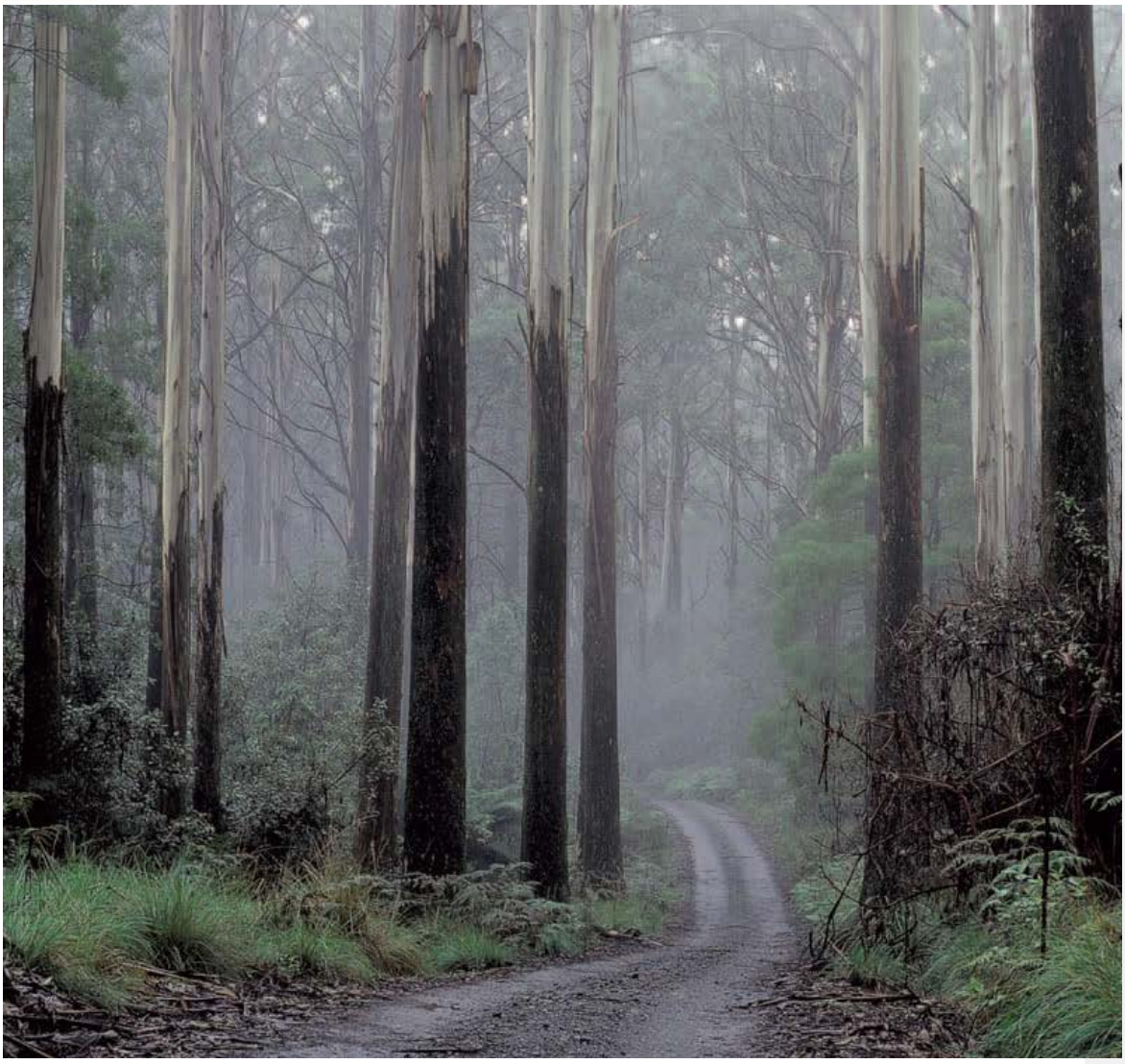
Code of Practice for Timber Harvesting Operations 2014

Draft for public consultation



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February 2014

Note: Comments on this draft primarily refer to forest management in the Mountain Ash and Alpine Ash forests of the Victorian Central Highlands region where I work as an ecologist on Professor David Lindenmayer's project, one of the longest ecological monitoring projects anywhere in the world.

Abbreviations used:
LBP (Leadbeater's Possum); AS (Action Statement); HBT (Hollow Bearing Tree); VR (Variable Retention harvesting); CH (Central Highlands), CF (Clear Fell harvesting); TIAP (Timber Industry Action Plan)

Overview of Draft Code of Practices and Management Standards and Procedures 2014.

The *Code of Practice* and *Management Standards and Procedures* documents and the current forest practices in the ash forests of the Central Highlands, controlled by VicForests fail.

They fail to deliver what they state they will, they fail the timber industry that requires sustained supply, they fail the diversity of life held within the forests, they fail to recognise the forest as being more than the commercial species of eucalypts, they fail to take adequate notice of the research that make these some of the best understood forests on the planet. They fail us, the Australian public.

Somewhere between the the 7 Code Principles set out by the Montreal Process in the introduction of the Code and what actually happens in the forest when harvested, we have lost the ideals that the umbrella statements set out – maintaining biodiversity, having a sustainable industry, maintaining healthy ecosystems...

We actually understand where we should be heading. Many of the statements set out in the Code and the general principles espoused are in line with best forest management around the world. However between this theoretical understanding and implementation, a gulf of archaic forest practices and pig headed denial sweeps through and renders the good intentions meaningless. It is all well and good to say the right things, but unless these words are matched with appropriate actions, they fail us all.

Over and over again in this document and the accompanying MS&P strong statements are made – "Harvesting operations *must* comply with conservation measures", "the precautionary principle *must* apply", "the advice of experts *must* be considered"... yet we see scant evidence of this happening. Many metrics have no defined measure of what success looks like, from 'protecting long lived understorey species' to 'additional measures' for salvage logging buffers.

Following 30 years of constant monitoring of these forests, the ANU research has clearly painted a picture of a forest in very serious decline and ecological stress. Rather than embrace this, thinking smarter, seeing all the diverse values these extraordinary forests contain and proactively striving for outcomes that benefit the majority of people in our state, we strip mine the forest for pulp. We thin recovering forests because timber has been overcut, we take those who do what the government should (standing up for threatened species) to court. We confuse proud traditions of forest workers with pulp contracts and we generally try to get away with as much as possible thinking that 'as long as trees grow back' its sustainable.

It is time for a REALLY serious rethink of how we value and use our forests. This document does not provide that vision.

Contents

1 General

1.1 Background

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

Wood products have long been harvested from our native forests. Over the past several decades, other users and uses of forests, such as biodiversity protection, clean water and recreation opportunities have become increasingly important to the community. An expanded network of National parks and other conservation reserves have been declared in areas that were once available for timber harvesting, and public scrutiny of timber harvesting operations is now acknowledged as integral to the right to use this natural resource.

Plantations are now the largest producer of timber in Victoria. Plantations provide commercial returns while potentially improving the health of catchments, diversifying farm income or providing another productive use for agricultural land.

Victoria has benefited significantly from a long period of scientific research and field based forest management experience. As knowledge of forest ecosystems continues to develop, there will be a corresponding improvement in the management of forests that will ensure activities are undertaken within sound ecological limits to ensure a sustainable long-term path for this industry.

In 1989, the Victorian Parliament ratified the first *Code of Forest Practices for Timber Production*. The Code set out appropriate, responsible standards for timber harvesting operations in State forests, to better manage the potential impacts of timber harvesting. The Code was revised in 1996 to take account of new research information, field experience over the previous six years, and the implementation of the Code on private land in late 1993.

The Code was further reviewed and published in 2007 to incorporate advances in scientific knowledge, the substantial changes in legislation and regulation governing forest management in Victoria and improvements in timber harvesting operational practices since 1993. This version of the Code builds on the 2007 review by streamlining the environmental regulatory framework for entities conducting timber harvesting operations.

The Code will continue to be reviewed on a regular basis, informed by a comprehensive review of relevant forestry science. The result of the high level of public scrutiny, the extensive field based management experience and the world class reserve system is a well regulated and sustainable industry in Victoria.

Comment [DB1]: What proportion of the State's economy are direct industry jobs? I'm not sure an industry that employs less than 1% of the state could be called a 'cornerstone' of our prosperity?

Comment [DB2]: Replace with "should" – we are yet to see evidence of it!

Comment [DB3]: Sounds wonderful. Perhaps replace with "by systematically gutting many environmental regulations that would have lead to better conservation outcomes"

Comment [DB4]: Delete, has yet to happen. No references cited in this whole document or related MS&P.

Comment [DB5]: By what indicators?

Ecologically – state of forests worse every year, very few indicators show improvement while many indicate serious problems.
Socially – forest values of carbon, water, biodiversity, tourism all traded for pulp and paper for relatively few jobs, local sawmills keep closing as more and more goes to pulp.
Economically – only though generous government grants do VicForests claim a profit!

1.2 The Code of Practice for Timber Harvesting Operations

1.2.1 Why a Code of Practice for Timber Harvesting Operations?

Maintaining the benefits to society provided by the timber industry depends on balancing community needs and concerns with careful stewardship and responsible management. The effective implementation of a Code of Practice helps to ensure that timber harvesting operations are compatible with the conservation of the wide range of values associated with forests, and of any such values associated with land on which commercial plantation development is proposed.

1.2.2 Purpose of the Code

The purpose of the *Code of Practice for Timber Harvesting Operations* is to provide direction to timber harvesting managers and operators to deliver sound environmental performance when undertaking commercial timber harvesting operations in such a way that:

- permits an economically viable, internationally competitive, sustainable timber industry;
- is compatible with the conservation of the wide range of environmental, social and cultural values associated with forests;
- provides for the ecologically sustainable management of native forests proposed for continuous timber harvesting operations; and
- enhances public confidence in the management of Victoria's forests and plantations for timber harvesting operations.

Comment [DB6]:

Comment [DB7]: But commercial timber harvesting (as it is currently carried out) is not compatible with any of the wider environmental, social or cultural values!
Logging reduces water run off, reduces carbon storage, makes forests more fire prone/burn at higher intensities, smoke effects livelihoods and crops (ie grapes) due to regular coupe burns, tourism is effected, logging is not socially acceptable to the majority of those living in forested areas. How can this contradiction be stated as occurring?

