed threatening process under the Flora and Fauna Guarantee Act 1988. Norton and May (1994) argue that it can take up 1,500-2,500 years for a clearfell logged Old Growth Forest (and Multi-Aged Forest) to recover the full range of structural diversity present in an un-logged forest. As the Baw Baw National Park boundary follows the lower altitudinal limit of the Snow Gum communities, most of the Montane Ash on the escarpments is outside the park in the state forest. If logging is allowed to continue into remaining areas of potential Leadbeater's Possum habitat, existing populations of the species are at a great risk of becoming regionally extinct around Baw Baw as their habitat becomes fragmented and degraded.

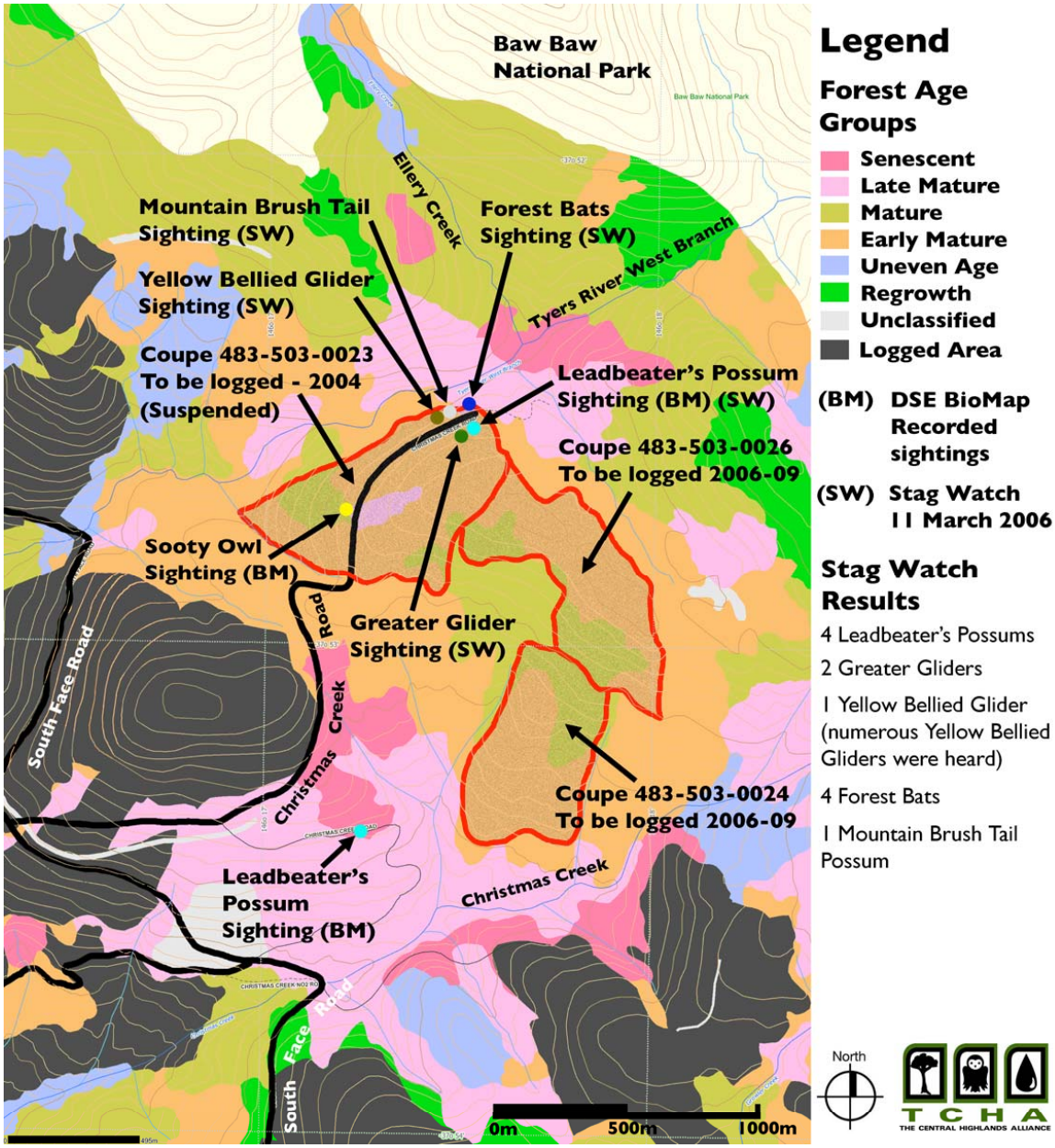
7.5 Impacts of Logging on Dead Stags

Concern has been raised regarding the effect of logging on stags. Leadbeater's Possum has been observed to inhabit dead stags and such observations have been made on coupes around Baw Baw scheduled for clearfell logging. In a letter addressed to the Central Highlands Alliance, the Senior Forester for the Central Forest Management Area stated that:

> The marking of retained trees on the coupe is limited to living trees **and does not include dead stags resultant from the 1939 wildfire** (Letter from Senior Forester of the Central FMA addressed to Central Highlands Alliance dated 21 February 2006)

As the annual collapse of stags has been estimated to one in every twenty, the Leadbeater's Possum is rapidly approaching a 'habitat bottleneck' (Friends of Leadbeater's Possum Workshop – March 2004). Logging coupes in the region have been observed to contain a high density of stags and previously having a dense understorey of wattle, constituting Zone 1B Leadbeater's Possum Habitat as defined in the Central Highland's Forest Management Plan. These are to be excluded from logging.

7.6 Surveys at the Tyers River West Branch



Map 7.6.1 Hollow dependent fauna mapping at the Tyers River West Branch Area

On Saturday, 11 March 2006, a team of amateur naturalists and wildlife observers conducted a stag watch to confirm sightings of significant species, including the Leadbeater's Possum, which have been recorded on the DSE BioMap. The BioMap revealed that a sighting of Leadbeater's Possum was within or in close proximity to Logging Coupe 483-503-0023. An area of Multi-Aged Forest was identified in the northern portion of the coupe and this site was chosen for the stag watch. The stag watch team sighted the following species (refer Map 7.6.1):

- Four Leadbeater's Possums coming out of a dead stag
- Two Greater Gliders near the Leadbeater's Possum sighting
- One Yellow Bellied Glider
- Four Forest Bats within the immediate area

It was later confirmed that the stag inhabited by the Leadbeater's Possums fell within the coupe boundary, as the coupe is already marked out in the forest by blue tape and the stag is approximately 10-15 metres within the boundary.

The southern portion of the coupe is an age class approximately 70 years and could be considered even age. A number of Yellow Bellied Gliders were heard within this area, suggesting that it may be a foraging area for the species.

7.7 Protection Requirements for the Leadbeater's Possum

The Central Highlands Forest Management Plan (FMP) defines three (3) zones for Leadbeater's Possum Habitat:

1. Zone 1A habitat contains living trees and is expected to be important for the long-term conservation of the species. Zone 1A habitat is protected either conservation reserves or the Special Protection Zone (SPZ).

2. Zone 1B habitat currently contains good habitat, but most of the existing hollow-bearing trees are dead and are likely to collapse in the near future. Zone 1B habitat in the General Management Zone (GMZ) is excluded from timber harvesting until either of the Zone 1B habitat attributes (the presence of dead mature trees or senescing trees, or wattle understorey) no longer exist

3. Zone 2 habitat consists of the remaining ash-eucalypt forests

Below, the Central Highlands FMP details the criteria for the Leadbeater's Possum Zones as shown in Table 7.7.1.

Table 7.7.1 Leadbeater's Possum Habitat Zones

Zone	Density of Hollow Bearing Trees	Hollow Bearing Tree Type	Wattle Density	Management
1A	>12 per 3ha in patches greater than 3 ha	Living trees containing hollows	n/a	Special Protection Zone
1B	>12 per 3 ha in patches greater than 10 ha	Dead or living trees containing hollows	>5 sq.m/ha	General Management Zone but excluded from timber harvesting while Zone 1B attributes remain
2	Regrowth ash forest of varying ages or areas with features of Zone 1A or Zone 1B but <3 ha or 10 ha respectively	n/a	n/a	General Management Zone (where timber and pulp extraction is a priority)

Leadbeater's Possum colonies occurring in forest outside the prescriptions of Zone 1A and 1B as detailed in Table 7.7.1 are not excluded from logging operations. **As logging operations under the Regional Forest Agreements have been made exempt from the EPBC Act 1999, Leadbeater's Possum colonies can be eliminated in logging operations with no legal recourse.** Further to this, Forestry Victoria has made the claim that no Leadbeater's Possum Habitat was within coupe 483-503-0023 as noted in Figure 7.7.1. **This demonstrates that current monitoring and observation undertaken by Forest Management is far from adequate to ensure the protection of endangered and critically endangered species.** This is a significant failure in legislation and policy and is demonstrated on coupe 483-503-0023, where a Leadbeater's Possum colony has been observed within the coupes 'marked' boundary. The adjoining Special Protection Zone (SPZ) has been described as a Zone 1A Habitat in Appendix A of the Central Highlands Forest Management Plan, however, it provides no protection for colonies found adjacent or near the SPZ as coupes are logged to the boundary. If this site is to be subjected to the scheduled clearfell/seed tree logging operation, it is highly probable that the colony of Leadbeater's Possum will be killed through mechanical damage to the stag during logging and/or the high intensity regeneration burn. It is assumed that all species observed on the site will be negatively affected. Refer to Map 7.6.1

DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT

TO: **GREG HOLLIS – F&F PLANNER, TRARALGON** Ref:

FROM: NEIL ALLEN – FOREST PLANNER, ERICA 7 October 2002

SUBJECT: **FUNCTIONAL ENDORSEMENT OF CATEGORY 2 COUPES**

PURPOSE

1. To seek your comments and/or functional endorsement of the following coupes to allow harvesting to proceed.

BACKGROUND

2. As part of the 2002/03- 2004/05 WUP processes, Flora and Fauna rated the following coupes Category 2.

Coupe address	Coupe Name	Approval Category	Comments
480/504/13	Whitelaw Rd	2 – LBP check	Protect veteran trees. 40m buffer on major streams. SPZ adjacent.
483/501/33	Buddys Tk	2 – LBP check	FV assessment completed, no LBP habitat found. Stags to be protected.
483/501/34	Buddys Tk	2 – BBF assessment	Mountain Ash. BBF zoning and prescriptions apply.
483/503/23	Christmas Ck Rd	2 – BBF assessment	Shinning Gum. BBF zoning and prescriptions apply.
483/504/22	Tyers River	2 – LBP check	FV assessment completed, no LBP habitat found. Adjacent SPZ may also in part not contain habitat values.

COMMENT

3. FV inspections indicate that none of the above coupes contain LBP habitat.

RECOMMENDATION

4. That you make comments and/or endorse harvesting of the above coupes or harvesting will continue as normal.

* No response recieved. 11/1/02

Neil Allen
Forest Planner
Erica

Endorsed: Greg Hollis _____
Flora & Fauna Planner
Traralgon

Figure 7.7.1 DNRE sought approval to log Coupe 483-503-0023 in 2002. 'Comment 3' details that Forestry Victoria (FV) indicated that the coupes contain no Leadbeater's Possum Habitat. This is contrast to the 4 Leadbeater's Possum sighted within the coupe as described above.

Key References

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Appendix 6 Baw Baw Report Chapter 8 – South Face Road

http://www.myenvironment.net.au/index.php/me/content/download/1099/6614/file/bawbawreportchapter8.pdf

8.0 Construction of the South Face Road

8.1 Introduction

In 1995, the then Department of Natural Resources and Environment (DNRE) began substantial works of its largest and most complex infrastructure project, the South Face Road (EPA 2001). The majority of the road straddles the mid southern escarpments of Mount Baw Baw within the Upper Tyers River Catchment and opened previously inaccessible forests for logging. The purpose of the South Face Road was to provide a permanent transport route to move timber from coupes west of Mount Baw Baw to mills located in the east (EPA 2001). These include the major Gippsland facility, the Maryvale Pulp Mill and the Neville Smith Timber Mill at Heyfield. The construction of the road has had a wide spread negative impact on the sites of significance along the escarpments of Mount Baw Baw. These include increased erosion and turbidity for the many rivers in the region, degradation of Rainforest Sites of Significance (detailed in Chapter 9), degradation of Sites of Biological Significance (detailed in Chapter 5) and the destruction of Sites of National Geological and Geomorphological Significance through rock blasting. This chapter provides an overview of:

- The EPA Tyers River Catchment Audit Findings (Section 8.2)
- Onsite observations made by The Central Highlands Alliance Inc (Section 8.3)
- Quarrying of Granite Tors (Section 8.4)
- Assessment of Quarrying made by Neville Rosengren (Section 8.5)

The construction of the South Face Road poses a severe environmental risk to the region. As the granodiorite derived soils in the region are highly susceptible to erosion, several sections of the road have 'collapsed', exposing the Upper Tyers and Tanjil River Catchments to continued erosion and increased sedimentation. The road has also permanently fragmented the forest, disrupting connectivity for 'non-flying' species, such as the Leadbeater's Possum, to forage (Lindenmayer and Franklin 2002).

8.2 EPA Tyers River Catchment Audit Findings 2001

In 2001, the Environment Protection Authority (EPA) conducted its audit of the Tyers River Catchment and it found that:

- Approximately 80% of water collected in the Moondarra Reservoir comes from the Upper Tyers River Catchment
- It is the auditors opinion that significant sediment discharges to Christmas Creek and the Tyers River West branch have occurred over the last few years
- There have been observations of sediment deposited on stream beds and of short term high levels of turbidity

The EPA has found that the construction of the South Face Road had the potential to contribute to these sediment discharges. The EPA reported that after a single storm event, elevated turbidity was detected in Christmas Creek. **The in-situ turbidity measurements increased from 14 NTU (Nephelometric Turbidity Units) immediately upstream of the Christmas Creek Bridge to 695 NTU 200 metres downstream. This has serious implications for the regions unique aquatic biota.** The EPA found this to be attributable to run off from the South Face Road near the bridge.

Figure 8.2.1 South Face Road near Tyers River West Branch under construction with exposed soils

With regard to the biological impacts of the road, the EPA found that:

- In the Tyers River West Branch, there was substantial downstream reduction in the quantity and diversity of stream bed fauna compared to upstream of the South Face Road;

- This was found to attributable to slugs of eroded sediment, but the impact of trout predation was also considered;

- Deposits of course sediment were observed downstream and in places, sediment had buried moss-covered rocks, suggesting that it had been recently deposited.

The EPA states that the South Face Road had the potential to contribute to these observations, but that other influences could not be ruled out. It noted that forestry and the construction of the South Face Road were the only activities occurring along this part of the river.