1.2.3 Scope of the Code

The Code applies to all commercial timber harvesting operations on both public and private land in Victoria, including planning, harvesting, roading, regeneration and tending activities.

Timber harvesting in Victoria is governed by a wide range of Commonwealth and State legislation, regulations, policies and codes. The Code addresses aspects which timber harvesting managers and operators must consider in addition to these documents that are within the scope of relevant law listed under the provisions of the *Conservation, Forests and Lands Act 1987*.

1.2.4 Description of Land to which Code Applies

The Code applies to all land in the State of Victoria that is either being used for or is intended to be used for timber harvesting operations.

Compliance with this Code on public land (Chapter two) is required under the conditions of licences and authorities issued under the provisions of the *Conservation, Forests and Lands Act 1987*, the *Forests Act 1958* and the *Sustainable Forests (Timber) Act 2004*.

The Code applies to all commercial timber harvesting operations on private land and leased Crown land (chapters three and four), as specified in Clause 14.01-3 of the Victoria Planning Provisions (VPPs) and all planning schemes.

The Code does not apply to agroforestry, windbreaks or other amenity plantings, or to the occasional felling of trees for local uses on the same property or by the same landowner or manager. Small plantations and woodlots of five hectares or less are also exempt from the Code, as are plantings established for non-commercial purposes. The Code does not apply to revegetation conducted for the purposes of erosion or salinity control.

The Secretary to the Department of Environment and Primary Industries (DEPI) is a referral authority for timber harvesting operations applications as specified in Clause 66 of the VPPs and all planning schemes.

The Code is consistent with the VPPs in recognising that plantations are established primarily for timber harvesting operations. Thus, planning controls concerned with the development of plantations explicitly allow for their subsequent management and harvesting.

1.2.5 Compliance on State forest

Under the *Sustainable Forests (Timber) Act 2004*, compliance with this Code is mandatory for any person undertaking timber harvesting on State forest. Penalties for non-compliance may apply if timber harvesting operations on State forest are not in accordance with the Code.

Timber harvesting operations on public land other than State forest are governed by lease and licence conditions which may specify a requirement to comply with this Code.

DEPI is responsible for ensuring compliance with the Code on State forest. Compliance with the requirements of this Code on State forest is monitored by authorised officers appointed pursuant to the *Conservation, Forests and Lands Act 1987*.

Certification schemes

In addition, timber producers on State forest may choose to adopt independent product accreditation under national and international systems, which have associated performance criteria and auditing requirements that meet or exceed the requirements of this Code.

Incorporated Documents

The *Management Standards and Procedures for timber harvesting operations in Victoria's State forests* (Management Standards and Procedures) are incorporated into this Code to provide detailed mandatory operational instructions, including regional instructions for timber harvesting operations in Victoria's State forests.

The Management Standards and Procedures are consistent with the Operational Goals and Mandatory Actions of this Code and must be complied with for timber harvesting operations in Victoria's State forests.

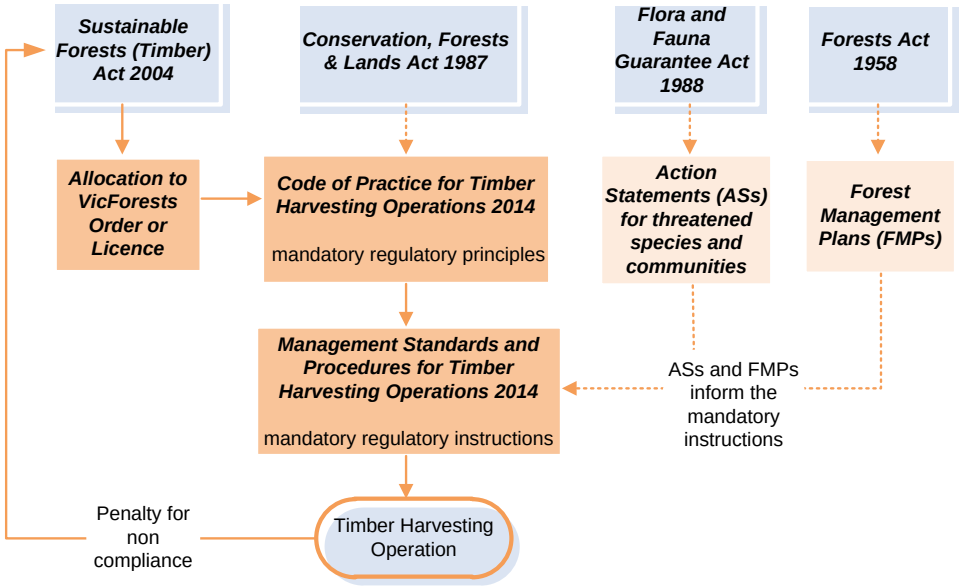
The Management Standards and Procedures are informed by relevant policy documents including guidelines and strategies within Forest Management Plans and Action Statements made under the *Forest Act 1958* and the *Flora and Fauna Guarantee Act 1988* respectively. The Management Standards and Procedures replace any directions relating to timber harvesting operations contained within these documents.

Figure 1 below depicts the role of the Code and the Management Standards and Procedures in the State forest timber harvesting regulatory framework.

Comment [DB8]: The detail in the MS&P are not consistent with the 7 Code Principles as stated in the Montreal Process (listed below, 1.3), and as currently practiced are far from complying with those principles.

Comment [DB9]: Many AS are woefully out of date or have not been written.

Figure 1 State forest timber harvesting regulatory framework



1.2.6 Compliance on Private Land

Timber production is a defined land use in the VPPs and all planning schemes. Clause 52.18 specifies the provisions relating to timber production and this Code is an incorporated document which must be considered. For the purpose of compliance with the VPPs, in this Code 'timber production' has the same meaning as a 'timber harvesting operation'.

Local government is responsible for ensuring compliance with the planning system. The Code must be complied with to the satisfaction of the responsible authority (usually local government), whether or not a permit is required.

Certification schemes

In addition, timber producers on private land may choose to adopt independent product accreditation under national and international systems, which have associated performance criteria and auditing requirements that meet or exceed the requirements of this Code.

Associated Documents

The *Management Guidelines for the Code of Practice for Timber Harvesting Operations on Private Land (native vegetation and plantations) in Victoria* (MGs) aid interpretation of the Code in private forests and plantations. The MGs are consistent with the Operational Goals and Mandatory Actions of this Code. Activities that conform to these MGs would be seen by the Secretary to DEPI to comply with this Code. Variations to the MGs must address the Operational Goals and Mandatory Actions of this Code.

1.2.7 Terminology

The following terms are used in the Code to provide a structure for the Code's intended outcomes and the mechanisms within the Code to achieve these. The glossary provides further definitions.

A Code Principle is a broad outcome that expresses the intent of the Code for each aspect of sustainable forest management.

An Operational Goal states the desired outcome or goal for each of the specific areas of timber harvesting operations, to meet the Code Principles.

Mandatory Actions are actions to be conducted in order to achieve each operational goal. Timber harvesting managers and operators must undertake all relevant mandatory actions to meet the objectives of the Code. Mandatory Actions are focussed on practices or activities. Failure to undertake a relevant Mandatory Action would result in non-compliance with this Code.

Comment [DB10]: No definitions provided in this document, though they are in the MS&P.

We are very concerned with the re-defining of "mature" since the MyEnvironment court case by both DEPI and VF (2013 "Growth stages of Ash", "Maturity assessment of ash") and the implications this has with indentifying LBP habitat (1A "mature and or senescing"). Clearly the original definition as originally described by Jacobs (1955) of "mature (older)" and even until recently by State government foresters (1996 "Study of old growth in Victoria's Central highlands") considered 'mature' to include trees that were 50-60 years old through to early senescence of 120-150 years old. The current definitions being created in the last 12 months, have radically truncated the younger end of this description, instead starting 'mature' where originally (and importantly where those writing the LBP zoning in the Action Statement and FMP) understood 'mature' to end and senescing begin (approx 120 years old). In MS&P definition (Mature, point 7), to suggest an 'early mature' E. regnans is 2m DBH is a gross distortion and complete re-describing of these (previously) well understood growth phases. 2-3m DBH ash are not mature, they are senescing or old growth, as all earlier definitions stated.

This re-writing of historically accepted definitions to suit the industry's wishes does not serve us well and will result in loss of suitable habitat – against the first of the Code principles.

If the state government is so intent for LBP zone 1A to only apply to the very highest quality habitat (which is now extremely rare) and insist that the trees counted only be 120+ year old trees, they should re-write the AS and FMP to be "12 senescing and/or old growth trees per 3 ha" (and leave out mature), not re-write the definition of mature. That is effectively what this definitional change has resulted in.

Of course we would suggest the whole Zone 1 definition needs major adjustment to make it relevant to the current state of habitat available to Leadbeater's, as per our prescriptions document (8 or more live or dead HBTs/3 ha)

1.3 Code Principles

Timber harvesting operations on all native forest and plantations in Victoria are guided by the Code Principles described in Table 1. The Code Principles express the broad outcomes of the intent of the Code for each aspect of sustainable forest management.

The seven Code Principles are developed from the internationally recognised Montreal Process criteria, and are consistent with the objectives of the *Sustainability Charter for Victoria's State forests*. Reporting mechanisms such as *Victoria's State of the Forests Report* use the same principles, and demonstrate Victoria's commitment to being an international leader in sustainable forest management.

The seven Code principles are that:

1. Biological diversity and the ecological characteristics of native flora and fauna within forests are maintained.
2. The ecologically sustainable long-term timber harvesting capacity of forests managed for timber harvesting is maintained or enhanced.
3. Forest ecosystem health and vitality is monitored and managed to reduce pest and weed impacts.
4. Soil and water assets within forests are conserved. River health is maintained or improved.
5. Aboriginal and non-Aboriginal cultural heritage values within forests are protected and respected.
6. A safe working environment is provided for all forest workers.
7. Planning is conducted in a way that meets all legal obligations and operational requirements.

Timber harvesting operations must always be planned and conducted according to knowledge developed from research and management experience so as to achieve the intent of the Code Principles. Application of this knowledge will ensure that timber can continue to be utilised while ensuring that impacts on soil, water, biodiversity, forested landscapes and significant archaeological, historic and other cultural heritage sites are avoided or minimised.

In Table 1, the Operational Goals of the Code are aligned with each Code Principle. These Operational Goals are repeated in the body of the Code, with a variety of Mandatory Actions to achieve each Goal. This framework translates the high level Principles into on-ground action.

There are no specific Operational Goals or Mandatory Actions for principles 5 and 6 within the document. These principles are administered through legislation outside the scope of relevant law listed under the provisions of the *Conservation, Forests and Lands Act 1987*.

Comment [DB11]: Clearfelling and salvage logging are inconsistent with this, continuing loss of large old trees and logging of known Leadbeater's Possum habitat are good examples.

Comment [DB12]: The current equation for creating the Allocation Order (Gross area/rotation length) and where resource lost to fire is ignored is not consistent with this and leads to over cutting.

Comment [DB13]: Clearfelling and salvage logging are not consistent with this

Comment [DB14]: Lost in translation… somewhere between these 7 worthy principles and what Actions eventuate on the ground clearly does not adequately relate back to the core principle.

Forestry in this state is stuck in a 1970's mindset and really needs a very radical overhaul.

Table 1 Relationship between Code Principles and Operational Goals

Code Principles	Operational Goals	Section
Biological diversity and ecological characteristics of native flora and fauna within forests is maintained.	Timber harvesting operations in State forests specifically address biodiversity conservation risks and consider relevant scientific knowledge at all stages of planning and implementation.	2.1.2 and 3.1.2 Conservation of Biodiversity 2.2.1 Forest Planning
	Timber harvesting operations in private native forests specifically address the conservation of biodiversity, in accordance with relevant legislation and regulations, and considering relevant scientific knowledge at all stages of planning and implementation.	
	Chemicals are only used where appropriate to the site conditions and application is conducted with due care for the maintenance of forest health, water quality, biodiversity and soil values.	2.1.2, 3.1.2 Conservation of Biodiversity 4.3.2 Chemical Usage
	Fertiliser and chemicals are only used where appropriate to the site conditions and circumstances and with care for the maintenance and protection of water quality, biodiversity, soil values and neighbouring land uses.	
	Planning and implementation of timber harvesting operations in plantations address the conservation of biodiversity, including rainforest, in accordance with relevant laws.	4.1.2 Conservation of Biodiversity
	Harvested native forest is managed to ensure that the forest is regenerated and the biodiversity of the native forest is perpetuated.	2.1.2, 3.1.2 Conservation of Biodiversity
	The natural floristic composition and representative gene pools are maintained when regenerating native forests by using appropriate seed sources and mixes of dominant species.	2.5.1 and 3.5.1 Regeneration
The ecologically sustainable long-term timber production capacity of forests managed for timber harvesting operations is maintained or enhanced.	Timber harvesting operations are planned and conducted to maintain a long-term ecologically sustainable timber resource.	2.2.1 Forest Planning
	Harvested native forest is managed to ensure that the forest is regenerated and the biodiversity of the native forest is perpetuated.	2.5.1 and 3.5.1 Regeneration
	Stocking and early seedling growth is monitored and remedial action is taken where necessary to successfully regenerate harvested areas of native forests.	3.5.2 Stocking Assessment
	Timber harvesting operations are recorded in a way that facilitates future public reporting and policy purposes.	2.2.2 Record Keeping
	The productive capacity and other values of the forest are maintained or enhanced by appropriate tending of stands.	2.5.2 and 3.5.3 Tending

Comment [DB15]: 30 years of science from ANU, one of the best know forest ecosystems on the planet and almost none of this information has reached on ground management. We are still harvesting the Ash forests in grossly inappropriate ways that are leading to severe loss of diversity. This is well known, highly published, yet almost totally ignored.

Comment [DB16]: Unless the basic issue of loss of large old trees is addressed, this cannot occur.

This is also very difficult to reconcile with salvage logging which leads to significant species loss in the understorey species.

Comment [DB17]: Allocation Order = Gross area / rotation length.

This does not lead to sustainable harvesting. We need to assess what is actually standing in the forest and what is of suitable size to harvest, not base allocations on overly simplistic equations like this. A major fire SHOULD change how much we harvest, but under the current AO equation it has no effect (the same number of hectares are still there). This is nuts. 50 year rotation (as introduced in the TIAP) only makes this worse by almost doubling the allowable annual take.

Code Principles	Operational Goals	Section
	The planning and management of permanent and temporary roads for timber haulage and machinery transport is fit for intended purpose, and protects environmental and cultural values and the safety of all road users.	2.3 and 3.3 Roading
	The management of all roads that are part of plantation timber harvesting operations takes account of environmental and cultural values, the safety of road users and the intended use of the road.	4.4 Plantation Roading
	Timber harvesting operations are conducted in a manner appropriate to the site, and manages the impact on soil, water and other values, including biodiversity and cultural heritage.	2.4, 3.4, 4.5.2 Timber Harvesting
Forest ecosystem health and vitality is monitored and managed to reduce pest and weed impacts.	Forest [plantation] health is monitored and maintained by employing appropriate preventative, protective and remedial measures.	2.1.2, 3.1.2 Conservation of Biodiversity 4.3.3 Plantation Health
Soil and water assets within forests are conserved. River health is maintained or improved.	Water quality and river health are maintained or improved by protecting waterways and aquatic and riparian habitat from disturbance.	2.2.1 Forest Planning
	Water pollution is minimised and soil productive capacity is maintained by avoiding harvesting in inappropriate areas or slopes and undertaking necessary preventive measures. Water quality and river health are maintained or improved in plantations by protecting waterways from disturbance. Soil erosion and water pollution are minimised by avoiding timber harvesting operations in plantations in inappropriate areas or slopes and undertaking necessary preventative measures.	2.1.1, 3.1.1 and 4.1.1 Water Quality, River Health and Soil Protection
	Chemicals are only used where appropriate to the site conditions and is conducted with due care for the maintenance of forest health, water quality, biodiversity and soil values. Fertiliser and chemicals are only used where appropriate to the site conditions and circumstances and with care for the maintenance and protection of water quality, biodiversity, soil values and neighbouring land uses.	2.1.1, 3.1.1, 3.5.4and 4.3.2 Water Quality, River Health and Soil Protection 4.3.2 Chemical Usage
	During or following wet weather conditions, timber harvesting operations are modified or where necessary suspended to minimise risks to soil and water quality values.	2.1.1, 3.1.1 Water Quality, River Health and Soil Protection 2.4.3, 3.4.3 and 4.5.4 Timber Harvesting
	Site preparation is appropriate to the characteristics of the particular site, and take into account the maintenance of soil and water values as well as site productivity.	4.3.1 Site Preparation
Planning is conducted in a way that meets all legal obligations and operational requirements	Timber harvesting operations are planned and conducted to maintain a long-term ecologically sustainable timber resource.	2.2.1 Forest Planning

Comment [DB18]: Proper rigorous on-site and desktop assessment by knowledgable assessors is required for every coupe.

Code Principles	Operational Goals	Section
	Plantations on private land are designed, managed and operated in accordance with this Code. Local government is appropriately informed of new plantation development on private land by the lodgement of either a Plantation Development Notice or a planning permit, in accordance with this Code.	4.2.1 Plantation planning and design
	Approval for timber harvesting activities in native forests on private land is obtained through the relevant planning scheme.	3.2.1 Timber Harvesting Plan
	A Timber Harvesting Plan is prepared in accordance with the requirements of this Code and submitted to the relevant local government prior to the commencement of timber harvesting operations.	3.2.1 and 4.5.1 Timber Harvesting Plan
	A Forest Coupe Plan which specifies operational requirements is prepared in accordance with this Code prior to the commencement of each timber harvesting operation.	2.2.1 Forest Planning

2 Code Application – State Forests

This Chapter applies to the planning, harvesting, roading, tending and regeneration of State forests where timber harvesting operations are conducted, including both native forests and plantation forests that are owned and managed by the State.

2.1 Environmental Values in State forests

Timber harvesting operations in native forests may have local impacts on environmental values such as water quality and biodiversity. Appropriate planning and management through the lifecycle of the timber harvesting operation can minimise these impacts. This section includes requirements that must be observed during planning, harvesting, roading, tending and regeneration of native forests.

2.1.1 Water Quality, River Health and Soil Protection

Operational Goals

Water quality and river health are maintained or improved by protecting waterways and aquatic and riparian habitat from disturbance.

Water pollution is minimised and soil productive capacity is maintained by avoiding harvesting in inappropriate areas or slopes and undertaking necessary preventive measures.

Chemicals are only used where appropriate to the site conditions and are applied with due care for the maintenance of forest health, water quality, biodiversity and soil values.

During or following wet weather, timber harvesting operations are modified or where necessary suspended to minimise risks to soil and water quality values.

Mandatory Actions

2.1.1.1 Planning and management of timber harvesting operations must comply with relevant water quality, river health and soil protection measures specified within the Management Standards and Procedures.

2.1.1.2 Management actions to protect waterways, river health and soil must be appropriate to the waterway class, soil category, and potential water quality risk posed by timber harvesting operations at each site.

2.1.1.3 Additional measures to protect water quality and aquatic habitat (including widening buffers or filter strips) must be adopted within coupes where there is a high local risk due to:

- **i. local topography;**
- i. the intensity and magnitude of the timber harvesting operation;
- ii. events such as wildfire that reduce the effectiveness of protection measures: or
- iii. the location of the timber harvesting operation in a declared Special Water Supply Catchment area or water supply protection area.

Comment [DB19]: Additional measures for salvage operations... but what are they? There is no detail in the MS&P for what the additional buffer widths should be, an no mention of salvage operations in 2.1 other than this very brief mention here. Totally inadequate given the very significant effects burnt landscapes have with increased water run off post fire.

It should also be noted that current buffer widths are inadequate as 'habitat corridors' for many species, including LBP. We have recommended 100m buffers to create adequate corridors, but also to protect large old trees which are often found in gully systems.