The EPA in its report was critical of the route planning of the South Face Road. The auditor states:

> *'…that the overall location of the South Face Road presents an inherently high risk to water quality…. Factors that contribute to this risk include the high rainfall in this part of the Catchment, the steep terrain, the erodible nature of some of the soils and the proximity of the road to major watercourses* (EPA 2001).

The report states that in 1988, the then Department of Conservation, Forest and Lands (DCFL) completed a major study to identify a permanent road network in the Central Highlands of Victoria. This study formulated the broad route of the South Face Road. However, the EPA found that an assessment of the environmental issues such as the potential impacts on water quality associated with this broad choice of route compared with alternative routes at lower elevations was not documented in the study. In 1989, a public discussion paper identified the proposed route of the South Face Road and outlined a process for planning the road. It proposed a detailed investigation to identify whether the road can be accommodated with careful planning to ensure that the area or feature of environmental significance is not compromised, or whether the road alignment has to be relocated. **The EPA could not locate any documentation for the outcomes of such an investigation into the overall route planning of the South Face Road.**

Figure 8.2.2 South Face Road between Growlers and Christmas Creeks

Substantial construction works on the South Face Road commenced in 1995 (EPA 2001). The EPA (2001) has found that 75% of the length of the road lies within the Tyers River Catchment. **The EPA (2001) has found that not all aspects of the design and construction of the road comply with the guidelines and the Regional Prescriptions.**

8.3 Onsite Observations

On site observations have confirmed severe erosion taking place along the South Face Road and adjoining access roads. The photo below demonstrates this vulnerability on a section of the South Face Road.

8.3.1 Severe erosion along the South Face Road near the Tyers River West Branch

8.4 Quarrying of Granite Tors

In December 2005, The Central Highlands Alliance Inc. discovered that a number of the tors that dominate the landscape around Mount Baw Baw were being 'quarried' to use for base in the completion of the South Face Road to the Baw Baw Tourist Road (Refer Figure 8.4.1, 8.4.2, 8.4.3). This was of great concern as this site is included within the overall site of National Geological and Geomorphological significance (Rosengren et al 1981).

Figure 8.4.1 Sites of National Geological and Geomorphological significance prior to quarrying above the Tyers River West branch

Figure 8.4.2 Sites of National Geological and Geomorphological significance during quarrying above the Tyers River West branch

Figure 8.4.3 Site following quarrying above the Tyers River West branch

Figure 8.4.4 Site following quarrying looking towards Mount Baw Baw

The majority of the blasted rock was then moved off site and stored along wider sections of the South Face Road (refer Figure 8.4.5).

Figure 8.4.5 Quarried Rock temporarily stored along the South Face Road on Buckle Spur

The Rock was then relocated where the South Face Road had become unstable (refer Figure 8.4.6).

Figure 8.4.6 Quarried Rock stabilizing the South Face Road where erosion has occurred

8.5 Assessment of Quarrying

The Central Highlands Alliance Inc. raised the issue with the Environment Ministers' office. They were unaware of the blasting operation and sought an explanation from the DSE Erica Office. In January 2006, the DSE Erica Office engaged Mr Neville Rosengren from Latrobe University to conduct a 'post-quarrying' assessment of the impacts resulting from the blasting. The report identified the following sites:

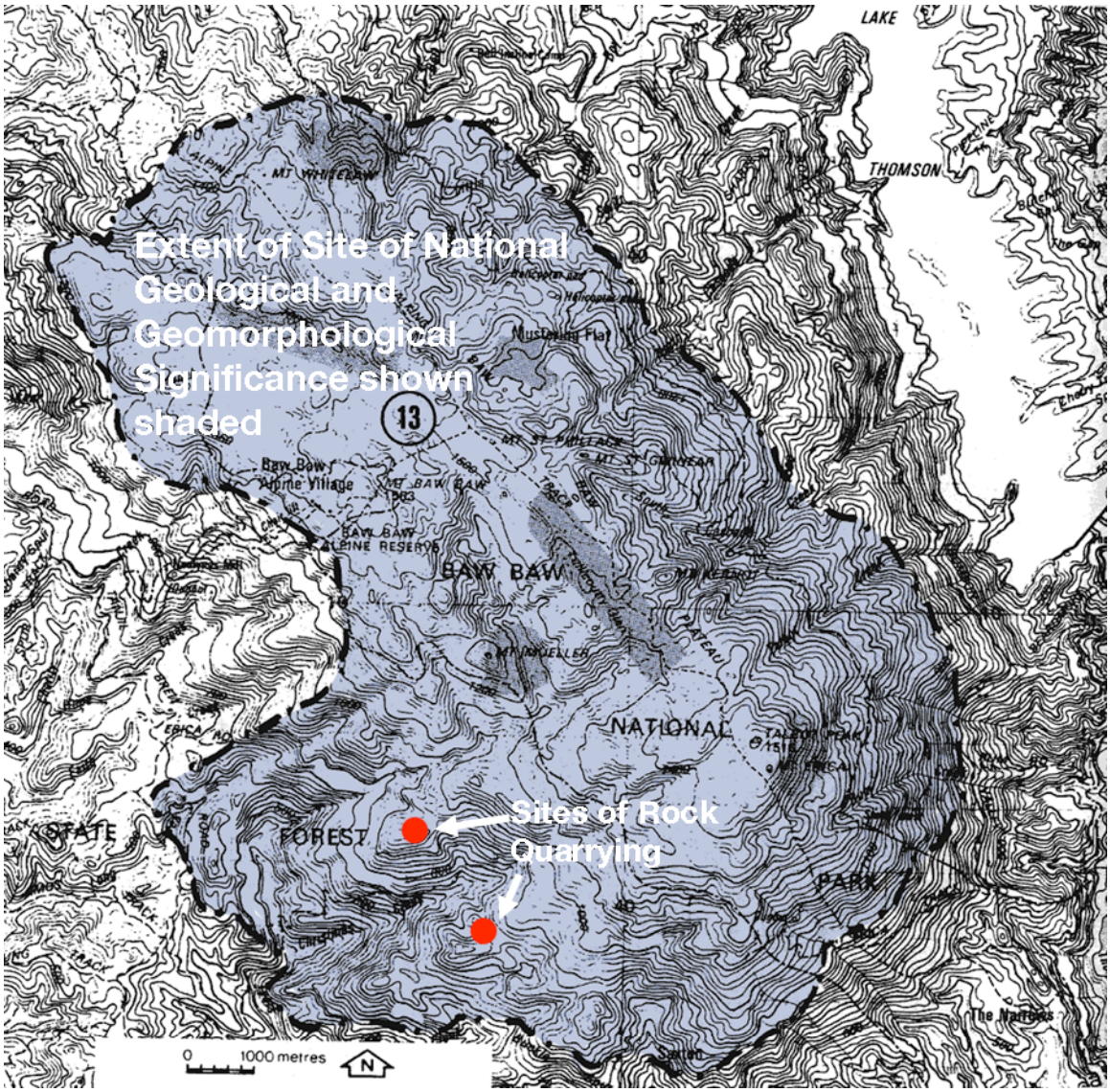
- **Site A** - An area of outcrop but is dominated by tall and elongate boulders that appear to mostly be *in situ*, i.e. they are upstanding or inclined and have not been substantially moved by preglacial slope processes. Some blasting has taken place but the larger boulders are intact. They show good but small examples of fluting and minor flaring of rock slopes. They are an excellent example of boulder development.

- **Site B** - This is an area of outcrop and very large boulders. The largest boulders are *whalebacks* - broad, low domed forms with the long axis parallel to the ground surface (rather than upright as at Site A). This site has been more intensively quarried over a small area and there is a substantial litter of broken rock (it is also a log loading site) and has more surface disturbance than Site A. The larger whalebacks are of an impressive size and several are intact.

Mr Rosengren then further states that:

> Both sites could be regarded as of geological significance as they provide excellent displays of outcrop and boulders of the Baw Baw Granodiorite. In the context of the larger Baw Baw Site of National Significance, these would be rated as of High Local Significance. This implies they are not critical to the maintenance of the principal features of significance of the larger site but should be considered as good examples of a feature reasonably widespread across the Baw Baw uplands.

The concern expressed by the Central Highlands Alliance Inc. is Mr Rosengren has now classified the areas as having *High Local Significance* and that are not critical to maintain the principle features. This is contrast to the original Rosengren et al (1981) study that included these sites within the overall site of National Geological and Geomorphological Significance (refer to map 7.5.1). Several stakeholders have expressed concern regarding the 'supposed' downgrading of significance from National to 'High Local' following the quarrying operations. The concern is increased when Rosengren in his assessment recommends that no further blasting to take on Site A and restricted blasting to continue on Site B.



Map 8.5.1 Extent of Site of National Geological and Geomorphological Significance shown shaded as sourced from Rosengren et al (1981). Includes sites of Rock Quarrying

Key References

DSE (2004a), 'Baw Baw State forest's South Face road – an EMS case study', (DSE)

EPA (2001), 'Tyers River Catchment – Findings and Recommendations', (EPA)

Rosengren N, McRae-Williams M, Kraemers S (1981), 'Sites of Geological and Geomorphological Significance in Central Gippsland', (Ministry for Conservation, Victoria)

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Appendix 7 Royston Range Coupe Audit Against Code of Forest Practice

http://www.myenvironment.net.au/index.php/me/content/download/1132/6717/file/Royston%20Issues%207.pdf

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Appendix 8 Review of the background of the 2007 code of forest practice

http://www.myenvironment.net.au/index.php/me/submissions/victorian_code_of_forest_practice/a_review_of_the_background_section_of_the_2007_victorian_code_of_forest_practice

Summary: The background section of the code is the very first section and simply details the history of how and why the code came about. Whilst this section bears no relevance to the implementation or effectiveness of the code and could easily be overlooked on closer examination it is an accurate reflection of the insular, ignorant and narrow minded attitudes of a self regulated government department. This arrogant approach is reflected in their ineffectual review of the rest of the code and anyone choosing to review it should seriously consider whether it's a worthwhile exercise or just a validation of their incompetence.

Please read the following "background" from the 2006 draft code and subsquent 2007 code of practice for timber production (in red). The statements from the code are in bold

Extract from the Code of Practice for Timber Production – draft for public comment, February 2006 - Page 6 - Background

"Timber and fibre harvested from Victoria's native forests and plantations are integral to our way of life, providing a renewable, adaptable resource with a wide variety of uses. Timber production activities are an important component of regional economies across Victoria, creating jobs and wealth that are a cornerstone of the States prosperity."

In the past timber harvested from plentiful Victorian native forests were used to build towns and city's and employ the first European settlers. The logging of trees was unregulated and was encouraged to clear the land for agriculture. The free resources provided by these ancient forests formed the corner stone of the countries prosperity. Over the last two centuries logging and land clearing have contributed to a massive reduction in Native forests and bio diversity across Victoria.

Over the past decade the demand for sawn timber has been steadily declining whilst over the same period the demand for woodchip for pulp production has been steadily increasing. This is demonstrated in the following graph. This is evidence that the logging industry is transitioning from a high value, high labour industry to a low value, low labour commodity market.

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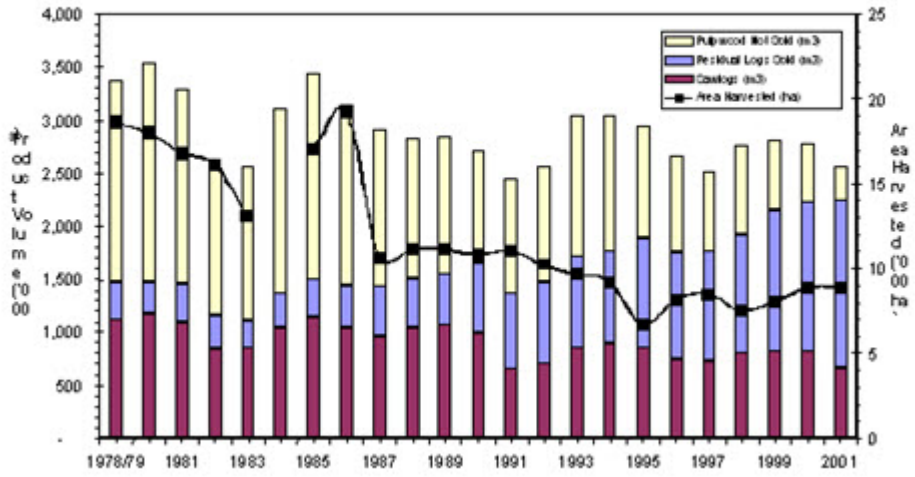
Area of native forest harvested and log production



"Timber has long been harvested from our native forests. Over the past several decades, the native forest industry has increasingly responded to the need to provide for other uses and users of forest, such as biodiversity protection, yielding clean water and providing recreation opportunities."

All of the other values are inherent in a native forest we don't need the industry to respond for them to be recognised.

The logging legacy has seriously compromised the environmental values of Victoria. There is now only 1.7% of the original rainforest remaining. Logging has created a large number of endangered and critically endangered species including, the Leadbeaters possum (Victorias faunal emblem once thought to be extinct), the smokey mouse, the barred galaxis, the sooty owl, the powerful owl, the broad toothed rat, and the Baw Baw frog.

Modification of the make up of the native forest by logging has significantly altered the fuel ratio in these forests and has contributed to many of the states worst fires. Most bushfires in Victoria originate from escaped logging regeneration burns.

"National parks and other conservation reserves have been declared in areas that were once harvested and public scrutiny of forest operations is now acknowledged as a necessary part of the right to use public resources."

It is true that once areas have been destroyed by logging that they are typically made national parks or conservation reserves.

Community groups are encouraged and in some cases required to participate or comment on government processes to validate their findings such as the EPA audit process, the wood utilisation plans and even the code of forest practice however, neither the volunteers nor the not for profit groups that they work for are renumerated. Rather than legitimate public consultation we are referred to by the ex federal environment minister for conservation

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fishing and forestry (Senator Ian McDonald) as " a bunch of bong smoking hippies who should get jobs". Meanwhile comprehensive scientific reports submitted to government for discussion are met with a generic letter along the lines of 'thanks but we have already considered that, thanks for validating the public consultation process and we are going ahead anyway'.

It is highly questionable weather public servants should be able to be their own judge and jury in cases where members of the voting public raise questions about their work. Unfortunately this is the very situation that TCHA find them selves in relating to beaches of the code of forest practices (a potential breach of the law) by Vicforests in coupes in the Royston range that are currently being logged. To date we have had no meaningful response and we have a case before the ombudsman.

"Victoria has benefited significantly from a long period of scientific research and field based forest management experience. As knowledge of Australia's ecosystems develops, forest mangers continue to improve their management of forests within sound ecological limits to ensure a long-term sustainable path for industry."