Protecting waterways and aquatic and riparian habitat

2.1.1.4 Use buffers and filters of effective width in forest adjacent aquatic and riparian habitats to protect them from microclimate changes, sedimentation and disturbance.

2.1.1.5 Where practical exclude roads and snig tracks from aquatic and riparian habitats.

2.1.1.6 Where crossings are required, minimise the extent of habitat damage, constriction to stream flow and barriers to fish and other aquatic fauna.

2.1.1.7 Remove temporary crossings immediately after harvesting or any subsequent regeneration work is complete using a technique that minimises soil and habitat disturbance.

Minimising water pollution

2.1.1.8 Use drainage, artificial structures, buffers and filters of effective width to slow and disperse surface flows and deposit sediment before reaching waterways.

2.1.1.9 Locate coupe infrastructure, roads and other activities that generate sediment and other potential pollutants in places where risk of entry into waterways is lowest unless otherwise sanctioned.

2.1.1.10 Minimise the extent and duration of soil disturbance adjacent to and within waterways.

2.1.1.11 Use management practices such as modified harvesting techniques, scheduling, wet weather suspensions or progressive rehabilitation to minimise the potential for sediments and other pollutants to move into streams.

2.1.1.12 Design, construct and maintain roads, crossings, coupe infrastructure and drainage structures to withstand foreseeable rainfall events and traffic conditions, and protect water quality.

2.1.1.13 Ensure chemical use is appropriate to the circumstances and takes into account the maintenance of water quality.

Maintaining soil productive capacity

2.1.1.14 Minimise potential for soil erosion and mass movement by planning and using operational methods and restrictions appropriate to the assessed soil erosion risk and slope.

2.1.1.15 Locate coupe infrastructure and roads to minimise soil erosion and degradation.

2.1.1.16 Use appropriate equipment, harvesting techniques and operational management to minimise soil rutting, mixing and compaction.

2.1.1.17 Limit the area of soil affected by coupe infrastructure and roads to the minimum required to safely complete timber harvesting operations to the required standard.

2.1.1.18 Employ topsoil conservation techniques in timber harvesting areas affected by infrastructure and roads.

2.1.1.19 Maintain effective drainage of coupe infrastructure and roads.

2.1.1.20 Minimise the time soil is left exposed without vegetation, except at long term infrastructure sites.

Comment [DB20]: 30m buffer (MS&P 2.2 Table 2) in 65m tall Mtn Ash is probably inadequate in width to adequately shade stream habitat as the sun could easily cut through under the canopies and reach the stream, changing the micro climate for Galaxias.

2.1.2 Conservation of Biodiversity

Operational Goal

Timber harvesting operations in State forests specifically address biodiversity conservation risks and consider relevant scientific knowledge at all stages of planning and management.

Harvested State forest is managed to ensure that the forest is regenerated and the biodiversity of the native forest is perpetuated.

The natural floristic composition and representative gene pools are maintained when regenerating native forests by protecting long-lived understory species and using appropriate seed sources and mixes of dominant species.

Forest health is monitored and maintained by employing appropriate preventative, protective and remedial measures.

Chemicals are only used where appropriate to the site conditions and are conducted with due care for the maintenance of forest health, water quality, biodiversity and soil values.

Mandatory Actions

Addressing biodiversity conservation risks considering scientific knowledge

2.1.2.1 Planning and management of timber harvesting operations must comply with relevant biodiversity conservation measures specified within the Management Standards and Procedures.

2.1.2.2 The precautionary principle must be applied to the conservation of biodiversity values. The application of the precautionary principle will be consistent with relevant monitoring and research that has improved the understanding of the effects of forest management on forest ecology and conservation values.

2.1.2.3 The advice of relevant experts and relevant research in conservation biology and flora and fauna management must be considered when planning and conducting timber harvesting operations.

2.1.2.4 Identify biodiversity values listed in the Management Standards and Procedures prior to harvesting, roading and tending. Address risks to these values through management actions consistent with the Management Standards and Procedures such as appropriate location of infrastructure, buffers, exclusion areas, modified harvest timing, modified silvicultural techniques or retention of specific structural attributes.

2.1.2.5 Protect areas excluded from harvesting from the impacts of timber harvesting operations.

2.1.2.6 Ensure chemical use is appropriate to the circumstances and provides for the maintenance of biodiversity.

2.1.2.7 Rainforest communities as defined in the Management Standards and Procedures must not be harvested.

Perpetuating the biodiversity of harvested native forests

2.1.2.8 Long-term strategic forest management planning must use wildlife corridors, comprising appropriate widths of retained forest, to facilitate animal movement

Comment [DB21]: If only that were true... If you are going to state it, how about actually doing it?

Comment [DB22]: How do you know if this occurs? What monitoring is done?

Comment [DB23]: ...such as tree ferns? Under current practices, these decline by 88-99% in the 6 years post harvest (Ough 2004). You would not know about other species as these are not monitored.

Comment [DB24]: Replace with "commercial".

Adequate re-stocking is only judged on the commercial eucalypt, but if we were to be genuine about the protection of long lived understorey species, these would be surveyed for as well, and have stocking rates required to be maintained. Instead we are getting serious simplification of our forest diversity.

Comment [DB25]: So why is VF battling eNGOs in court trying to water down LBP habitat assessment of a standard that is obviously well out of date and by all measures woefully inadequate to protect this En spp, rather than applying the Precautionary principle and adequately protecting all large trees with 100m buffers and all known LBP populations with 1km buffer rather than the grossly inadequate 100m buffer currently in use?

Why is VR not adopted in full? Currently there are over 400 coupes on the CH TRP and every one is a CF.

...

Comment [DB26]: Must be considered... There is very little evidence of scientific research findings filtering through to on the ground management.

Comment [DB27]: Habitat trees (MS&P, Appx 3 Table 12, CH FMA). Protection of "pre 1900" trees must be changed to an age or diameter, not a date. As the importance of large old trees becomes increasingly critical, the 'pre19...

Comment [DB28]: "Where possible retain dead trees for habitat" (MS&P 3.1.2.2 and 3.1.4.3 – if this relates to dead trees also? Its not specific) – it is always possible to retain dead trees (of habitat value), it just depends on the desire to ...

Comment [DB29]: There is no specific reference in MS&P 3.1.4 for CH FMA about standing dead trees, despite these being the key habitat resource for LBP! General mention is made (3.1.4.3) of retaining HBT in clumps, but there is no requirement t...

Comment [DB30]: Montane Riparian Thicket (MS&P 3.4.2) is a key structural habitat element that LBP use regularly for movement corridors. This EVC should have formal protection in CH FMA also (3.4.2 only relates to Tambo) and have greater...

between patches of forest of varying ages and stages of development, and contribute to a linked system of reserves.

2.1.2.9 Modify coupe size and rotation periods to maintain a diversity of forest structures throughout the landscape.

2.1.2.10 Retain and protect habitat trees or habitat patches and long-lived understorey species in numbers and configurations, that provide for the continuity and replacement of old hollow-bearing trees and existing vegetation types within the harvestable area.

2.1.2.11 Use silvicultural systems that suit the ecological requirements of the forest type.

2.1.2.12 Regenerate harvested areas using species and provenances native to the area.

Maintaining forest health

2.1.2.13 Implement appropriate vehicle and equipment hygiene precautions when moving from areas of known pest plant, pest animal and pathogen infestations.

2.1.2.14 Implement appropriate control actions where timber harvesting operations have introduced or exacerbated a pathogen or weed.

2.1.2.15 Report the suspected introduction of new or unknown exotic agents to DEPI's Biosecurity section.

2.1.2.16 Where Myrtle Wilt fungus (*Chalara australis*) is known to exist, apply appropriate measures to minimise the spread of this pathogen.

2.2 Forest Planning and Record Keeping

2.2.1 Long-term Strategic Forest Management Planning

Sound planning ensures that the full range of State forest values are managed sustainably for current and future generations. These values include ecological diversity, Aboriginal and other cultural values, landscape, provision of recreation and educational opportunities as well as a range of renewable forest products. Forest management is responsive to changing community expectations, expanding knowledge of forest ecosystems and techniques to improve planning approaches.

The legislative framework within Victoria provides the basis for long-term strategic and short-term operational planning. Long-term planning is undertaken in accordance with legislation and procesees such as:

- **Regional Forest Agreements; and**
- **Forest Management Plans.**

The Forest Management Zoning Scheme (FMZS) is a long-term planning tool that spatially represents all of the known values that are managed in Victoria's State forests. The FMZS seeks to achieve a balance between a range of value inputs including the timber harvesting rules stated within the Planning Standards appendix to the Management Standards and Procedures.

The FMZS identifies three management zones within State forest: the Special Protection Zone (SPZ); the Special Management Zone (SMZ); and the General Management Zone (GMZ).

SPZs are managed for particular conservation values, forming a network designed to complement the formal conservation reserve system. Timber harvesting operations are excluded from this zone. SMZs are managed to conserve specific features, while catering for timber harvesting operations under special conditions specified in SMZ plans and the Planning Standards. GMZs are managed for a range of uses and values, but timber harvesting operations will have a high priority.

Operational Goals

Timber harvesting operations are planned and conducted in a way that maintains a long-term ecologically sustainable timber resource.

Effective and inclusive planning processes are used for timber harvesting operations to meet the requirements of this Code and the Management Standards and Procedures.

Mandatory Actions

2.2.1.1 All timber harvesting operations must be planned to meet the requirements of this Code and the Management Standards and Procedures.

2.2.1.2 Long-term forest management planning must:

i. provide for the perpetuation of native biodiversity;
ii. maintain a range of forest age classes and structures;
iii. identify and mitigate impacts on Aboriginal and non-Aboriginal cultural heritage values;
iv. minimise impact on water quality and quantity within any particular catchment;
v. minimise adverse visual impact in areas of landscape sensitivity; and
vi. facilitate effective regeneration of harvested forest.

Comment [DB31]: Current auditing and reporting are inadequate. It is almost impossible for the public to gain an accurate picture of what is happening in their forests due to the very poor annual reporting which deliberately confuses things through combining areas, simplifying forest types reported on etc.

Comment [DB32]: Landscape CH FMA (MS&P 4.3.1) – "retain all mature trees within 20m of Monda Tk". Problem of new 'mature' definition as outlined above. Seen in several places along Monda Tk, when 20m buffer is left, all that happens is the narrow band of trees are then wind thrown over the road, making it impassable and the visual effect is lost.