Scientific research has shown that logging has a dramatic effect on water yield. Five of Melbournes water catchments are open to logging and it is estimated that logging is reducing the Thompson catchment (Melbournes largest) by up to 50% or 1000 litres per second which significantly contributed to Melbournes recent water restrictions.

Plantations are increasingly providing replacement timber resources as they have demonstrated they can provide good commercial returns while potentially improving the health of catchments, either as part of a farming operation or stand-alone.

Private sector plantation resources are now available for sawn timber. Whilst monoculture plantations are not void of other issues such as chemical pollution of water catchments, plantations can currently provide 100% of export woodchip requirements for pulp. These resources are not currently being used because a native forest wood pulp agreements for as little at $8 per tonne v's the estimated $35 per tonne from plantation coupled with a global glut of cheap paper products and a forecast decline in the global pulp price has meant that its un economic to do so. The government and the Victorian taxpayers are now subsiding a local and export woodchip industry at the expense of our last remaining native forests, endangered species, water and tourist values. Plantation owners may even have a case for the ACCC.

"In 1989, the Victorian Parliament ratified the first code of forest practice for timber production. The code set out appropriate, responsible standards for timber production in State forest, to better manager the potential impacts of forestry."

In the face of an environmental catastrophe fuelled by industry self regulation that would have destroyed Australia's "clean green image" and Australias' reputation on the international timber market, in 1989 almost 200 years after the first tree fell for logging the

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Victorian Parliament ratified the first code of forest practices for timber production in Native forests.

Unfortunately for the government, the woodchip industry and our environment it was discovered around the same time that the estimates of the sustainable yield from the Native forests that was to provide the export woodchip mills was massively over estimated. In other words the wood is currently not available from native forests but legally the pulp agreements such as the Paperlinx concession are still required to be met. This has seen younger and younger forests being logged with up to 80% going to woodchip. Ironically the new timber pricing mechanism that has been introduced this year pays the logging operator the same royalty for pulp wood as for A grade wood (except in East Gippsland where in some circumstances the logging operator is actually paid more for woodchip than A grade) and this has provided an economic disincentive since the effort to harvest A grade wood is greater than for woodchip.

"The code was revised in 1996 to take account of new research information and filed experience over the previous six years, and from the implementation of the code on private land which occurred in late 1993."

Scientific research showed major issues with water yield from logged areas in water catchments and the code was reviewed in 1996. The code was clearly viewed by Government as a guideline to stop environmental damage however, a Supreme court ruling found that a breach of the code was in fact a breach of the law giving it a greater status. Despite this ruling however, the current code in 2007 is ambiguous in its language and liberal in its reference to other documents such as the forest management plans that make the code redundant but are less perscriptive. Recent audits by the EPA in relation to compliance to the code of forest practice have found that 100% of coupes audited have breaches to the code.

"This 2006 revision of the code incorporates advances in scientific knowledge, the substantial changes in legislation and regulation governing forest management in Victoria and improvement in operational practices over the last ten years."

Unfortunately this naive and insular view of the very premise of the code of forest practice sets the scene for the rest of DSE's proposed changes to the code and the current 2007 code of forest practice.

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Appendix 9 A review of the 2007 Victorian code of forest practice

http://www.myenvironment.net.au/index.php/me/submissions/victorian_code_of_forest_practice/a_review_of_the_2007_victorian_code_of_forest_practice

1. Background Section:

The background section of the code is the very first section and simply details the history of how and why the code came about. Whilst this section bears no relevance to the implementation or effectiveness of the code and could easily be overlooked on closer examination it is an accurate reflection of the insular, ignorant and narrow minded attitudes of a self regulated government department. This arrogant approach is reflected in their ineffectual review of the rest of the code and anyone choosing to review it should seriously consider whether it's a worthwhile exercise or just a validation of their incompetence.

2. Structure:

In order to provide a clear and unambiguous structure to the code it must be structured to reflect the bureaucracy that governs it. Namely:

· The government

· The DSE

· Vic forests

· The logger

Each of these entities are required to perform certain tasks that are supposed to comply with the code, however, the current proposed code structure mixes all of the roles and responsibilities together making it difficult to follow.

In practice this means that it is extremely difficult for members of the community to comment or communicate effectively with the logging bureaucracy because they can easily keep passing the buck.

In our experience when issues are raised with Government they ask us to talk to the DSE. The DSE ask us to talk to Vic forests and finally Vic Forests either blame the contractor or ask us to talk to the DSE or the government.

The proposed changes to the code do not address any of these issues.

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3. Ambiguity

The key areas include:

3.1 References to other documents

Many other documents referred to in the code supersede the code but are either less prescriptive or less binding including:

1. The regional forest management plan – Page 16 of the revised code states “Forest Management plans are the fundamental plan for the management of environmental ,cultural and resource value within a region.”.
2. Timber harvesting regulations 2000 – Numerous references to this regulation are found in the revised code. In the regulation it states that the code is not legally binding which conflicts with its current status. This can only be viewed as a deliberately misleading by the DSE who reviewed it.

In practice this means that when community attempts to engage with Vic Forests or the Government on breaches to the code the reply is that the code is ”over ruled by these other documents”.

For example the code defines rainforest buffers but refers to the forest management plan. Ian Miles (DSE) in a personal communication has stated that the buffers in the code do not have to be followed if the prescriptions in the forest management plan for rainforest are adhered to. I.e. they have justified having lesser buffers than prescribed by the code. “it all comes down to interpretation of the code and we have much more experience at doing that than most.” Was the reply.

The revisions to the code will not solve any of these issues.

3.2 Ambiguous wording

Ambiguous wording is on every page in the revised code including:

- “Should” rather than must
- “are” rather than must
- “may” rather than must
- “Considered” rather than must
- “Generally” rather than a fixed value

Quite simply put if its not enforceable then its only making the code look better.

The ambiguity has not been addressed in the revised code.

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3.3 Guidance

The definition of guidance on page 9 is “Forest mangers are not obliged to conduct any of the actions covered under guidance”. In effect this makes any guidance statements meaningless and just dresses up the code to make it look better. Why not put “try not to knock over any trees and don’t kill any animals and once finished make sure you leave it just as you found it”

It is incomprehensible why 80% of the items under “guidance” are not mandatory acts. Examples of such “guidance” include:

“Forest coup plans may include and specify where necessary the methods of marking, expected volumes to be removed, seasonal restrictions, fire protection restrictions and procedures for applying amendments to the plan” (page 19)

“The timber harvesting plan may include information on the periods which operations are to occur, methods of marking …” (page 21)

Surely the purpose of “guidance” must be to explain what the mandatory acts are? They must give examples of the sorts of things that must be put in place to comply with the mandatory act.

Example Loggers must log inside the coup boundary and follow the coup plan.

Guidance: the loggers must be literate enough to be able to read a coup plan. A coup plan must be on site.

(Interestingly we have not been able to find a clause in the code that actually states that loggers have to log inside the marked boundaries)

Guidance statements must be immediately after every mandatory act they refer to so that they are not ambiguous.

The current method of grouping all of the guidance comments at the end is confusing and by their very definition they are irrelevant.

3.4 Responsibility

Each mandatory act must have the role or department responsible for its implementation.

Currently it is difficult to work out who is responsible for what and therefore who is responsible for breaches.

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3.5 Nomenclature

Each mandatory act and subsequent guideline must have a unique number to identify it so that it can easily be referenced during audits or complaint process.

4. Education / Training / Literacy

Nowhere in the code does it mention training requirements, minimum education requirements or literacy requirements for any of the persons expected to implement the code.

5. Forest Conversion

The current code is more clear that native forests are not to be converted to “timber production”. The revised code does not make this as clear and in fact focuses more heavily on “timber” conversion activities like:

- Thinnings
- Fertilizers
- Intensive harvesting practices
- Seed selection

The revised code is focusing more heavily on converting native forests to “timber production” than on protection of the environmental values.

6. Rainforest protection

It appears that the proposed code has removed rain forest protection as a major heading and moved it under a sub section of “conservation bio diversity” Page 48. Furthermore these rainforest protection measures are under the “guidance” section (i.e. Forest mangers are not obliged to conduct any of the actions covered under guidance)

There is an appendix in relation to rainforest however the appendix does not appear to be referenced in the text of the code.

As previously mentioned the statement on page 16 of the revised code “Forest Management plans are the fundamental plan for the management of environmental ,cultural and resource value within a region.”. means that noting has changed in real terms other than the words.

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Rainforest protection has taken a back seat in the revised code and there is only 1.7% left in Victoria.

7. Conclusion

The proposed revised code is such a farce that TCHA will not even put our name to reviewing it.

It is a deliberate attempt to reduce the legal impact of the code by the DSE by referencing other documents that make such statements.

It is a poorly structured, poorly worded and highly ambiguous document.

The very premise of the code is not reflected in its background, nor the rest of the document.

In practical terms trying to assign accountability or responsibility to breaches to the code will be as difficult as it is now.

The guidance is poorly thought out, poorly structured, and meaningless by its own definition. The guidance sections have the misleading effect of making some aspects of the code look more “accountable” than they are.

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Appendix 11 Forest Audit failings

24 March 2008

To the Hon Minister for The Environment Mr Gavin Jennings;

Executive Summary

The Central Highlands Alliance ('TCHA') – a **regionally based environmental group** has spent considerable time and effort reviewing the EPA's Environmental Audit of Timber Production on public land and the audit process. In particular, TCHA have paid close scrutiny to the sampling methodology for coup selection and have provided the previous environment minister, the EPA and more recently SKM with numerous areas for improvement. **We wish to advise that based on a statistical analysis of the current coupe sampling methodology used by the EPA for the 07/08 Environmental Audit of Timber Production on public land that it is not possible to compare audit results between years**. This conflicts with the premise of the audit which is to show that the logging industry is demonstrating continuous improvement.

Background

In previous years TCHA has discussed the coupe sampling issues for the Environmental Audit of Timber Production on public land by the EPA with the former head of forest audits Mr Peter Tange. This was necessitated by the fact that **poor design in the sampling methods for the selection of coupes for the audit are causing the results of the audit to be misrepresentative**. We believe that the following issues are still outstanding for this years 07/08 audit results:

There is no relationship (statistically significant, or logical correlation) between the audit results and the actual undertaking of logging activities (as detailed in Attachment 1 1.8 Errors in Experimental Design for the Coup selection Process Page 8).

- Due to 6 counts of statistical error in the design of the current coup sampling methodology used for the audit (as detailed in Attachment 1 1.8 Errors in Experimental Design for the Coup selection Process Page 8) a comparison of audit results or overall audit scores can not be made between years but **surprisingly this occurs each year and public statements are made by the minister for environment.**
- The premise of the audit (to evaluate continuous improvement against the code) is not being determined by the audit due to the lack of statistical rigor and any statement by a minister suggesting that this is the case is misleading the public (as detailed in Attachment 1 1.8 Errors in Experimental Design for the Coup selection Process Page 8)
- **The publishing of the sampling methodology due to its lack of random selection makes it possible for logging contractors to work out which coupes will be audited**.
- Based on the statistical findings (as detailed in Attachment 1 1.8 Errors in Experimental Design for the Coup selection Process Page 8) **it is therefore not appropriate for anyone to make comparisons of overall audit results between years and certainly not appropriate to draw conclusions of continuous improvement in relation to logging practices and compliance to the code of forest practices**.

The delay in the delivery of the current review of the EPA's audit process by SKM is likely to mean that **there will not be enough time to develop an audit against the new code** of forest practice for the 08/09 Environmental Audit of Timber Production on public land program.

TCHA believe that there has been a short fall in the Environmental Audit of Timber Production on public land **process as it does not focus on environmental issues (**as detailed in Attachment 1 1.4 Shortfall in Audit Process page 5) **TCHA would like to suggest that to balance this short fall the government consider requesting the EPA to focus on auditing proposed logging coupes for the**

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08/09 audit (i.e. auditing the coupes this year before they are logged next year). Specifically focusing on aspects such as endangered species habitat, old growth, and rainforest. Then, after the logging takes place next year and once an environmentally representative audit has been designed for the new code, (rather than measuring the number of drains and whether the log landing was dug up) the auditors could assess whether the logging practice breached significant environmental issues i.e. the core premise of the code of forest practice.

Interviews are currently taking place for the position of head of forest audits at the EPA. In the past this position has been held by people with a long history of senior roles in logging (Attachment 1 1.6 EPA staff with logging backgrounds influencing focus of the audit Page 6) TCHA would like to respectfully suggest that the government ensures that a more scientifically and environmentally qualified person is appointed to the role of head of forest audits at the EPA as this would better suit the premise of the audit and the code of forest practice which is to primarily protect the environment.

TCHA believe that the DSE would not be an appropriate body to be in charge of forest audits on public land because there would be a conflict of interest since they are also in charge of choosing areas to be logged without adequate assessment which is causing many of the environmental issues. DSE are also responsible for overseeing VicForests operations.

Furthermore, TCHA have shown through the freedom of information act that chapters of scientific documents that called for high conservation value forests to be protected from logging (Attachment 1 section 5.0 Scientific Reporting 1990-1994 Page14) were removed from those reports by the DSE and re submitted prior to signing of the regional forest agreements. Those areas have subsequently been and are currently scheduled to be logged. (See Attachment 11.3 Bureaucracy, accountability and ethics page 4)

TCHA call on the government to investigate the suppression of key chapters of environmental reports by the DSE which we believe has resulted in logging of high conservation forests. TCHA would like to know how the suppression of this information has impacted the sustainable yield and therefore the current wood pulp agreement volumes with Paperlinx?

We have provided further detail in Attachement 1 of this letter and supporting reference material in the Appendix.

We would like to make a time to discuss these issues with you in detail so as to allow the Minister to make fully informed statements to the public, and ultimately ensure a methodology which shows the true impact of logging on the environment.

Yours Sincerely.

Vice President

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Attachment 1

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1.1 EPAs focus for the Audit of the Code

The CODE is at the bottom of a large number of bureaucratic departments and other regulations. From an Environmental community stakeholder perspective there are larger issues outside of the current scope of this review which are making the EPA's audit process ineffective. It is not our intention to "shoot the messenger" on many of the findings that come from the EPA's report nor the professionalism of the auditors that do the auditing, however it is our collective view that the audit focuses on logging operations rather than the environmental values and in part we believe that this may be influenced by the work history of some of the senior managers within the EPA its self.

The EPA is accountable for the areas of the CODE that it has chosen to focus on and furthermore the methodologies which it has employed to conduct its audit assessments. In some cases this has been by third party consultants such as GHD however, in these cases the EPA has signed off on the approach.