20m (Monda Tk) or 50m (La La Falls/Island Creek) buffers are inadequate to provide a visual barrier in forest that is 60+m tall, you can easily see through that distance and see the forest 'stops' behind.

Such significant tourist attractions as the Ada Tree (4.3.1.3) and Kalatha Giant in Toolangi (not mentioned in this draft, but needs to be included), should have a far greater buffer than 100m so the effects of harvesting are not at all obvious to any visitor and to fully protect these irreplaceable massive old trees to the best of our ability.

2.2.2 Short-term Operational Planning

Short-term planning associated with the establishment of timber harvesting operations is critical to achieving the environmental outcomes encompassed by the Code. Short-term planning includes a requirement for clear documentation of intended measures to protect the environment during proposed timber harvesting operations such as regeneration, tending, harvesting, haulage and associated roading.

Operational Goals

Effective and inclusive planning processes are used for timber harvesting operations to meet the requirements of this Code and the Management Standards and Procedures.

A Forest Coupe Plan which specifies operational requirements is prepared in accordance with the requirements of this Code prior to the commencement of each timber harvesting operation.

Mandatory Actions

2.2.2.1 All timber harvesting operations must be planned to meet the requirements of this Code and the Management Standards and Procedures.

2.2.2.2 A Forest Coupe Plan must:

- **i. be prepared prior to the commencement of a timber harvesting operation and road construction or upgrades;**
- **ii. communicate the intended boundaries, activities and requirements in adequate detail to enable operators to complete work to the required standard, comply with the Code and comply with the Management Standards and Procedures for the life of the coupe, and to support the Secretary to DEPI in reviewing compliance;**
- **iii. be sanctioned by the person who has control of the timber harvesting operation;**
- **iv. be approved by the Secretary to DEPI or delegate for timber harvesting operations occurring within SPZ or outside the area allocated to or licensed to the harvesting entity;**
- **v. record details of the type of timber harvesting operation; and**
- **vi. document all variations to operational requirements and sanctions (such as the removal of trees from buffers for safety purposes) until the timber harvesting coupe is determined to be successfully regenerated and rehabilitated by the Secretary to DEPI or delegate.**

2.2.2.3 For coupes associated with roading, approval must occur with adequate time to construct the required standard of access without compromising safety, water quality and other environmental values.

2.2.2.4 In addition to the requirements outlined in this code, Forest Coupe Plans for salvage harvesting operations must complement any additional recovery strategies and rehabilitation plans established for environmental values.

2.2.3 Record Keeping

Timber harvesting operations records are routinely used for operational, policy and public information purposes.

Operational Goals

Timber harvesting operations are recorded in a way that facilitates future compliance checks, public reporting and policy purposes.

Mandatory Actions

2.2.3.1 The following information must be recorded for all timber harvesting operations in a format that allows for future reference:

i. harvesting and tending location, silviculture system and timing;

ii. regeneration location, method, timing, seed source and final stocking rate; and

iii. pre and post-harvest basal area in selectively harvested coupes.

2.3 Roading for Timber Harvesting Operations

This section covers the planning, design, construction, maintenance and use of permanent and temporary roads for timber haulage and machinery transport. This section does not consider requirements for snigging and forwarding tracks, which are covered under coupe infrastructure (section 2.4.2).

Timber harvesting operation roads have the potential to create significant environmental impacts, particularly on water quality and river health. This Code aims to protect a range of environmental values while allowing safe and economic roading for timber harvesting operations.

Operational Goal

The planning and management of permanent and temporary roads for timber haulage and machinery transport ensures that the roads are fit for purpose, and protect environmental and cultural values and the safety of all road users.

2.3.1 Road Planning

Mandatory Actions

2.3.1.1 Planning and management of timber harvesting operations must comply with this Code and relevant road planning measures specified within the Management Standards and Procedures unless the road is covered by a formal roading agreement with DEPI that would supersede this requirement.

2.3.1.2 Road planning and design for new and substantially upgraded roads must ensure the road network is safe and adequate for the intended range of uses and users, while ensuring the protection of water quality and conservation values, including river health.

2.3.1.3 Road planning must:

i. locate roads so as to minimise risks to safety and environmental values, particularly soil, water quality and river health, during both construction and ongoing road use; and

ii. ensure that the timing of construction activities minimises risks associated with unsuitable weather conditions and provides for completion to the required standard in advance of timber harvesting operations.

2.3.1.4 Existing roads must be used for access to a coupe or work site and to haul timber, except where it can be clearly demonstrated that a new or relocated road further minimises or removes existing threats to soil, water quality or biodiversity.

2.3.1.5 Forest Coupe Plans for roads must be based on field surveys to ensure that all environmentally sensitive locations are identified and appropriate design and construction techniques are adopted.

2.3.2 Road Design

Good road design is vital to minimise construction and maintenance costs, reduce environmental risk such as impacts to water quality, improve efficiency of haulage, and ensure public safety is maintained. It is important when designing a new road or improvements to an existing road that water is moved off the road into undisturbed vegetation to reduce the velocity (and hence erosivity) of water, and to provide the greatest possible infiltration of water into soil to trap sediments before discharge into waterways.

Road design includes the consideration of road location, road use, traffic volume, aspect, soil type, slope, topography, surface materials, road shape as well as road drainage and other infrastructure including culverts, drains, batters, bridges and fords.

Mandatory Actions

2.3.2.1 Planning and management of timber harvesting operations must comply with this Code and relevant road design measures specified within the Management Standards and Procedures unless the road is covered by a formal roading agreement with DEPI that would supersede this requirement

2.3.2.2 New or upgraded roads must be designed to a standard capable of carrying anticipated traffic with reasonable safety, and ensure the protection of water quality and river health, and biodiversity conservation values.

2.3.2.3 All fill disposal areas and embankments must be planned and designed to minimise soil erosion, mass soil movement, and potential water quality deterioration.

2.3.2.4 Stream crossings must be designed according to traffic requirements and the nature, size and period of flow (both pre and anticipated post-harvest) and characteristics of the bed and banks of the stream.

2.3.2.5 Appropriate drainage must be provided. Spacing of drainage outlets along a road must take into account the soil erodibility, rainfall frequency and intensity, and the proximity of the road to streams.

2.3.2.6 Energy dissipating structures or silt traps must be used where necessary to reduce water velocity and trap sediments.

2.3.2.7 Drainage onto exposed erodible soil or over fill slopes must be avoided where possible. Structures and earthworks required to avoid such discharges are to be identified during planning and construction as required.

2.3.2.8 Drainage must be prevented from discharging directly onto any road.

2.3.2.9 Before entering a waterway road drainage must discharge onto vegetation or a through a structure that effectively dissipates the velocity of drainage flows.

2.3.2.10 Materials or techniques with low sediment generating potential must be applied to the road area on bridge approaches and on unsurfaced bridges or culverts, when crossing permanent or temporary streams.

2.3.3 Road Construction

Mandatory Actions

2.3.3.1 Planning and management of timber harvesting operations must comply with this Code and relevant road construction measures specified within the Management Standards and Procedures unless the road is covered by a formal roading agreement with DEPI that would supersede this requirement.

2.3.3.2 Road construction must be conducted in a manner consistent with plans and designs.

2.3.3.3 All fill disposal areas and embankments must be appropriately stabilised. Where revegetation is used to stabilise fills or embankments, the species must be suitable for the site and where possible indigenous to the area.

2.3.3.4 Erosion and sediment control must be an ongoing activity over the duration of the construction activity, integrated with the works schedule. Road construction sites must have erosion mitigation measures in place and appropriate temporary drainage to ensure that the site is left protected between construction activities.

2.3.3.5 Quarry materials infected with *Phytophthora cinnamoni* must not be used.

2.3.3.6 Road construction must ensure that:

i. disturbance to stream beds and banks is kept to a minimum;

ii. soil and rock fill is not pushed into waterways, nor placed into a position where there is a risk that it can erode into a waterway; and

iii. cement, raw concrete, soil fill and other road making materials are not spilt into waterways during road construction.

2.3.4 Road Maintenance

Mandatory Actions

2.3.4.1 Planning and management of timber harvesting operations must comply with this Code and relevant road maintenance measures specified within the Management Standards and Procedures unless the road is covered by a formal roading agreement with DEPI that would supersede this requirement.

2.3.4.2 Roads used for timber haulage must be maintained in a manner that minimises erosion and protects water quality and other environmental values.

2.3.4.3 Road drainage systems must be maintained at sufficient frequency to minimise erosion and the discharge of sediment into waterways.

2.3.4.4 Blading-off of roads is only permitted and must be recorded in the coupe diary where measures are in place to prevent potential adverse impacts on water quality and where effective side drainage can be maintained.

2.3.5 Suspension of Haulage

Haulage on forest roads when wet weather or other adverse conditions affect the road surface and drainage can compromise water quality and public safety. Haulage may need to cease for a period where this is the case.

Mandatory Actions

2.3.5.1 Planning and management of timber harvesting operations must comply with relevant suspension of haulage measures specified within the Management Standards and Procedures unless the road is covered by a formal roading agreement with DEPI that would supersede this requirement.

2.3.5.2 Heavy vehicle traffic associated with timber harvesting operations must not use roads in State forests when persistent wet weather or road stability compromise road drainage and water quality.

2.3.5.3 Heavy vehicle traffic associated with timber harvesting operations must not use roads in State forests when persistent dry weather causes the surface materials to disintegrate to a degree that poses a threat to water quality, in the absence of suitable preventative or remedial actions to manage the risk to water quality.

2.3.6 Road Closure

Mandatory Actions

2.3.6.1 Planning and management of timber harvesting operations must comply with relevant road closure measures specified within the Management Standards and Procedures unless the road is covered by a formal roading agreement with DEPI that would supersede this requirement.

2.3.6.2 Roads no longer required for timber harvesting operations or other forest management purposes, must be permanently closed and effectively drained following completion of the timber harvesting operation.

Comment [DB33]: Is this sufficient? Should they not be ripped and regenerated?

2.4 Timber Harvesting

Timber harvesting operations in State forest are conducted in accordance with a Forest Coupe Plan (section 2.2.2).