1.2 Other documents influencing activities on the ground

Although the EPA are auditing the CODE it is important to realise that there is a complicated interaction of documents and departments which make up the regulation and enact it. These include:

- The Regional Forest Agreement (RFA)
- The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act),
- The Forest Management Plans (FMP) for forest Management Areas (FMA)
- The code of forest practice (CODE)

In all cases the RFA's over ride the EPBC Act, the Forest Management Plans in some cases over ride the Code. In cases where the EPBC Act would not allow logging the RFA's are allowing it and the EPA is auditing those practices and if procedures outlined in the CODE are followed, they are receiving high compliance scores.

In the case of the nationally listed, critically endangered, Baw Baw frog also red listed by the IUCN, it is the only endemic frog found in Victoria and would be protected by the EPBC Act. However, "Adaptive Management "experiments were proposed by the DSE where coupes in the frogs habitat are to be clear fell logged and burned to see if it survives. After flying leading amphibian experts down to reason with government and producing a detailed report the "Adaptive management" experiments have been place on hold. If the EPA were to audit a logged adaptive management coupe against the CODE which clearly contravenes the EPBC Act, under the RFA, it would pass with up to 98% compliance as long as:

- the number and frequency of drains in the logging roads comply
- whether the regeneration fire exceeded the boundary of the coupe
- whether the log lading was compacted and top soil replaced
- whether the operators log book is complete and accurate
- and other such measures with little regard for the frog

See Appendix 1 Baw Baw Frog

1.3 Bureaucracy, accountability and ethics

It's also worth noting that the bureaucracy is divided into DSE who choose where the logging will take place, VicForests who map out and supervise the logging and the contractors who do the logging. From a community stakeholder perspective we have found it very difficult to find out who is accountable for any of these activities when a breach of the CODE occurs.

Through the freedom of information act TCHA discovered that critical chapters from environmental assessments of areas prior to DSE allocating regions for logging were not only suppressed but had the chapters which recommended no logging in certain areas removed. Furthermore while obtaining those documents last year the original chapters were again tampered with by employees of the DSE in head office in Melbourne. Some of these areas are now currently being logged and again if the EPA was to audit them it is

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highly unlikely that this would be picked up in their audits. We would certainly not endorse any auditing of logging operations or of VicForests by the DSE and would welcome a public enquiry into this.

On the ground when community stakeholders identify breaches to the CODE such as the rainforest buffer zone in the Royston , Vic Forests referred to the Central FMP as an over riding document which states that less of a buffer needs to be in place i.e. it is less prescriptive than the CODE but over rides it. The Royston report also identified issues with the marking of the coupe prior to logging, and the presence of endangered leadbeaters habitat that was not marked. Whilst the EPA is auditing against the CODE in practice it is not the only document having significant influence on the ground in logging operations.

See Appendix 2 Royston Report

1.4 Shortfall in Audit Process

It appears that there is a major short fall in the Governments audit process in that the EPA is auditing the practices of contractors supervised by VicForest but they are not auditing the DSE who are determining what regions are being logged. In some cases their knowledge comes from helicopter surveys rather than detailed on the ground knowledge.

Another issue is that the markings of the coupes by VicForests are being audited after the coupes have been logged and this results in most of the significant environmental breaches not being picked up or being picked up after the fact and this is not acceptable in the case of critically endangered species.

For example in the Royston prior to logging commencing:

- areas of rainforest were inside the coupe boundary indicating that the significance of the rainforest was under estimated
- coupe boundaries were marked too close to rainforest
- large old growth zone 1A habit habitat trees were inside the coupe boundary
- many stags in “ideal Leadbeaters habitat” as described by members of friends of the Leadbeaters and staff from Healesville Sanctuary were not marked.

After TCHA commissioned an independent assessment of the rainforests by Practical Ecology and presented these findings to DSE, we were told to talk to Vic Forests directly i.e. those who had potentially breached the code i.e. broken the law. None of the items listed above were acknowledged and VicForests claimed that they would have done this in their review process. The boundaries of the coup were moved by VicForests and environmental groups were accused of moving marking tapes etc. The photographic evidence proved otherwise i.e. trees were painted with a big red H well outside the new coupe boundary. whilst VicForests are not in the habit of making habitat trees well outside the boundary.

On the matter of the endangered Leadbeaters habitat Bruce Mc Tavish from Vic Forests simply states that under his interpretation of the CODE only living trees are retained for habitat not dead ones! And since roading to the coupe is exempt from the CODE an access road was pushed through proposed zone 1A Leadbeaters habitat.

If the EPA was to audit this coupe then they most likely won’t pick up on many of these issues because there may well be nothing left. In fact true to Mr Mc Tavish’s word they do only keep living trees and there are none of the dead habitat trees left so in this particular coupe there will be no evidence of the exceptional lead beaters habitat TCHA documented for the EPA Auditors to audit. It is also evident that the intention of VicForests is not to protect Environmental values but to follow the letter of the code to maximise logging outcomes.

It is important to realise that the purpose of the CODE is to ensure that “timber harvesting” operations are carried out in such a way that:

a) Promotes an internationally competitive forest industry
b) Is compatible with the conservation of the wide range of environmental values associated with the forests and;
c) Promotes the ecologically sustainable management of native forests proposed for continuous timber production

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Fundamentally the CODE needs to protect Australia's reputation on the international market by showing that the logging industry has some control measures in place and that the environmental values of the native forest are being maintained. The intention was not to convert native forests to plantations but rather to protect the flora and fauna in a sustainable way

1.5 Review of the Code

The proposed revised CODE has been altered by the DSE to allow practices such as "thinnings" to take place where trees are thinned periodically and the middle and ground story is destroyed by the movement of heavy industrial machinery. Much of this can not regenerate without fire and the native forests quickly become monocultures of straight trees left from the thinnings operations i.e. resembling plantations.

There were many environmental issues raised by community groups during the CODE review process which were passed onto GHD who passed them onto the DSE. The final draft proposed by the DSE however, failed to take into account many of these concerns and in the case of the Australian Conservation Foundation their concerns regarding the transition to plantations through thinnings were not only ignored but the proposed CODE was tightened to ensure that there would not be future breaches or issues.

Unfortunately at this point it was discovered that despite the Hon. Minister for Environment Mr. Thwaites being a lawyer, under the Bracks Labour government he illegally gazetted the revision of the CODE and the process had to start over again.

At this point many of the community groups lost faith in the government the DSE and the review process and pulled out. See Appendix 7 loss of confidence

The following document written by TCHA was therefore never submitted to government however, it outlines the cause of many of the current issues which are pertinent to the CODE and the EPA's audit of it. See Appendix 3 Review of the code of forest practice.

If the revised code had not been illegally gazetted the EPA may well be auditing against it this year. It is worth reading from an environmental perspective our review of the introduction section of the revised CODE. See Appendix 4 Review of the Background section of the code of forest practice.

1.6 EPA staff with logging backgrounds influencing focus of the audit

The EPA's senior Manager of Natural Resource Audit - Peter Tange was previously regional forest manager for Western Victoria in 2000 and the EPA's Adam Beaumont Project Manger – Forestry is committee member of the Institute of Foresters of Australia. Whilst it is argued by the EPA that it's good to have people who know the industry from the inside there is a bias towards industry. Community groups have been calling for a more balanced representation within the EPA its self including people with credentials in science as well as environment.

Whilst the Code has many items relating to "after the fact" compliance such as roading, fires, buffers and so on the EPA has focused its attention to these details rather than the bigger environmental issues such as the extinction of Victorias faunal emblem and other critically endangered species.

This is evidenced by the fact that In recent years we have seen significant reductions in numbers of endangered species such as the Baw Baw Frog and the Leadbeaters Possum. This detailed focus on after the fact auditing i.e. of bear ground coupes may be in part due to the experience and background of the senior staff in the EPA as mentioned above.

The only effective way to measure the larger issues is to do pre logging surveys of the areas that ;

a) have been assigned for logging by the DSE and
b) have been marked for logging by Vic forests.

1.7 Key issues with the Forest Audit Process

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1.7.1 Audit teams

- Mostly 3rd party
- Focus of the audit should be better managed by the EPA to represent environmental values rather than compliance to the logging process
- The EPA's senior Manager of Natural Resource Audit - Peter Tange was previously regional forest manager for Western Victoria in 2000 and the EPA's Adam Beaumont Project Manger – Forestry is committee member of the Institute of Foresters of Australia. Whilst it is argued by the EPA that it's good to have people who know the industry from the inside there is a bias towards industry. Community groups have been calling for a more balanced representation within the EPA its self including people with credentials in science as well as environment.

1.7.2 Time and financial resources

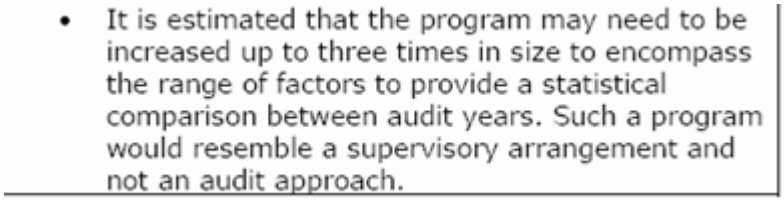
- In last years audit report by the EPA's own admission they did not get the report finished in time enough to pass on recommendations to DSE/VicForests.

  Page 38 section 7.2 2005 Audit recommendations ……"Since the final report was not produced until late December 2005 there was limited time for recommendations and suggestions to be taken on board by DSE / VicForests."

  This is totally unacceptable as the premise of the audit is continuous improvement. Furthermore since the statistical validity of the results can not be compared from year to year this is the only way the continuous improvement can be demonstrated. i.e. by the department closing out non compliances or recommendations made by the auditor.

- Also by the EPA's own admission the budget to do the audit is 3x less that it should be to be representative.

  From the final stakeholder feedback comments by EPA

  
  - It is estimated that the program may need to be increased up to three times in size to encompass the range of factors to provide a statistical comparison between audit years. Such a program would resemble a supervisory arrangement and not an audit approach.

  What is surprising here is that rather than the EPA educating and asking the government for more funding to do the job properly they are telling community groups that additional funding for accurate audits is not worth while.

  "… this additional cost could not be justified"

  We do not believe that the EPA have the right to tell us what they think is an appropriate budget to be allocated by our government for them to do a good job.

1.7.3 Scope and Method of audit, including coupe selection, operator and stakeholder participation

Scope and method of audit:

- Premise of the audit is unclear
- Focused on operational and process tasks rather than environmental outcomes
- Interaction of documents outside the CODE need to be considered since they are influencing operations on the ground
- Bureaucracy is confusing and little accountability

Coupe selection:

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- 6 counts of statistical incompetence

1.8 Errors in Experimental Design for the Coup selection Process

7 March 2005

At the recent briefing of the EPA's audit report it was stated that the premise of the EPA's audit is not to target the areas of non compliance of logging practices by the Department of Sustainability and environment but to " get a general overview of the Department of Sustainability and Environments (DSE) performance against the code of forest practices for its logging operations across Victoria and determine weather there has been continuous improvement"

The selection criteria for the coupes to be audited and the methodology used for sample selection raises concerns and puts in question the statements recently made by the Environment Minister Mr John Thwaites in relation to the EPA's audit findings.

1) The arbitrary weighting of a number of factors to give an overall score for the coup risk rating is of great concern as there have been little studies done to show relationships between the factors or verify that the weighting produces scores that are truly representative of the true risk rating.

2) The subsequent grouping of the coupes into three groups is only relevant if the groups look similar after the grouping takes place and we believe that the highest risk coups in the last group would have large variation.

3) By skimming a set number of the highest risk rating coups (8% of total limited by budget) and then arbitrarily dividing that number over the three groups is unlikely to produce statistically representative samples.

4) Finally, the sample methodology skims the highest risk rating coupes from each group rather than using a process of random selection which is contrary to accepted statistical methodology.

5) Of greatest concern is that the Department of Sustainability and Environment can use the above formula to determine which coupes will be audited before performing the logging operations further jeopardising the confidence in the audit findings.

6) After this dubious statistical methodology has been applied, to then average all of the coupe audit scores for all groups and come up with a total year 2004 average coup score is not appropriate. Furthermore, to then compare this with the 2003 average coup score and state that there is an overall continuous improvement of 5% is unrealistic.

TCHA have spent considerable time giving the EPA feedback on the EPA audit process for forestry audits and have had discussions with Peter Tange the Head of Forest Auditing at the EPA. We believe that the following issues are still outstanding:

Because of poor design in the sampling methods for the logging audit (ie 6 counts of statistical error) the audits are misrepresentative.

1. There is no relationship (statistical therefore factual) between the audit results and reality of the logging practice.
2. A comparison of audit results or overall audit score can not be made between years but this occurs each year.
3. The premise of the audit to evaluate continuous improvement against the code is therefore misleading and a farce and any statement by a minister is misleading the public.
4. Because of the published sampling methodology it is possible for logging contractors to work out which coupes will be audited.

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Does not satisfy the premise of the audit which was to show continuous improvement

We actually wrote letters to the minister telling him that it was not appropriate for him to be making public statements that the EPA report was showing continuous improvement from year to year.

See Appendix 5 communications with Government and EPA regarding statistical sampling methodology

Subsequently these statements have not been made since this letter was written.

1.9 Stakeholder participation in Audit process

- Opportunity to get involved at the ground level during audits and review however, as outlined in the introduction the issues are at a more strategic level within the EPA
- When Issues were raised in relation to higher strategic levels then there was a high expectation of more meetings and demand on not for profit volunteers to provide information and solutions without remuneration
- In the case of the coupe selection and reporting we were never happy with their response however, it was included in the report as their response to community involvement.
- We feel that we are dealing with ex logging industry in the EPA who are auditing logging practices rather than the impact on the environment.

It is important to see the background on how this was presented and the responses from the EPA. We wrote the following detailed summary to the Environment minister

See Appendix 5 communications with Government and EPA regarding statistical sampling methodology

We raised 5 concerns in relation to the audit

The following response was tabled by the EPA on the 21/4/2005 in response to the above.

Group	Issues/Comment	EPA Response
TCHA	EPA should engage an independent statistician to examine the coupe selection process	An audit is an assessment of compliance with a strategy or objective; it is not designed to be a scientific study and is not statistically based. The selection process used by the auditor is designed to provide him with a range of coupes for audit. In discussion with the auditor and other stakeholders EPA will investigate removing the risk-based selection in 2006 and replacing it with another process such as random selection.
TCHA	Coupes sampled not statistically representative	An audit is an assessment of compliance with a strategy or objective; it is not designed to be a scientific study and is not statistically based. The coupe selection methodology used by the auditor is not statistically based, rather it is risk based. In discussion with the auditor and other stakeholders EPA will investigate removing the risk-based selection in 2006 and replacing it with another process such as random selection.
TCHA	Coupe selection methodology not statistically based and therefore sample of coupes not representative	Agree, as it is a risk based selection process designed to favour coupes that have more complex variables for management. An audit is an assessment of compliance with a strategy or objective; it is not designed to be a scientific study and is not statistically based. In discussion with the auditor and other stakeholders EPA will investigate removing the risk-based selection in 2006 and replacing it with another process such as random selection.
TCHA	Average compliance scores not	An audit is an assessment of compliance with a strategy or objective; it is not designed to be a scientific study or statistically based.