Operational Goal

Timber harvesting operations are conducted in a manner appropriate to the site, and minimises impacts on soil, water and other values, including biodiversity and cultural heritage.

Timber harvesting operations are conducted in a manner that mass soil movements do not occur.

2.4.1 Coupe Management

Mandatory Actions

2.4.1.1 Planning and management of timber harvesting operations must comply with relevant coupe management measures specified in the Management Standards and Procedures.

2.4.1.2 Timber harvesting operations must be conducted in accordance with the Forest Coupe Plan and all applicable Special Management Zone plans.

2.4.1.3 The location of coupe boundaries, special protection zones, buffers, filters, exclusion areas, areas where special management applies and habitat trees must be easily distinguishable in the field.

2.4.1.4 Timber harvesting operations must only be undertaken within established coupe boundaries as indicated on the Forest Coupe Plan and where required marked in the field, unless the timber harvesting operation is specifically sanctioned or exempted in accordance with this Code.

Timber harvesting operations within areas that are not available for harvesting

2.4.1.5 Timber harvesting operations (excluding haulage on existing or approved roads) are not permitted in special protection zones, buffers, or other exclusion areas identified on the Forest Coupe Plan, except where:

i. the removal of a limited number of trees is necessary for the construction and use of stream crossings or river health; or

ii. the operator has been sanctioned to remove a limited number of trees to protect public or worker safety or forest health.

2.4.1.6 Areas outside the coupe boundary or within special protection zones, buffers and other exclusion areas must be protected from damage caused by trees felled in adjacent areas. Trees accidentally felled into these areas may be removed only where sanctioned. Sanction may only be given if significant damage and disturbance of soil and vegetation outside the harvestable area can be avoided.

Timber harvesting operations within filter strips

2.4.1.7 Disturbance to soil and understorey vegetation from timber harvesting operations in filter strips must be minimised.

2.4.1.8 Trees may be felled from within filter strips where machinery does not enter the filter strip. The felling of trees into filter strips must be avoided where possible.

Comment [DB34]: Salvage logging is totally ignored in this section. While there is a section (8) in the MS&P relating to it, there needs to be far more emphasis on this ecologically damaging practice, and we would argue, far more serious review of the value of logging forest burnt by wildfire.

8.1.2 Salvage logging should not be allowed in areas where the overstorey trees have not died (severity 4&5, possibly 3 as well). These areas will go on to become very important multi age stands.

8.1.3.1 Basically allows extremely extensive areas to be clearfelled, 120ha coupes with unlimited aggregation means wholesale clearance of biological legacies across an entire landscape with very limited retention.

8.1.4.2 Excluding machinery from 15% of the GROSS coupe area is completely inadequate to protect understorey species that are in the most fragile state of recovery, 0-3 yrs post fire. This is perhaps the biggest impact from salvage logging. Machinery should be excluded from as much of the NET area as possible, preferably at least 50%.

Tree fern retention requires some monitoring and audits to ensure meaningful numbers survive.

Landings should be rehabilitated not left.

Timber harvesting operations on steep slopes

2.4.1.9 Timber harvesting operations must not occur on slopes where they cannot be conducted safely, or they threaten the stability of the soil or has high potential for adverse off-site effects. The potential for mass soil movement must be assessed and necessary preventative actions undertaken.

2.4.1.10 On slopes with a high soil erosion hazard or where there is an assessed risk of mass soil movement, additional measures must be taken to avoid movement of soil into streams, such as modification to harvesting methods or increasing of the widths of buffers and filter strips.

2.4.2 Coupe Infrastructure

Coupe infrastructure includes log landings, log storage facilities, snigging and forwarding tracks, and boundary trails.

Mandatory Actions

2.4.2.1 Planning and management of timber harvesting operations must comply with relevant coupe infrastructure measures specified within the Management Standards and Procedures.

2.4.2.2 Log landings and log storage facilities must not be located in areas excluded from harvesting unless approval from the Secretary to DEPI or delegate is received and noted on the Forest Coupe Plan.

2.4.2.3 Infrastructure must be rehabilitated on completion of timber harvesting operations, where not required for future timber harvesting operations. Rehabilitation techniques must ensure that suitable soil conditions are provided for the regeneration and growth of vegetation existing on the site prior to harvesting (refer to section 2.5). Progressive rehabilitation of infrastructure during timber harvesting operations must be undertaken where operationally possible.

Comment [DB35]: This should apply to salvage harvesting as well.

2.4.2.4 Snigging and forwarding tracks must be placed at the greatest practicable distance from waterways without compromising operator safety.

2.4.2.5 Tracks must have effective drainage to prevent soil erosion. Cross-drains, where used, must be spaced and angled as appropriate to the soil erosion hazard, to disperse surface run-off and prevent discharge of turbid water into streams or drainage lines.

2.4.2.6 Snigging and forwarding tracks and boundary trails must not be bladed off where this would result in an adverse impact on water quality or the loss of topsoil from the site. Any blading off of coupe infrastructure must be sanctioned and recorded in the coupe diary.

2.4.2.7 Rehabilitation of coupe infrastructure must be assessed within three years of initial treatment and, where found inadequate, remedial action must be taken.

2.4.3 Operational Restrictions

Operational Goal

During or following wet weather, timber harvesting operations are modified or suspended as necessary to minimise risks to soil and water quality values.

Mandatory Actions

2.4.3.1 Planning and management of timber harvesting operations must comply with relevant operational restrictions specified within the Management Standards and Procedures.

2.4.3.2 Timber harvesting operations that involve machine traffic must be suspended when significant rutting would be caused by such traffic, unless actions are taken to actively manage that risk.

2.4.3.3 Timber harvesting operations must be suspended when water begins to flow along tracks, threatening stream water quality or soil values, unless appropriate remedial actions are taken.

2.4.3.4 Timber harvesting operations conducted on landings must be suspended when continuation would result in significant deterioration of the landing surface causing increased levels of compaction or mixing of bark through soil on the landing surface.

2.4.3.5 Snigging and use of heavy machinery must not increase water quality risks from roading.

2.5 Forest Regeneration and Management

This section covers the regeneration of State forests and the subsequent management of such forest stands. Unless required for another approved purpose, all State forest areas subject to timber harvesting operations will be regenerated to approximate the original forest composition.

2.5.1 Regeneration

Operational Goals

Harvested areas of native forest are successfully regenerated.

The natural floristic composition and representative gene pools are maintained when regenerating native forests by using appropriate seed sources and mixes of dominant species.

Mandatory Actions

2.5.1.1 Planning and management of timber harvesting operations must comply with relevant regeneration measures specified within the Management Standards and Procedures.

2.5.1.2 Action must be taken to ensure the successful regeneration of a harvested coupe, except where:

i. the land is to be used for an approved purpose for which native vegetation is not compatible (for example services, public infrastructure and structures); or

ii. timber has been harvested by thinning; or

iii. the naturally occurring regrowth is assessed as sufficient.

2.5.1.3 Following timber harvesting operations, State forest must be regenerated with species native to the area, wherever possible using the same provenances, or if not available, from an ecologically similar locality. An ecologically similar locality for a species is from a similar elevation, aspect, soil type and/or climate, as close as possible to the harvested area.

2.5.1.4 Regeneration must aim to achieve an approximate composition and spatial distribution of canopy species that were common to the coupe prior to harvesting, if known.

2.5.1.5 Silvicultural methods for regeneration must suit the ecological requirements of the forest type, taking into consideration the requirements of sensitive understorey species and local conditions.

2.5.1.6 Harvested coupes must be regenerated as soon as practical, including follow up or remedial action in the event of regeneration failure.

2.5.1.7 All practical measures must be taken to protect areas excluded from harvesting from the impacts of burns and other regeneration activities.

2.5.1.8 Where mechanical disturbance is used, it must be undertaken with due consideration of erosion risks and the proximity of waterways (refer to Section 2.1).

Comment [DB36]: This should include hand lighting with drip torches, rather than only by incendiaries from helicopter. More staff may be required to do this, lighting up around islands, edges, retained trees etc, but will result in a better out come.

Current 'chopper only' lighting of regen burns is resulting in many unnecessary tree deaths in ash forests.

Comment [DB37]: And the retention of adequate understorey species, in particular re-sprouting spp that are hard hit by mechanical disturbance.

2.5.2 Tending

Appropriate action may be taken to tend native forest stands where consistent with environmental safeguards and offsite impacts can be minimised. Examples of such action include stand improvement (such as overwood removal or reduction), thinning, fertilising and other silvicultural practices to promote stand health and timber production.

Comment [DB38]: This must not be dressed up as "ecological thinning" as it was in the TIAP. Thinning is ecologically damaging in ash forests as it severely damages the midstorey/understorey structure which is important for possums and other spp to move through.

I hope adequate thought has been given to the deliberate increasing of tree growth, which while creating greater volume (good for pulp), does not necessarily lead to better sawlog, where slower grown, closer grain timber presumably is preferred. Thinning also leads to scarring of trunks which can further decrease sawn volume. What are the forests being primarily managed for?

Operational Goal

The productive capacity and other values of the forest are maintained or enhanced by appropriate tending of stands.

Mandatory Actions

2.5.2.1 Planning and management of timber harvesting operations must comply with relevant tending measures specified within the Management Standards and Procedures.

2.5.2.2 Tending must comply with all relevant mandatory actions for timber harvesting operations.

2.5.2.3 Tending must:

i. enhance the ecologically sustainable long-term timber production capacity of the thinned stand;

ii. minimise impacts on understorey species, particularly long-lived elements; and

iii. avoid construction of roads, landings and associated infrastructure that will not be required for subsequent timber harvesting operations.

Comment [DB39]: Major issue which needs to be addressed through stringent detail in the MS&P.

Currently MS&P section 9.2 on thinning gives no detail at all about care of understorey spp, minimum ground disturbance, retention of wattle etc.

How can you possibly audit this item (and it is listed that "Tending MUST:") if you have no metrics of what must be done!

3 Code Application – Private Native Forests

This Chapter applies to all timber harvesting operations (planning, harvesting, roading, tending and regeneration) for native forests on private land. Private native forest landowners need to consider potential impacts on soil and water quality, aquatic habitat, and biodiversity, Aboriginal and other cultural heritage places and visual amenity when managing native forest for timber harvesting operations.

3.1 Environmental Values in Private Native Forests

Timber harvesting operations in private native forests may impact on environmental values such as water quality and biodiversity. Appropriate planning and management through the lifecycle of the timber harvesting operation can minimise these impacts. This section includes requirements that must be observed during planning, tending, roading, harvesting and regeneration of native forests on private land.

3.1.1 Water Quality, River Health and Soil Protection

Operational Goals

Water quality and river health are maintained or improved by protecting waterways and aquatic and riparian habitat from disturbance.

Water pollution is minimised and soil productive capacity is maintained by avoiding harvesting in inappropriate areas or slopes and undertaking necessary preventative measures.

Chemicals are only used where appropriate to the site conditions and is conducted with due care for the maintenance of forest health, water quality, biodiversity and soil values.

During or following wet weather conditions, timber harvesting operations are modified or where necessary suspended to minimise risks to soil and water quality values.

Mandatory Actions

Waterway Classification

3.1.1.1 Use the following categories when determining buffer and filter widths for waterways within and immediately adjacent to each coupe.

i. permanent rivers and streams, pools and wetlands;

ii. temporary streams;

iii. drainage lines.

Aids to the identification of each class of waterway are provided in the glossary.

Protecting waterways and aquatic and riparian habitat

3.1.1.2 Management actions to protect waterways, river health and soil must be appropriate to the waterway class, soil category, and potential water quality risk posed by timber harvesting operations at each site.

3.1.1.3 Water quality and river health must be protected by establishing and maintaining buffers and/or filter strips (to each side of the waterway). Buffers and filter strips must be specified on the basis of field risk assessments, and the outcomes shown in the Timber Harvesting Plan. As part of the field risk assessment, the potential risk to water quality is determined through consideration of:

- **i. soil erodibility;**
- **ii. soil permeability;**
- **iii. rainfall erosivity (including season of timber harvesting operation);**
- **iv. topography;**
- **v. type of timber harvesting operation; and**
- **vi. location of coupe infrastructure.**

3.1.1.4 Water quality and river health must be protected from microclimate changes, sedimentation and disturbance by maintaining buffers and/or filter strips (to each side of the waterway) of not less than the widths specified in Table 2.

Table 2 Minimum widths in metres for buffers and filter strips applicable to various waterway categories, in relation to water quality risk and slope

	Sites with low or moderate water quality risk	**Sites with high or very high water quality risk**	
Waterway Class	***Slope 0-30^o***	***Slope 0-20^o***	***Slope 21^o - 30^o***
1. Pools, permanent streams and wetlands	20m B	30m B	40m B
2. Temporary streams	10m F	10m B + 10m F	20m B
3. Drainage lines	10m F	10m F	15m F

Notes:

- Slope is the average slope of the coupe area in the vicinity of the water body.
- Buffers and filter strips must be applied to each waterway class regardless of the origins of the channelling.
- The width of buffer areas and filter strips must be measured in the horizontal plane, from the edge of the saturated zone (at time of harvesting) or channel (whichever is greater), on each side of the waterway.

3.1.1.5 Additional measures to protect water quality and aquatic habitat (including widening buffers or filter strips) must be adopted within coupes where there is a high local risk due to:

i. local topography;

ii. the intensity and magnitude of the timber harvesting operation; or

iii. the location of the timber harvesting operation in a declared Special Water Supply Catchment area or water supply protection area.

3.1.1.6 To the maximum extent possible, exclude roads and snig tracks from aquatic and riparian habitats.

3.1.1.7 Where crossings are required, minimise the extent of habitat damage, constriction to stream flow and barriers to fish and other aquatic fauna.

3.1.1.8 Remove temporary crossings immediately after harvesting or any subsequent regeneration work for which they are required using a technique that minimises soil and habitat disturbance.

Minimising water pollution

3.1.1.9 Use drainage, artificial structures, buffers and filters of effective width to slow and disperse surface flows and deposit sediment before reaching waterways.

3.1.1.10 To the maximum extent possible, locate coupe infrastructure, roads and other activities that generate sediment and other potential pollutants in places where risk of entry into waterways is lowest.

3.1.1.11 Minimise the extent and duration of soil disturbance adjacent and within waterways.

3.1.1.12 Use management practices such as harvesting techniques, scheduling, wet weather suspensions or progressive rehabilitation to minimise potential for sediments and other pollutants to move into streams.

3.1.1.13 Design, construct and maintain roads, crossings, coupe infrastructure and drainage structures to withstand anticipated rainfall events and traffic conditions, and protect water quality.

3.1.1.14 Ensure chemical use is appropriate to the circumstances and takes into account the maintenance of water quality.

3.1.1.15 Waste oil, all empty drums, discarded machinery parts and other waste must be removed from the forest and taken to an approved disposal facility.

Maintaining soil productive capacity

3.1.1.16 Minimise potential for soil erosion and mass movement by planning and using operational methods and restrictions appropriate to the soil erosion risk and slope.

3.1.1.17 Locate coupe infrastructure and roads to minimise soil erosion and degradation.

3.1.1.18 Use appropriate equipment, techniques and operational management to minimise soil rutting, mixing and compaction.

3.1.1.19 Limit the area of soil affected by coupe infrastructure to the minimum required to safely complete the timber harvesting operations to the required standard.

3.1.1.20 Employ topsoil conservation techniques in areas affected by infrastructure.

3.1.1.21 Maintain effective drainage of coupe infrastructure and roads.

3.1.2 Conservation of Biodiversity

Operational Goal

Planning, harvesting, roading and silvicultural treatment in private native forests specifically address the conservation of biodiversity, in accordance with relevant legislation and regulations, and considering relevant scientific knowledge.

Harvested native forest is managed to ensure that the forest is regenerated and the biodiversity of the native forest is perpetuated.

The natural floristic composition and representative gene pools are maintained when regenerating native forests by using appropriate seed sources and mixes of dominant species.

Forest health is monitored and maintained by employing appropriate preventative, protective and remedial measures.

Chemicals are only used where appropriate to the site conditions and are conducted with due care for the maintenance of forest health, water quality, biodiversity and soil values.

Mandatory Actions

Addressing biodiversity conservation risks

3.1.2.1 Where fire is used in timber harvesting operations, all practicable measures must be taken to protect all areas excluded from harvesting from the impacts of unplanned fire.

3.1.2.2 Rainforest communities in Victoria must not be harvested. Rainforest communities must be protected from the impacts of harvesting through the use of appropriate buffers to maintain microclimatic conditions and protect from disease and other disturbance.

Maintaining natural floristic composition and representative gene pools

3.1.2.3 Use silvicultural systems that suit the ecological requirements of the forest type.

3.1.2.4 Regenerate harvested areas using species and provenances native to the area.

Maintaining forest health

3.1.2.5 Implement appropriate vehicle and equipment hygiene precautions when moving from areas of known pest plant, pest animal and pathogen infestations.

3.1.2.6 Implement appropriate control actions where timber harvesting operations have introduced or exacerbated a pathogen or weed.

3.1.2.7 Report the suspected introduction of new or unknown exotic agents to DEPI's Biosecurity section.

3.1.2.8 Where Myrtle Wilt fungus (*Chalara australis*) is known to exist, apply appropriate measures to minimise the spread of this pathogen.

3.2 Forest Planning

Proper planning is critical to achieving timber harvesting operation requirements and the environmental outcomes encompassed by the Code. Forest management planning provides clear documentation of intended reservation of areas, measures to protect the environment and proposed timber harvesting operations.

Under the requirements of planning schemes, timber harvesting operations on private land must comply with the Code. Local government (the responsible authority) is required to consider the Operational Goals and Mandatory Actions in this Code when issuing permits for timber harvesting operations.

Operational Goals

A Timber Harvesting Plan or is prepared in accordance with the requirements of this Code and submitted to the relevant local government prior to the commencement of timber harvesting operations.

Approval for timber harvesting operations in native forest on private land is obtained through the relevant planning scheme.

3.2.1 Timber Harvesting Plan

A Timber Harvesting Plan is the basic record of the forest manager's intended activities in an area of forest. It applies to a single coupe, a number of coupes or to an area in which a number of coupes are to be harvested. It assists forest operators, forest managers and local government in understanding and assessing:

- **area to be harvested and operational requirements;**
- **compliance with the operational goals and mandatory actions of this Code;**
- **compliance with the planning scheme requirements; and**
- **compliance with relevant legislation.**

Operational Goal

A Timber Harvesting Plan is prepared in accordance with the requirements of this Code and submitted to the relevant local government prior to the commencement of timber harvesting operations.

Mandatory Actions

3.2.1.1 A Timber Harvesting Plan must be submitted to local government not less than 28 days before the commencement of any timber harvesting operations.

3.2.1.2 The 28 day minimum lodgement time may be waived with the agreement of the local government.

3.2.1.3 A Timber Harvesting Plan is current for 24 months following lodgement with the local government.

3.2.1.4 When preparing a Timber Harvesting Plan, the following issues must be addressed:

i. methods to minimise impacts on biodiversity, water quality and river health from timber harvesting operations including associated roads; and

ii. ways to minimise impacts on significant visual landscape values.

3.2.1.5 The Timber Harvesting Plan must include:

i. **Landowners name and address;**

ii. **estimated timber volumes to be harvested;**

iii. **the proposed haulage route;**

iv. **a map showing:**

- **the coupe location(s);**
- **the area(s) to be harvested;**
- **exclusion zones areas within the coupe boundary, including areas reserved or specifically managed for biodiversity conservation, waterway protection (including any buffers or filter strips), or protection of Aboriginal heritage values;**
- **power lines;**
- **new or upgraded roads and coupe infrastructure within the property**

v. **conditions applying to the timber harvesting operation;**

vi. **fire protection measures;**

vii. **the period during which the timber harvesting operation is to occur; and**

viii. **a regeneration program to follow harvesting, where required.**

3.2.1.6 The size of clear-felled, seed tree or shelterwood coupes should generally not exceed 40 hectares net harvested area. Coupes may be aggregated but not exceed 120 hectares net harvested area over a period of up to five years. Aggregated coupes must not be contiguous (forming a coupe greater than 120 hectares within a five year period).