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	statistically comparable between years, statistics should be provided that demonstrate if the change in compliance is statistically significant	The audit aims to assess timber-harvesting operations against the code annually and as such is a snap shot in time. It is not designed as a long-term study of compliance. Whilst statistical relevance is uncertain due to different areas being sampled annually, some general comparisons can be made between years.
TCHA	Statistical confidence intervals should be provided with total compliance score	An audit is an assessment of compliance with a strategy or objective; it is not designed to be a scientific study or statistically based. The average compliance presented by the auditor is an accurate reflection of the coupes sampled. The audit is not designed as a statistical study, therefore statistical analysis is inappropriate. EPA will talk with a statistician to make comment on this.

TCHA together with our statistical consultants vehemently disagree with what the EPA have written above. And we wrote back the following

22/4/05

Dear Adam Beaumont

We do not agree with the comments that were made in the EPA's response and by saying that you are getting rid of the risk based selection in the future does not address all of the issues that we raised. We don't understand how your response indicates that it has adopted our approach in any way?

The conclusions from the audit are based on inferences drawn from the sample of coupes and this by definition is statistics. Statistical considerations are totally relevant to this audit process.

Even if you use random selection in the future there is still the issues of scoring and ranking, relevance, and making comparisons with previous years results to show continuous improvement which you stated in the meeting is the basic premise of your audit. Whats more you are making reference to continuous improvement in the audit report and presenting misrepresentative results.

Please let me know who is accountable for the response that has been tabled by the EPA

Which resulted in the EPA contacting us and asking for more meetings. The fact of the matter remains that we do not agree with their response

The issues from TCHA were rolled into one EPA Response

Group	Comment	EPA Response
TCHA	The audit should be statistical and the coupe selection methodology statistically representative.	EPA's statistician has spent considerable time investigating whether the coupe selection methodology can be statistically representative and, therefore, produce a statistically based audit report. We were unable to create a representative sampling methodology based on 45 coupes that can encapsulate the human, environmental and administrative factors that affect compliance. To provide a statistical comparison between any two given years would require all areas of the state to be sampled each year. This would require at least 10 FMAs to be audited and it is estimated

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		that the audit program would need to be increased up to three times in size. In relation to the objectives of the audit program, this additional cost could not be justified. In addition, use of statistical selection methods removes the auditor's ability to target specific coupes and issues raised by other stakeholders (e.g. roadline coupes, rainforest, etc), as any variation to the selected coupes would bias the sampling. The current audit methodology is designed to draw out systematic issues affecting compliance based on a sample of coupes. EPA accepts that compliance scores are not statistically comparable between years as different FMAs, coupes, contractors, forest officers, forest types etc are sampled each year. However, EPA does believe that general observations can be made over time. In appreciation of this, the audit report doesn't follow a statistical design. In addition, 2006 is the last time that the current Code will be in operation. The next forest audit will be assessed against the requirement of a new Code. Thus statistically valid comparisons will not be able to be made between these two years, irrespective of the coupe selection approach adopted. For the reasons outlined above and based on consideration of feedback from other stakeholders, EPA has asked the auditor to maintain the current risk based selection approach.

In the final report the response was summarised as follows:

From Summary of Stakeholder Feedback 2005 Forest Audit program

The audit should be statistical and the coupe selection methodology statistically representative.	EPA will maintain the current coupe selection methodology as: • EPA is satisfied that audit program is providing useful and transparent information to assist in improving code compliance • The current methodology targets coupes where there is a greater potential for damage to the environment and samples approximately 10% of all coupes harvested annually • Use of statistical selection methods removes the auditor's ability to target specific coupe issues identified by stakeholders e.g. rainforest; and • It is estimated that the program may need to be increased up to three times in size to encompass the range of factors to provide a statistical comparison between audit years. Such a program would resemble a supervisory arrangement and not an audit approach.

See Appendix 5 Communications with Government and EPA regarding Statistical Sampling Methodology

Furthermore the EPA sent their responses to the minister who accepted their response and responded to our letter with the following

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See the ministers response in Appendix 5 Communications with Government and EPA regarding Statistical Sampling Methodology

We still don't agree with the response so the consultation process is some what flawed.

For a complete summary of all of this documentation see Appendix 5 Communications with Government and EPA regarding Statistical Sampling Methodology

1.10 Outputs of the Forest Audit Process

1.10.1 Attitudes to the Audit

- It is a shame that it's not focused on the right issues and is not representative
- It is focussed on process rather than environmental outcomes
- Having the "Environmental protection Authority's" name on it makes it sound like its keeping an eye on the environment
- Individuals are not held accountable for breaches
- Recommendations are not taken up

1.10.2 Knowledge and Skills

- We have people who mark coupes from Vic Forests coming out saying that they are not trained to identify Leadbeaters habitat or rainforest
- Vic Forest seem more intent on finding loop holes in the code and brining in loop holes from other legislation rather then focusing on environmental protection. I.e. putting roads through zone 1 a habitat and only retaining living habitat trees

1.10.3 Differences in management of logging Activities

- Focussed on roading, log landings and coupe boundaries
- Can determine which coupes will be audited so likely to be a higher focus on compliance for the coupes they know will be audited.

1.11 Social Economic and Environmental Outcomes of the Audit

Changed stakeholder perceptions

- Unfortunately the answer is yes the public believes in the EPA because of its other roles in our community however, the Government and public are being miss lead by the fact that the "Department of Sustainability and Environment" and the "Environmental Protection Agency" are managing "Forest Harvesting" for compliance to logging and not environmental values and outcomes.

- The names of these departments and the uptake of the timber industry rhetoric by them in their documentation i.e. "timber harvesting" rather than "native forest logging" is a deliberate attempt to miss lead the publics perception of what is actually taking place.

1.12 Does the Audit influenced Economic viability and international competitiveness

The DSE and industry are pushing for AFS which is a process based standard much like how the code is written however, international markets such as Europe and Asia and Australian environmental groups and some sectors of the industry are looking at other standards such as FSC. In real terms the auditing of the CODE by the EPA with a focus on process based activities is supporting AFS which in turn is reducing the value of forest products both in Australia and in Overseas markets. More details on forest certification can be found in the following attachment

See Appendix 6 certification for forests

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1.13. Is the Audit achieving or likely to lead to the achievement of improved environmental outcomes

No. The audit is likely to bring focus to some areas of non compliance in relation to logging activities such as roading, buffer zones and boundaries however, in the larger scheme of things these are fairly insignificant compared with species extinction, water loss and loss of carbon sequestration.

1.14 Recommendations for the Future

1.14.1 Is the forest audit program necessary?

- In the short term, an independent, environmental and scientifically based 3rd party forest audit focused on environmental outcomes which is representative and statistically valid is absolutely necessary to monitor and prevent species extinctions from taking place due to logging. If standards such as FSC are taken up then Australia may still have an opportunity to hold onto its export markets.

- Given the over supply of plantation hard and softwood and the demands on water resources which are being exploited by the timber industry it is unlikely that native forest logging will be in existence in the medium term.

- Given that self funded retirees will be expecting a return on their super funds invested in plantations and given that the government is competing with those resources by selling native forest for woodchip for as little at $8.50 per tonne v's a cost of $35 per tonne need from plantations it is unlikely that such governments will be re elected. It is also unlikely that tax payers will continue to agree to fund roading, water usage and the cost of DSE, VicForests when they find out the truth of what has been going on in one of Victorias oldest industries.

1.14.2 Are there ways of building on existing audit and certification processes to achieve the audits objectives

- TCHA and its statistical consultants have gone to great lengths to try to show the EPA that through better modelling of the selection criteria and the risk ratings that existing data could be used to achieve the audit objectives without too much extra cost.
- The sampling methodology for coupes also needs to be re designed to be statistically valid and therefore representative to achieve the objective of the audit.
- Like other EPA audits the EPA needs to be given more power to fine or prosecute breaches of the Code.
- Government departments, contractors and loggers need to be accountable for the outcomes of the audit and breaches. Fines need to be issued and management need written warnings and sackings if they continue to occur.
- Penalties need to be introduced to discourage non compliance. I.e. if non compliance occurs then 10x equivalent area needs to be put into national park.
- The focus by the Government for the certification should be market driven and encompass environmental outcomes i.e. FSC not AFS. This should also be encompassed by the third party audit which would cut down on compliance costs.
- The EPA's team should be more experienced in Environmental and scientific backgrounds rather than forestry.
- As discussed in the introduction the CODE or the revised CODE are not appropriate for what is needed. To achieve certification to a standard that the rest of the world wants to purchase would under would not allow what the CODE and RFA's allow i.e. for the Baw Baw frog and Leadbeaters possums to become extinct because of logging.

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5.0 Scientific Reporting 1990-1994

5.1 Introduction

In late 1993, the then Department of Conservation and Natural Resources (DCNR) completed a study, *'Ecological Survey Report No.46 - Flora and Fauna of the Eastern and Western Tyers Forest Blocks and Adjacent South-Eastern Slopes of Baw Baw National Park, Central Gippsland, Victoria'* (Davies et al 1993). The report was the first DCNR ecological survey for the Central Highlands' Gippsland area and was carried out by the Flora and Fauna Survey Team set up by the State-wide Planning Policy Advisory Group – an initiative of the then Minister for Conservation, Forests and Lands. The report was commissioned as the result of public concern over the potential impacts of major road networks and logging on environmental values in the forests of the Central Highlands of Victoria. The report initially comprised of the following chapters:

1) General aspects of the Upper Tyers River Catchment
2) Vegetation
3) Mammals
4) Birds
5) Amphibians and Reptiles
6) Fish
7) Butterflies
8) Conservation of Flora and Fauna
9) Significant Communities and Habitats
10) Effects of Land Use Activities on Flora and Fauna
11) Biologically Significant Sites and Wildlife Corridors

Upon the publishing of the report in 1994, Chapters 8, 9 and 10 were removed. Chapter 11 became Chapter 8, however, the biologists' recommendations for the management of Biologically Significant Sites and wildlife corridors were removed in Chapter 8. Upon being published, the report was withdrawn by the DCNR, and what remained of chapter 8 (originally chapter 11) and the map locating the sites, were removed. The report was reissued with the pages of chapter 8 and the map simply 'missing'. The removal of this information prevented forest management from being adequately informed about the significance of the region (Hansard 1999). Since then, the Upper Tyers River Catchment has been subject to extensive clearfell logging. The Central Highlands Alliance Inc. located the deleted chapters and presents their findings and recommendations below. The following also provide testimony of why the chapters were deleted. These are covered in the following sections:

- Purpose for reporting on the Upper Tyers River Catchment (Section 5.2)
- Details of the 'Deleted; Chapters (Section 5.3)
- Biologically Significant Sites and Wildlife Corridors (Section 5.4)
- Significance of Sites Identified (Section 5.5)
- Why were the Chapters and the Map detailing the Sites deleted? (Section 5.6)
- What are the Impacts? (Section 5.7)
- Sites of significance as outlined in the Central Highlands Forest Management Plan (Section 5.8)
- Implications for future management (Section 5.9)

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The Chair of the Senate hearing on the Regional Forest Agreement Bill described the act of suppressing this information as a *fairly serious charge* (Hansard 1999). It reveals that forest management acted in the interest of meeting 'unsustainable' timber and pulp license commitments at the expense of forest biodiversity and the public good.

5.2 Purpose for reporting on the Upper Tyers River Catchment

The study was to assist managers with decisions relating to proposed road works and logging in these areas. The construction of permanent roads in the region was temporarily suspended pending the completion of environmental assessments (Davies et al 1994).

The aim of the report was to:

- Compile an inventory of vascular flora
- Describe and characterise vegetation communities and determine their distribution
- Compile an inventory of vertebrate fauna and estimate their distribution and abundance and relate these to vegetation communities and sub-communities
- Review the status of fish species in the study area
- Compile an inventory of butterflies
- Identify significant biological values

The study area of the report focuses on the Eastern and Western Tyers Forest Blocks and the adjacent southeast slopes of the Baw Baw National Park. The study area covers approximately 8,469 hectares on the southern slopes of Mount Baw Baw and contains a large part of the upper catchment of the Tyers River (Davies et al 1994). The report does not dismiss the biological value of the surrounding escarpments. With the exception of the Cascade Forest Block on the Eastern Escarpment, it is not known whether further surveys and reporting of equivalency were carried out on the surrounding escarpments of Mount Baw Baw, however, it can be assumed that these values could carry over.

The removal of chapters 8, 9, 10 and 11 prevented forest management from being adequately informed about the significance of area and allowed an inappropriate forest management to persist. This resulted in the degradation of a number of the biologically significant sites and wildlife corridors. This becomes the topic for the next two sections

5.3 Overview of the Deleted Chapters

The chapters and their contents that were removed from the original study are listed in Table 5.3.1. An overview of 'chapters 9, 10 and 11' will follow.

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Table 5.3.1 Table of contents detailing chapters removed from the DCNR report on the Upper Tyers River Catchment

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5.3.1 Significant Communities and Habitats

Chapter 9 of the original DCNR study describe Significant Vegetation Communities and Sub-communities and Significant Habitats. It lists and recognises the following Significant Vegetation Communities and Sub-communities within the Upper Tyers River Catchment:

1. Sub-Alpine Wet Heathland
2. Montane Riparian Thicket
3. Cool Temperate Rainforest
4. Wet Sclerophyll Forest

Chapter 9 then provides detail on the significance of old-growth forest habitat found within the study area.

5.3.2 Effects of Land Use Activities on Flora and Flora

Chapter 10 of the original study detailed the effects of land use activities on Flora and Fauna within the Upper Tyers River catchment. It stated that clearfelling was the only logging technique used within the area and that forests young as 50 years were being cut. Through the application of clearfell logging to all forest logged, the authors of the original study stated that:

> **…..current logging prescriptions are not adequate to conserve all species of native flora and fauna in the East/West Tyers River study area** (Davies et al 1993).

With the forest subject to clearfell logging on short rotations, the forest was subjected to an overall and permanent lowering of age, considerably under of what would occur normally. The study found that:

> Clearfelled forests will be prevented from ever developing the structural characteristics of old-growth forests, resulting in a long term decline in some important habitat components, particularly the numbers of hollow bearing trees and large fallen logs (Davies et al 1993).

Clearfell logging was also recognised as having a significant impact on the physical and chemical properties of soils and on chemical and biological stream characteristics. The construction of roads to access the logging coupes, were seen to increase the fragmentation of forests and to introduce other negative impacts. These were all recognised as significant up to the sub-catchment level (Davies et al 1993).

The original study recognised that forests regenerating from clearfelling within the study area contained a generally drier assemblage of plant species than older forests in the same community. The study recognised that this promoted a regrowth forest landscape with a drier floristic composition and posed a higher fire risk that existed prior to clearfelling (Davies et al 1993).

The study also stated that regrowth forests lack the structural complexity and spatial heterogeneity to that of old-growth forest. Many of the species depended on the structural characteristics of old-growth forests were absent from forests regenerating after clearfell logging. Hollowing bearing trees, found in forests with old-growth characteristics, required greater lengths of time to form than what prescribed logging rotations allowed. This was also variable with the species type. Table 5.3.2.1 details the study's finding on the time required for key eucalyptus species to form hollows.

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Table 5.3.2.1 Time for Eucalyptus Trees to form hollows

Species	**Time for hollows to form**
Messmate *Eucalyptus obliqua*	110 years
Mountain Ash *Eucalyptus regnans*	120 years
Mountain Grey Gum *Eucalyptus cypellocarpa*	135 years

The original study recognised that the short (50 year) rotation time for logging ensured that clearfell logged forests would never develop tree hollows, as all trees are removed or destroyed during the operation. This was quite different from what would occur under a natural disturbance regime. The study quoted a number of other separate studies that have revealed significant differences between wildfire and clearfelling. One such study has been detailed in Table 4.3.1. The differences included a dramatic decrease in tree fern populations, fallen logs on the forest floor, damage to rootstock and changed species composition following clearfell logging that would not be the case following a wildfire (Davies et al 1993).

The study recognised the negative impacts that roading can have on the forest within the study area. It noted that roads cause the following:

- Destruction of habitat
- Create movement barriers
- Altered microclimates
- Animal mortality
- Stream sedimentation
- Assist in the ingress of introduced predators
- Adversely affect flora by removal of vegetation
- Disturbance of rare and vulnerable species and communities
- Facilitate the ingress of weeds
- Compact soil and remove topsoil and impede regeneration
- Damage riparian vegetation such as Cool Temperate Rainforest
- Dissect and fragment flora and fauna habitats and species populations
- Increase access to recreational activities that could increase incidences of wildfire

The report stated that road construction should not take place within the biologically significant sites (described below) that were relatively undisturbed by recent human activities and had high ecological integrity (Davies et al 1993).

5.4 Biologically Significant Sites and Wildlife Corridors

The original DCNR study recognised and detailed five biologically significant sites and seven wildlife corridors within the Upper Tyers River Catchment study area (Davies et al 1993, Davies et al 1994). Detailed in the original study was Chapter 11 - *'Biologically Significant Sites and Wildlife Corridors'*. The

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Biologically Significant Sites covered a total 3,304 hectares (39 percent of the study area). The objective of delineating significant sites was to identify areas of high biological value. The chapter quoted the State Conservation Strategy that:

> …..***as a general rule, those sites (of ecological or scientific significance) significant at the state level or above will be preserved for nature conservation purposes and sites of regional or local significance will be protected wherever possible*** (Davies et al 1994).

The sites recognised against criteria developed by Davies et al (1994) for the study area.

5.4.1 Criteria for the Assessment of Biological Significance

The Appendix of the report provided a set of criteria for the designating and management of biologically significant sites and recognised them as the primary means of identifying and conserving areas of high biological value in the Tyers Study Area. These are detailed in the following:

Criterion One: Ecological Integrity and Viability

Criterion applies to areas containing:

- An important in the demonstration of continuing ecological or biological process
- A high degree of naturalness
- Specific requirements for wildlife
- Important sites along migrations routes
- Strategically important corridors or areas of retained habitat
- Important refugial sites

Criterion Two: Richness and Diversity

Criterion applies to areas containing:

- Unusual richness or diversity of indigenous flora and/or fauna
- Heterogeneous and broad environmental range
- Unusual flora and/or faunal species richness
- Diverse range of vegetation types and/or faunal assemblages
- Steep geomorphological or climate gradients, or diverse microtopography

Criterion Three: Rarity

Criterion applies to areas containing:

- Biotic features that are rare and/or threatened in the broad sense
- Biotic features that are rare and/or threatened from local to national
- Remnant vegetation
- Rare combination of features
- Habitats of rare or threatened flora and/or fauna
- Examples of rare or uncommon vegetation types and/or assemblages
- Naturally occurring individuals or localised populations of plants of exceptional age and/or size
- Vegetation types that are of exceptional age and/or size

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Criterion Four: Representative of Type

Criterion applies to areas containing:

- Characteristic representation of a vegetation type and/or faunal assemblage
- Natural resource attributes
- Degrees of homogeneity or variability of the type over its range
- Representative of identifiable faunal assemblages
- Typical natural development of the type and where disturbances to natural processes are minimal
- Places demonstrating a particular significant variation within the type

Criterion 5: Scientific and Educational Value

Criterion applies to areas containing:

- Places that are recognised or proposed under the Reference Areas Act 1978
- Places used to produce significant research information
- Used for education purposes
- Places that are a current and Type locality for rare or otherwise significant taxa
- Important fossil remains of flora and fauna
- Fossil sequences that establish contemporaneousness of flora species
- Places with relict flora or fauna
- Places with sympatric or parapatric populations of taxa
- Places with disjunct populations and/or the limit of range of taxa or communities

5.5 Significance of Sites Identified

This section provides an overview on the Sites of Significance as detailed in 'Chapter 11' of the original DCNR study along with 'Map 2' detailed in Map 5.5.1

Table 5.5.1: Rating for the Sites in Tyers Forest Area

	Rating	**Criterion One** Ecological Integrity and Viability	**Criteria Two** Richness and Diversity	**Criteria Three** Rarity	**Criterion Four** Representative of Type	**Criterion Five** Scientific and Educational Value
Site One Montane Slopes	State	4	4	4	4	4
Site Two Tyers River West Branch	State	4	4	4	4	4
Site Three Saxton Rainforest	State			4	4	4

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Site Four East Tyers Mature Forest	Regional	4		4	4	
Site Five Growler Creek	Regional	4		4	4	

Sourced from Davies et al (1994)

5.5.1 Site 1 – Montane Slopes

Area: 1,606 hectares
Rating: State Significance

Extent

Site comprises of the upper montane slopes of the study area. The upper boundary is along the boundary of the Baw Baw National Park (following the 1260 metre contour line) and the lower boundary follows the 1000-metre contour line with the area extending to the 800-metre contour line along the Tyers River West branch.

Significance

The chapter identified this significant site to be encompassed within the larger site of Global Zoological significance and also contained sites of National Botanical Significance and the major of the remainder included within sites of state botanical significance. It contained rainforest sites of regional significance and most of the site was within a site of national geological and geomorphological significance. The chapter recognised the site for the following values:

- High ecological integrity resulting from a low level of human disturbance
- Minor infestation of weeds
- No past clearfell logging impinged on the site
- Past forest disturbance had been deemed negligible
- Restricted access to introduced fauna resulting from lack of roading and limited disturbance
- High ecological viability because of the sites extent, integrity and the diversity of habitats represented
- Viability enhanced due to its close proximity to Baw Baw National park
- Combined integrity and viability of the site ensured the capacity to act as a refuge for a range of fauna when adjoining areas are substantially modified by clearfelling

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- High proportion of ecological mature Montane Wet Forest provided important habitat for a range of fauna

- Localised stands of ecologically mature *Eucalyptus glaucescens* (Tingaringy Gum)

- Stands of Cool Temperate Rainforest contained notable plants

- Sub-Alpine Wet Heathland occurring in localised areas provided habitat for endangered fauna

- Unique forms of Montane Riparian Thicket

- A highly representative and diverse assemblage of arboreal mammals and forest birds

The chapter noted that six rare or threatened and one notable plant species were recorded:

- *Wittsteinia vacciniacea* (Baw Baw Berry)
- *Asplenium appendiculatum subsp. appendiculatum* (Ground Spleenwort)
- *Monotoca oreophila* (Mountain Broom-heath)
- *Oxalis magellanica* (Snowdrop Wood-Sorrel)
- *Huperzia varia* (Long Clubmoss)
- *Richea gunnii* (Gunn's Richea)
- *Geranium neglectum* (Red-stem Cranes-bill)

The chapter recognised that with predicted warming due to global climate change, the montane forests of the study area were likely to increase in importance as refugia for a range of forest fauna.

5.5.2 Site 2 – Tyers River West Branch

Area: 1,420 hectares
Rating: State Significance

Extent

This site encompassed the Tyers River West Branch and its adjacent slopes to approximately 500m from either side of the river and covers an altitudinal range from 230m to 1240m above sea level. The site overlaps into Site 1.

Significance

The upper portion of the site was located within the site of global zoological significance and the site of national geological and geomorphological significance. The site also contained rainforest sites of regional significance. The site contained the following values:

- Diversity of vegetation types

- Diverse range of fauna habitat

- Important refuge where clearfelling has modified habitats elsewhere

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- Cool Temperate Rainforest occurring at low altitudes
- Stands of Ecologically mature mixed species forest and shrubby foothill forest
- Contains greatest diversity of mammals, reptiles and amphibians in the study area
- Several threatened and notable fauna species have been recorded
- The majority of Sooty Owls recorded were found within this site
- Several rare or threatened plants were recorded

As the site was noted to contain the highest density of sooty owls, the authors recognised that within a site of one kilometre in width (500m either side of the Tyers River), Sooty Owls required two to eight kilometres of river length to maintain a viable breeding territory. Many of these biological values are located in the lower portion of the site.

Note – Since the publication of the report, much of the lower section of the site has been subject to extensive clearfell logging. It is subject to further surveys and studies whether this part of the site has retained any of its described values or that forestry operations have compromise its ecological integrity.

5.5.3 Site 3 – Saxton Rainforest

Area: 61 hectares
Rating: State Significance

Extent

The site is located on the Tyers River near the old Saxton Mill Site.

Significance

The chapter described the site as a highly significant stand of Cool Temperate Rainforest due to the presence of two vulnerable plant species: *Huperzia varia* (Long Clubmoss) and *Tmesipteris elongata* (Elongate Fork-fern). At the time of the writing of the report, the authors have noted that recent logging coupes and roading adjacent the site may have already compromised the long-term viability of these rainforest species.

5.5.4 Site 4 – Eastern Tyers Ecologically Mature Forest

Area: 410 hectares
Rating: Regional Significance

Extent

The site was located within the catchment of the Eastern Tyers River extending to just below the Mount Erica Carpark with an altitudinal range of 400m to 1000m above sea level

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Significance

The chapter detailed this site as containing many of the larger stands of ecologically mature Mountain Ash forest for the study area and contains a stand of Cool Temperate Rainforest with regional botanical significance. The site was within the site of Global Zoological Significance and part occurs with the site of national geological and geomorphological significance. The chapter recognised the following values:

- The ecologically mature forest providing optimum habitat for a range of fauna
- The younger forest providing for future development of ecologically mature forest
- Viability enhanced due to close proximity to Baw Baw National Park

5.5.5 Site 5 – Growler Creek

Area: 114 hectares
Rating: Regional Significance

Extent

The Site was located in the upper catchment of Growler Creek

Significance

The chapters described this site as containing a relatively large and intact stand of Cool Temperate Rainforest with a regional significance rating and the surrounding sub-catchment containing ecologically mature and regrowth Montane Wet Forest. The site was within the site of Global Zoological Significance and the site of national geological and geomorphological significance. The chapters recognised the site for the following values:

- High integrity due to minimal recent human disturbance
- High ecological viability due to the inclusion of the whole sub-catchment within biologically significant sites
- Viability increased with this sites interconnectedness with Site 1
- Relatively large and undisturbed stand of Cool Temperate Rainforest
- Ecologically mature stand of forest provided optimum habitat for a range of fauna

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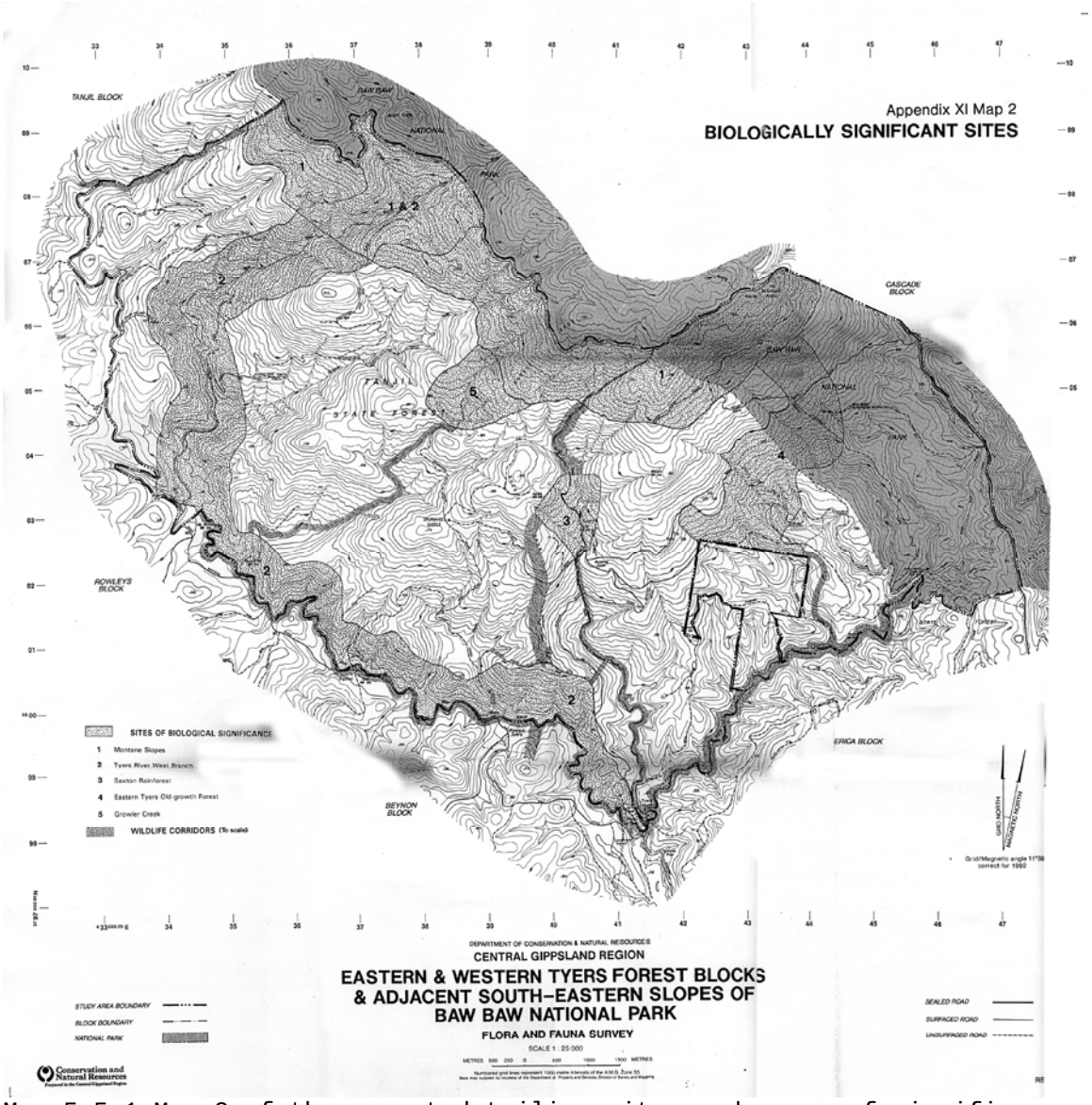

Map 5.5.1 Map 2 of the report detailing sites and areas of significance within the upper Tyers Catchment

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Table 5.5.1: Significant fauna species habitat and/or recording of species at the sites

	Site One Montane Slopes	*Site Two* Tyers River West Branch	*Site Four* East Tyers Mature Forest	*Site Five* Growler Creek
Baw Baw Frog *Philoria frosti*	4	4*		
Leadbeater's Possum *Gymnobelideus leadbeateri*	4	4	4	4
Possum's and Gliders	4	4	4	4
Tiger Quoll *Dasyurus maculatus*	4	4	4	4
Broad-toothed Rat *Mastacomys fuscus*	4			
Common Bent Wing bat *Miniopterus schreibersii*		4		
Brown Gerygone *Gerygone mouki*		4		
Large-footed Myotis *Myotis adversus*		4		
Sooty Owl *Tyto tenebricosa*	4	4	4	4
Leaf Green Tree Frog *Litoria nudidigita*		4		
Fresh Water Blackfish *Gadopsis marmoratus*		4		
Parrots and Cockatoos	4		4	4
Forest Bats				4
Mistletoe Bird *Dicaeum hirundinaceum*		4		
Pink Robin *Petroica rodinogaster*	4		4	4
Koala *Phascolarctos cinereus*		4		
Honeyeaters	4			
Highland Copperhead *Austrelaps*	4			

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ramsayi				
Tree Goanna *Varanus varius*		4		
Skinks	4		4	4
Optimal Bird Habitat	4		4	4

* Baw Baw Frog recorded at site two by Hollis (2004)

5.5.7 Wildlife Corridors

The chapter detailed six wildlife corridors supplementing biologically significant sites in providing additional refugial habitat throughout the study area. These corridors entailed:

1) Tyers River East Branch
2) Buckle Spur and Tyers River
3) Tyers River West Branch
4) Along Growler Creek, between sites 2 and 3
5) Along Faith Creek, to link Baw Baw National Parl and the Tanjil River Catchment
6) Along the lower and middle altitude sections of the Tyers River between sites 1 and 3
7) Along a spur between Site 4 and the Tyers River East Branch

5.5.8 Details of Map 2

Map 5.5.1 details Map 2 that was deleted from the report. Below, Map 5.6.1 overlays Map 2 with of fauna species sightings as sourced from the BioMap by DSE, along with the surrounding site of Global Zoological Significance and past and proposed logging coupes. The map shows that Site 1 currently remains mostly intact, however, past logging has compromised all the remaining sites.

5.5.9 Recommendations for Biologically Significant Sites

The study provided recommendations for the management of the biologically significant sites and wildlife corridors within the Upper Tyers River study area. They all 'recommended' that logging be excluded from the sites along with minimising artificial disturbance. These are detailed in Table 5.5.9.1. As previously noted, the report was published in 1994 with chapters 8, 9 and 10 removed and Chapter 11 renumbered to Chapter 8. The renumbered chapter included the detail on the sites of biological significance and wildlife corridors, but the biologists' recommendations were removed. **Eventually, all reference to these sites was removed and logging and road construction proceeded within a number of these sites.** This will be explored later.

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Table 5.5.9.1 Recommendations for the management of Biologically Significant Sites within the Upper Tyers River Study Area as detailed in the original study by Davies et al (1993)

Area	Description	Ref	Recommendation
Site 1	Montane Slopes	11.1	Timber Harvesting and roading should be excluded from this site
		11.2	Sub-alpine Wet Heathland and Montane Riparian Thicket should be protected from disturbance by humans
Site 2	Tyers River West branch	11.3	Timber Harvesting, including salvage logging, should be excluded from this site
		11.4	To minimise potential deleterious impacts on significant biological values, road works should only be undertaken within this site after consultation with flora and fauna staff
		11.5	Further Widening of West Tyers Road, and damage to riparian vegetation, should be avoided. The road surface and table drains should be regularly maintained to prevent excessive erosion and run-off into adjacent river. The road should continue to be closed in winter. Consideration should be given to permanent closure and rehabilitation to assist in this aim
		11.6	Prescribed burning should be excluded from this site
		11.7	A control program should be instigated in accordance with DCE environmental weed policy to reduce the spread of blackberries and control infestations
		11.8	Campsites should be placed at least 100m away from rivers and streams, where possible, to prevent stream bank erosion, pollution of watercourses and drainage to riparian vegetation. Further planting of exotic plants at Caringal Scout Camp should be restricted. Anglers and campers should be encouraged to prevent stream bank erosion and littering, particularly fishing tackle and line
		11.9	An area of approximately 500m width on the south side of the Tyers River West Branch in the Beynon Forest Block should be delineated and managed in accordance with the above recommendation of Biologically Significant Site 2
Site 3	Saxton Rainforest	11.10	All forms of timber harvesting (including salvage logging), roading and prescribed burning should be excluded from this site
		11.11	The precise location of the rare plants within the rainforest in this site should not be disclosed
Site 4	Eastern Tyers Old-Growth Forest	11.12	Timber harvesting should be excluded from this site. In the future, if harvesting techniques are developed that can be shown will not impinge on the biological values for which this site is significant, it may be possible to undertake low intensity harvesting, possibly using overwood systems. Eventually, clearfelling within this site may be feasible, possibly on a long rotation cutting cycle, once sufficient areas of old-growth forest have developed elsewhere in the study area
		11.13	A buffer of at least 40m, in which timber harvesting is excluded, should be placed around old-growth stands, where old growth stands occur on the site boundary
		11.14	Salvage logging following wildfire should not take place in old-growth forest stands or within a 40m buffer surrounding each stand. In younger forest within the site salvage logging should only take place where tree mortality is close to 100%. All surviving live trees plus all hollowing bearing trees (live and dead) and large logs containing hollows should be protected from salvage operations
		11.15	Major road works within this site should only be undertaken after consultation with flora and fauna staff to minimise the effects on significant flora and fauna values.

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		11.16	Prescribed burning should be excluded from this site
Site 5	Growler Creek	11.17	Timber harvesting, salvage logging, prescription burning, and roading should be excluded from this site
		11.18	The section of Growlers Track within this site should be closed and rehabilitated.
	Wildlife Corridors	11.19	The above 100m and 200m wide corridors should be maintained to provide refuge habitat and linkages between other retained areas throughout the study area. Disruption to corridors by management activities should be prevented

5.6 Why were the Chapters and the map detailing the sites deleted?

On Monday, 1st February 1999, the Senate Rural and Regional Affairs and Transport Legislation Committee held a public hearing upon where witnesses were chosen so as to obtain as a complete picture of the Regional Forest Agreement (RFA) and legislation that was before the parliament at the time (Hansard 1999). Mr. Alan McMahon appeared as a private individual and gave evidence at the hearing regarding the forest management on Mount Baw Baw and its associated escarpments. Mr. McMahon is an amateur naturalist, and did volunteer work for the National Park, Department of Natural Resources and Environment and the state forests (Hansard 1999). Mr. McMahon expressed concern regarding the overall forest management of the Mount Baw Baw area and drew concern to the deleting of information in the 1994 DCNR published report on the above study. He gave evidence stating that:

> "In 1994, the Flora and Fauna branch produced a report, *Flora and Fauna of the Eastern and Western Tyers forest blocks and adjacent slopes of Baw Baw National Park'.* That was the only recent comprehensive survey done on the south face of the Baw Baw Plateau in many years. Soon after it was released, it was withdrawn. All recommendations, biological sites of significance and the map on which they were shown were ordered to be deleted and the modified report was reissued. This information applied to the south face of the Baw Baw Plateau, which is so heavily logged now and which the RFA is considering, in part, as a possible reserve and where the cool temperate mix forest is also' (Hansard 1999).

The Senate Committee recognised this to be a serious charge and sought further clarification from Mr McMahon on whether the deletion was widely known. Mr McMahon advised that:

> 'It is (was) well known within NRE. The modified document still comes out with the original table of contents page, with a black line through those three sections' (Hansard 1999).

The Central Highlands Alliance Inc. obtained a copy of the DCNR report on the Upper Tyers study and found the modifications matched Mr McMahon's claims. Through this copy, it can verify that:

1) Chapter 8 of the Table of Contents Page has been 'blacked' out with a pen. However, The words can still be easily read.

2) Map 2 of the Table of Contents Page has been 'blacked' out, but can still be read.

3) Pages 111-120 are missing out of the report – pages detailed as Chapter 8 in the Table of Contents.

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4) Map 2, detailing Biologically significant Sites, is missing from the report,

In addition, the Central Highlands Alliance Inc. has found:

5) The authors names have been 'blacked' out on the front page, but still readable

6) Reference to Map 2 has been 'blacked' out in Appendix XI

Mr McMahon advised Senate Committee that the deletion of material in this report prevented management from being adequately informed. The Central Highlands Alliance Inc. has found no evidence of this report being referenced in the current Central Highlands Forest Management Plan or the Regional Forest Agreement Comprehensive Regional Assessment Report.

5.7 What are the impacts?

Although some of the regions values were listed in appendix G of the Central Highlands Forest Management Plan, the recommendations made in the original and revised DCNR study for the management of these areas were not included and, as a result, forest management plans were not required to implement them. Since the mid 1990's and the subsequent signing of the Regional Forest Agreement for the Central Highlands in 1998, large areas of forest along the escarpments of Mount Baw Baw have been clearfelled. Some of these clearfelled areas have coincided with areas the original and revised study declared as 'biologically significant'. The impacts have resulted in the regions' biological integrity being severely compromised. Map 5.7.1 and Figures 5.7.1, 5.7.2, 5.7.3, 5.7.4 and 5.7.5 detail the extent of impact. Map 5.7.1 reveals the extensive logging of Sites 2 and 5 with further logging planned for Sites 1, 2 and 3. It also reveals the location of threatened and endangered fauna occurring within the sites. Figure 5.7.2 provides an aerial view over Site 2, upon where the impacts of logging are shown with an overlay detailing Site 2 and the extent of logging that has taken place within. Also, these figures reveal the extent of forest removal caused by the construction of the South Face Road.

Figure 5.7.3 provide an aerial view of the South Face Road intruding into Site 2. Figures 5.7.4 and 5.7.5 reveal the recent construction of the Tyers River Bridge and the extent of forest removal within this area of Site 2.

These maps and figures demonstrate a disregard for the biologists' recommendations outlined in the original DCNR study.

Figure 5.7.1 Aerial view of logging within the Tyers River Site (Site 2)

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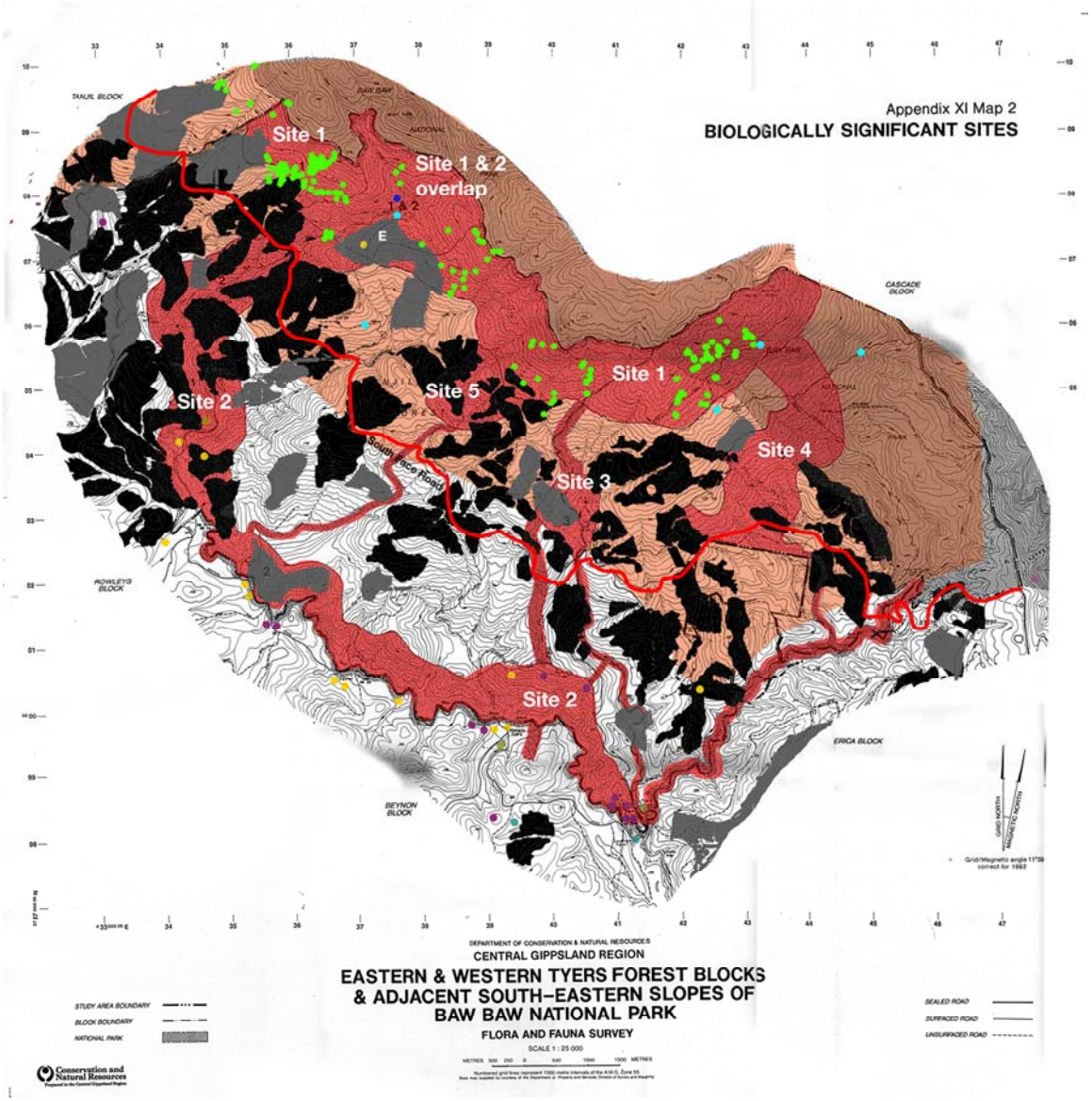

Legend

- Sites of Biological Significance and Wildlife Corridors
- Surrounding Site of Global Zoological Significance
- Sighting of Baw Baw Frog
- Sighting of Leadbeater's Possum
- Sighting of Sooty Owl
- Sighting of Lace Goanna
- Sighting of Southern Myotis
- Sighting of Spotted Quail Thrush
- Proposed Logging Coupes
- Coupe Logged between 1980-2004

Map 5.7.1: 'Deleted' map 2 showing the DSE BioMap overlay with species recorded, Site of Global Zoological Significance and past logging coupes with proposed logging coupes

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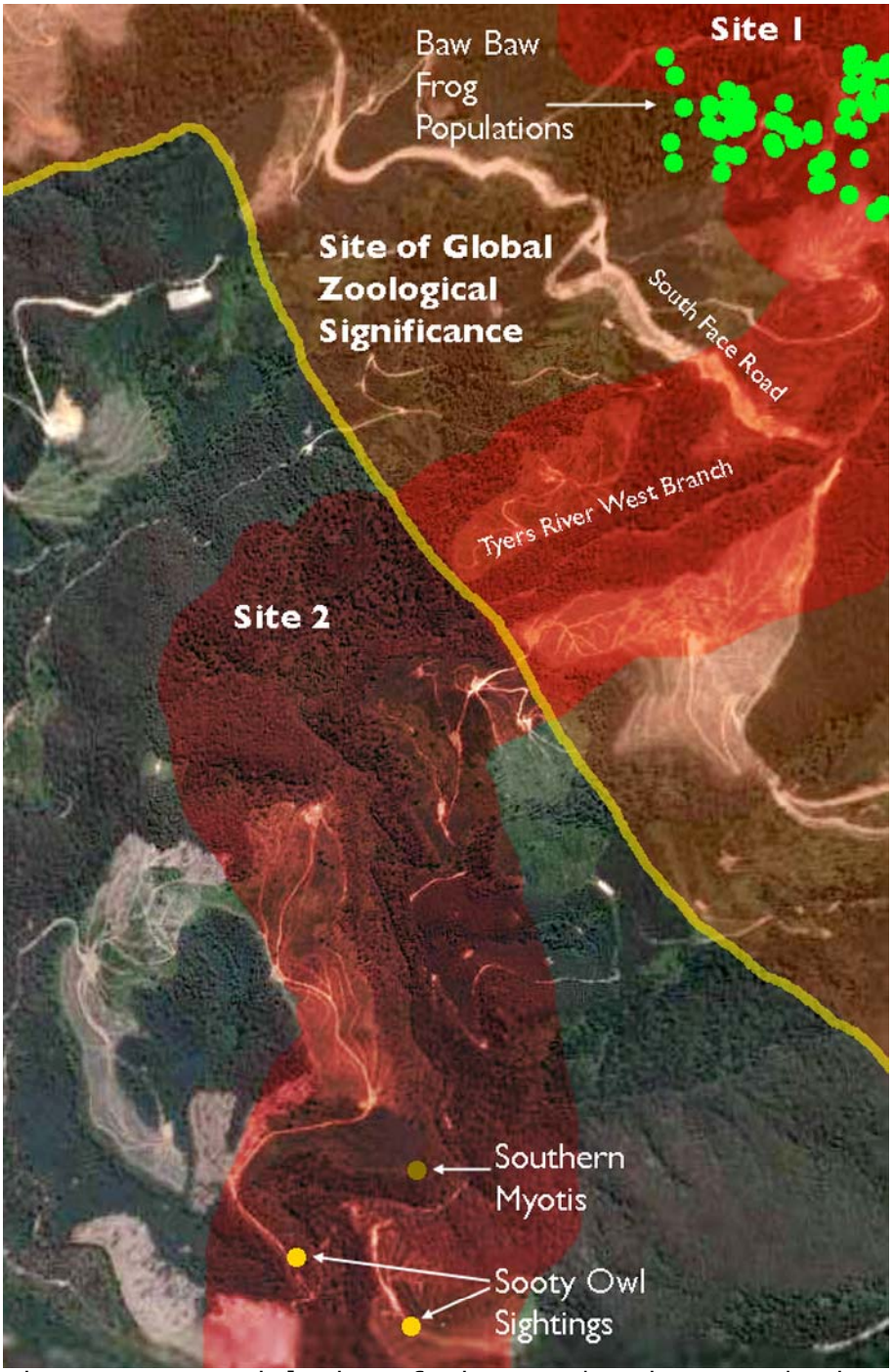

Figure 5.7.2 Aerial view of Site 2 taken in 2002 showing the Tyers River West Branch, the South Face Road and recent clearfell logging and the South Face Road with Sites of Significance Overlay and species sightings (Base Image Source: Google Earth – Image accessed 15.07.06)

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Figure 5.7.3 Aerial view of logging within the Tyers River West Branch Site (Site 2) showing South Face Road crossing (Image Source: Google Earth – Image accessed 15.07.06)

Figure 5.7.4 Tyers River West Branch Bridge and the South Face Road within Site 2

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Figure 5.7.5 South Face Road from Tyers River West Branch Bridge showing forest removal for the road and clearfelling within Site 2

5.8 Sites of Significance as outlined in the Central Highlands FMP

Appendix G of the Central Highlands Forest Management Plan (FMP) lists some of the values as described in DCNR report and indicates their 'presribed' management. These include sites of Zoological and Botanical Significance. The Appendix lists several sites surrounding Mount Baw Baw. Whilst this investigation may found that values identified in the FMP may be similar to that as outline in the report by Davies et al (1994), the effectiveness of the management prescription for that area specified in the appendix appears problematic when analysing the 'actual impacts' of management. For example, appendix G recognises that 500m on either side of the Tyers River West Branch has a Global Zoological Rating. This is the same area that Davies et al (1994) recognise as having a Significance of State Biological value and that the area be reserved for conservation. Section 5.7 reveals that this area has been severely degraded by clearfell logging up to 100m to the river (400m within the zone) and the penetration of the South Face Road through it (refer figures 5.7.2, 5.7.3, 5.7.4 and 5.7.5). Appendix G of the Central Highlands FMP detailing the sites around Mount Baw Baw is featured in table's 5.8.1 and 5.8.2.

In summary, the management prescriptions, as specified under the Central Highlands FMP, have proven to be ineffective to adequately protect these sites of significance.

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Table 5.8.1 Sites of Zoological Significance in State Forest as detailed in the Central Highalnds Forest Management Plan (FMP)

Site No	Site Names	Rating	Zoological Values	Management of values found at each site
24	The Baw Baw Upper Thomson Area	Global	Unique faunal assemblage containing the entire population of the Baw Baw Frog. Areas of Old Growth in the upper reaches of Myrrhee Creek and Tanjil River provide habitat for hollow dependent fauna. Populations of Leadbeater's Possum, Sooty Owl, broad-toothed Rat, Smoky Mouse and Tree Goanna. One of the few known locations of Canthocamptus dedeckkeri and C.sublaevis. Important link between Baw Baw National Park and the Upper Yarra Catchment	Protection Measures apply to Leadbeater's Possum, Sooty Owl and Smoky Mouse. Representative conservation measures will adequately protect other species listed here. Linear reserves provide a link between the two National Parks
25	Tyers River West Branch (500m either side of the river)	Global	Rich habitat diversity and corresponding fauna diversity. Highest reptile, amphibian and bird diversity in the East and West Tyers Forest Blocks. High densities of Sooty Owl. Populations of Large-footed Myotis and Tree Goanna. Western most population of Leaf Green Tree Frog in Victoria	Protection measures apply to Sooty Owl and Large-footed Myotis. Representative conservation measures will adequately protect other species listed here. Buffer on the entire length of the Western Tyers River. Sooty Owl habitat protection in nearby Beynon Forest Management Block.
UY-2	Upper Thomson Special Management Zone	National	Old-growth forest occurs along many of the Thomson River tributaries which provide habitat for arboreal mammals. Species recorded here include Leadbeater's Possum, Yellow bellied Glider and the Mountain Brushtail Possum (Bobuck). The alluvial flats support populations of Broad-toothed Rat and reptiles such as the cool temperate form of the Water Skink. The drier forest sites support populations of the Smoky Mouse.	Protection measures apply to Leadbeater's Possum, Sooty Owl and Smoky Mouse. Representative conservation measures will adequately protect other species listed here. Linear reserves provide a link between The Baw Baw National Park and the Upper Yarra catchment.

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Table 5.8.2 Sites of Botanical Significance in State Forest as detailed in the Central Highlands FMP

Site No	Site Name	Rating	Botanical Values	Management
114	West Tyers River	State	This site contains Site of Botanical Significance for Rainforest CH 30 with Montane Riparian Thicket, Montane Wet Forest, Cool Temperate Rainforest, Wet Sclerophyll Forest, Damp Sclerophyll Forest and Shrubby Foothill Forest. Baw Baw Berry, Cliff Cud-weed and Long Clubmoss were recorded here	Protection measures apply to Cool Temperate Rainforest, Baw Baw Berry and Cliff Cud-weed. Representative conservation measures will adequately protect other EVC's mentioned
115	Middle Tyers River	National	This is part of a larger Site of Botanical Significance for Rainforest CH-32 with relatively undisturbed examples of Cool Temperate Rainforest, Montane Riparian Thicket, Montane Wet Forest, Wet Sclerophyll Forest, Damp Sclerophyll Forest and Riparian Forest. Elongate Fork-fern and Long Clubmoss were recorded here	A significant amount of the site is in SPZ. Protection measures apply to Cool Temperate Rainforest and Elongate Fork-fern. Representative conservation measures will adequately protect other EVC's mentioned
127	West Tyers River and Middle Tyers River – upstream of Tyers Junction	Regional	Site includes Riparian Forest and small scattered stands of Cool Temperate Rainforest on alluvial plains	Linear Reserves protect attributes

5.9 Implications for Future Management

The Central Highlands Alliance Inc. **considers the findings detailed and recommendations made in the original DCNR report as valid and in urgent need of informing current forest management.** It makes clear that sites of state biological significance need to be preserved for nature conservation purposes and that sites of regional or local significance to be protected wherever possible (Davies et al 1993). The recommendation is that all proposed forestry operations within or overlapping onto the above sites be withdrawn and those areas reserved for conservation purposes. The act of suppressing recommendations must be investigated by an independent party and findings be made publicly available. Only then can a decision be made on whether industry is entailed to compensation. As the modification of the report was carried out prior to the signing of the RFA and the Forests (Wood Pulp Agreement) Act 1996, it can be argued that these agreements were signed based on suppressed information.

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Key References

Davies J, Carter M, Drummond M, Hollis G, Pascoe C, Wallis R, Lester K (1993), 'Ecological Survey Report No.46 - Flora and Fauna of the Eastern and Western Tyers Forest Blocks and Adjacent South-Eastern Slopes of Baw Baw National Park, Central Gippsland, Victoria', (Department of Conservation & Natural Resources)

Davies J, Carter R, Drummond M, Hollis G, Pascoe C, Wallis R, Lester K (1994), 'Flora and Fauna of the Eastern and Western Tyers Forest Blocks and Adjacent South-Eastern Slopes of Baw Baw National Park, Central Gippsland, Victoria', (Department of Conservation & Natural Resources) – (inclusive of Chapter 8 and Map 2)

Official Committee Hansard Senate (1999), 'Rural and Regional Affairs and Transport Legislation Committee - Reference: Regional Forest Agreements Bill 1998', (Commonwealth of Australia)

Victorian Government (1996), 'Forests (Wood Pulp Agreement) Act 1996'

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Appendix 12 Audit recommendations

23 June 2008

Feedback on Final Report Summary Paper

Craig Clifton
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Dear Craig

TCHA and other ENGO's continue to object about the content of the code its self - the audit is about compliance with the code and the new code promotes thinning (modifying native forests to high production) and as evidenced by Vicforests interpretation during the logging of the Royston Coupes, it is not clear on protection of endangered species habitat (i.e. Vicforests are not retaining dead Leadbeaters habitat trees because they say the code only requires them to keep live trees, even though there are only less than 2000 left and they are endangered). Both of these factors are in contravention with attaining FSC certification and the very purpose of the code its self. **TCHA therefore believe that a major recommendation should include a review of the conflicting aspects of the code which make it more of a "right to log and get away with it internationally" rather than a meaningful protection of the environmental values in a sustainable way.**

TCHA believe that there should be recommendations highlighting the need for a lot more guidance in the Code in relation to I) environmental values and ii) ecological sustainability and the removal of obvious clauses that contravene this.

Impacting the implementation of the code in real terms we have;

i) The DSE choosing where the logging is going to take place
ii) Vicforests identifying important aspects during the marking out
iii) Contractors working inside the marked out areas

As identified by the report there is a big **problem** with the current EPA audit in that most of it **(about 80%) focuses on point (iii)** above i.e. in coupe logging activities or even worse the post logging coupe.

TCHA believe that there has been a excessive weighting of "forestry" experienced staff in the EPA who are in charge of the Audits and that this has lead to the current focus on activity based post logging coupe audits. **TCHA believe that a recommendation for a more scientifically and environmentally qualified person in a senior role would be more in keeping with the purpose of the code and the audits and should be recommended in this report.**

TCHA agree with SKM that there is a big gap in the environmental side of the audit but believe that there needs to be a more rigorous discussion about the approach for the assessment of this**.** From an environmental perspective (i.e. 66% of the purpose of the code - b and c above) TCHA believe that the audits **should focus on the DSE selection criteria for the coupes in the first place**, the **planning** that takes place and the **training** of Vicforests staff to adequately identify and manage critical environmental values for the areas that are selected based on some **transparent rigor**. In order to assess compliance with the b and c parts of the code above TCHA understand from the report that SKM are recommending that other assessments should take place i.e. Is the industry accomplishing sustainability objectives and sustainability charter? Are important environmental values being identified and maintained? The code specifies such planning dimensions but these are not currently being picked up at all. TCHA believe that this option **requires Government to fully understand the reasoning behind the assessments and the sustainability framework to be properly defined and that this should be included in the recommendation.**

As it is unlikely that an audit will be conducted this year TCHA believe that it would be a great opportunity to **include a recommendation to assess some coupes for environmental values before and after the logging of a selection of coupes** for the following year.

The appendix of the report highlights the lack of statistical robustness for the coupe selection for audits. **TCHA would like to see a recommendation added that If the Government continue the coupe level audits that a more robust scientifically based risk assessment methodology that will allow comparison between years be developed.**

Regards

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