3.2.1.7 Thinning coupes must not exceed 120 hectares net harvested area. Single tree selection coupes may be of any size, where landscape or environmental values are not affected.

3.2.1.8 Coupe boundaries must take advantage of topographic and/or artificial features (such as roads and property boundaries) where they exist, with due regard to safety, operational requirements, landscape values and environmental values. Where coupe boundaries do not follow obvious natural or artificial features, they must be clearly marked on site.

3.2.1.9 Characteristics of coupes for salvage of timber in forests damaged by fire, pests, pathogens or other events may differ from undamaged forests. A special (salvage) plan or an amended Timber Harvesting Plan must be developed, taking into account:

i. **the need for urgency in timber recovery; and**

ii. **the need to modify prescriptions, as required, to meet environmental care goals and address recovery strategies for other forest values such as fauna.**

3.2.1.10 Salvage harvesting operations must take as much account of environmental care as any other timber harvesting operation.

3.2.1.11 A copy of the Timber Harvesting Plan and any supporting prescriptions must be provided to the harvesting team leader. The Plan's implementation, including specific prescriptions to be applied to the coupe, must be discussed with him/her. These documents must be available on site while timber harvesting operations are in progress.

3.2.1.12 All amendments and variations to operational requirements (such as the removal of trees from buffers or outside the coupe for safety purposes) must be documented in the Timber Harvesting Plan and dated by the harvesting team leader.

3.3 Roading for Timber Harvesting Operations

This section covers the planning, design, construction, maintenance and use of permanent and temporary roads for haulage and machinery transport. This section does not consider requirements for snigging and forwarding tracks, which are covered under coupe infrastructure (section 3.4.2).

Timber harvesting operations roads have the potential to create significant environmental impacts, particularly on water quality and river health. The aim of this Code of Practice is to protect a range of environmental values while allowing economic roading for timber harvesting operations, management purposes and other uses.

Operational Goal

The planning and management of permanent and temporary roads for timber haulage and machinery transport ensures that the roads are fit for intended purpose, and protect environmental and cultural values and the safety of road users.

3.3.1 Road Planning

Mandatory Actions

3.3.1.1 Road planning and design for new and substantially upgraded roads within the property must ensure the road is adequate for the intended use, while ensuring the protection of water quality and conservation values, including river health.

3.3.1.2 Road planning must:

- **i. locate roads to minimise risks to environmental values, particularly soil, water quality and river health, during both construction and ongoing road use; and**
- **ii. time construction activities to minimise risks associated with unsuitable weather conditions.**

3.3.1.3 Existing roads must, where practicable, be used for access to a coupe or work site and to haul timber, except where it can be clearly demonstrated that a new or relocated road minimises or removes existing threats to soil, water quality or biodiversity.

3.3.1.4 Plans for roads must be based on field surveys to ensure all environmentally sensitive locations are identified and appropriate design and construction techniques adopted.

3.3.2 Road Design

When building new roads or substantially upgrading existing roads, good road design is vital for maintaining water quality. It is important to control the speed (and hence erosivity) of water, and to provide the greatest possible infiltration across vegetated ground to trap sediments before discharge into waterways.

Road design includes the consideration of road location, aspect, shape, traffic frequency, type and volume, slope, topography, surface materials, as well as road infrastructure including culverts, drains, batters, bridges and fords.

Mandatory Actions

3.3.2.1 New or upgraded roads must be designed to a standard capable of carrying anticipated traffic with reasonable safety, and ensuring the protection of water quality and river health, and biodiversity conservation values.

3.3.2.2 All fill disposal areas and embankments must be planned and designed to minimise soil erosion, mass soil movement, and potential water quality deterioration.

3.3.2.3 Stream crossings must be designed according to the nature, size and period of flow (both pre and anticipated post-harvest) and characteristics of the bed and banks of the stream.

3.3.2.4 Appropriate drainage must be provided. Spacing of drainage outlets along a road must take into account of the soil erodibility, the rainfall erosivity, and the proximity of the road to streams.

3.3.2.5 Energy dissipating structures or silt traps must be used where necessary to reduce water velocity and trap sediments.

3.3.2.6 Drainage onto exposed erodible soil or over fill slopes must be avoided where possible. Structures and earthworks required to avoid such discharges are to be identified during planning and construction as required.

3.3.3 Road Construction

Mandatory Actions

3.3.3.1 Road construction must be conducted in a manner consistent with plans and designs.

3.3.3.2 All fill disposal areas must be stabilised and rehabilitated when no longer required. Where revegetation is used to stabilise fills or embankments, the species must be suitable for the site and task, and where possible indigenous to the area.

3.3.3.3 Erosion and sediment control must be an ongoing activity over the duration of the construction activity, integrated with the works schedule. Road construction sites must not be left unprotected between construction activities, as this constitutes an unacceptable water pollution risk.

3.3.3.4 Quarry materials must not be used if known to be infected with *Phytophthora cinnamoni.*

3.3.3.5 Road construction must ensure that:

- **i. disturbance to stream beds and banks is kept to a minimum;**
- **ii. soil and rock fill is not pushed into streams, nor placed into a position where there is a risk that it can erode into a stream; and**
- **iii. cement, raw concrete, soil fill and other road making materials are not spilt into watercourses during any construction.**

3.3.4 Road Maintenance

Mandatory Actions

3.3.4.1 Roads used for timber haulage must be maintained to minimise erosion and protect water quality and other environmental values.

3.3.4.2 Road drainage systems must be maintained to minimise erosion and the discharge of sediment into waterways.

3.3.4.3 Blading-off of roads is only permitted where measures are in place to prevent potential adverse impacts on water quality and where effective side drainage can be maintained.

3.3.5 Suspension of Haulage

Mandatory Actions

3.3.5.1 Heavy vehicle traffic must not use roads in private native forests when persistent wet weather or road stability compromise road drainage and water quality.

3.3.5.2 Heavy vehicle traffic must not use roads in private native forests when persistent dry weather causes the surface materials to unravel to a degree that poses a threat to water quality, in the absence of suitable preventative or remedial actions to manage the risk to water quality.

3.3.6 Road Closure

Mandatory Action

3.3.6.1 Roads no longer required for timber harvesting operations or other management purposes, must be permanently closed and effectively drained.

3.4 Timber Harvesting

3.4.1 Timber Harvesting Operations

Operational Goal

Timber harvesting operations are conducted in a manner appropriate to the site, and manages the impact on soil, water and other values, including biodiversity and cultural heritage.

During or following wet weather conditions, timber harvesting operations are modified or where necessary suspended to minimise risks to soil and water quality values.

Mandatory Actions

3.4.1.1 All timber harvesting operations, including thinning, must be consistent with the Timber Harvesting Plan.

3.4.1.2 The location of coupe boundaries, buffers, exclusion areas and areas where special management applies must be easily distinguishable in the field.

3.4.1.3 Timber harvesting operations must only occur within the designated boundaries of the coupe as indicated on the Timber Harvesting Plan and where required, marked in the field, unless the timber harvesting operation is specifically exempted in accordance with this Code.

3.4.1.4 Timber must be directed to fall within the coupe boundary unless unsafe to do so.

Timber harvesting operations within areas that are not available for harvesting

3.4.1.5 Timber harvesting operations are not permitted in buffers or exclusion areas (identified on the Timber Harvesting Plan), except where the limited removal of the minimum number of trees is necessary for:

- **i. the protection of worker safety; or**
- **ii. the construction of roads or stream crossings.**

3.4.1.6 Buffers must be protected from damage caused by trees felled in adjacent areas. Trees accidentally felled into buffers may be removed if significant damage and disturbance of soil and vegetation in the buffer can be avoided.

Timber harvesting operations within filter strips

3.4.1.7 Trees may be felled from within filter strips. The felling of trees into filter strips must be avoided where possible.

3.4.1.8 Disturbance to soil and understorey vegetation from timber harvesting operations in filter strips must be minimised.

Timber harvesting operations on steep slopes

3.4.1.9 Timber harvesting operations must not occur on slopes where the timber harvesting operation cannot be conducted safely, threatens the stability of the soil or has high potential for adverse off-site effects. The potential for mass soil movement must be assessed and necessary preventative actions undertaken.

3.4.1.10 On slopes with a high soil erosion hazard or where there is an assessed risk of mass soil movement, additional measures must be taken to avoid movement of soil into streams, such as modification to harvesting methods or increasing of the widths of buffers and filter strips.

3.4.2 Coupe Infrastructure

Coupe infrastructure includes log landings and dumps, snigging and forwarding tracks used as part of the timber harvesting operation.

Mandatory Actions

3.4.2.1 Log landings and dumps must not be located within areas excluded from harvesting.

3.4.2.2 Infrastructure must be rehabilitated on completion of timber harvesting operations, where not required for future timber harvesting operations, using rehabilitation techniques that provide suitable soil conditions for the regeneration and growth of vegetation existing on the site prior to harvesting. Refer to section 3.5 of this Code.

3.4.2.3 Snigging and forwarding tracks must be placed at the greatest practicable distance from buffers and filter strips, without compromising operator safety.

3.4.2.4 Tracks must have effective drainage to prevent soil erosion. Cross-drains, where used, must be spaced and angled according to any prescriptions in planning schemes, conditions of any planning permit or other approved plan to prevent surface run-off and subsequent discharge of turbid water into streams or drainage lines.

3.4.2.5 Snigging and forwarding tracks must not be bladed off where this would result in an adverse impact on water quality or the loss of topsoil from the site.

3.4.2.6 Rehabilitation of coupe infrastructure must be assessed within three years of initial treatment and, where found inadequate, remedial action must be taken.

3.4.3 Operational Restrictions

Operational Goal

During or following wet weather conditions, timber harvesting operations are modified or where necessary suspended to minimise risks to soil and water quality values.

Mandatory Actions

3.4.3.1 Snigging and forwarding must be suspended when significant rutting is likely to be caused by machine traffic unless actions are taken to reduce that risk.

3.4.3.2 Snigging and forwarding must be suspended when water begins to flow along tracks, threatening stream water quality or soil values, unless appropriate remedial actions have been taken to protect those values.

3.4.3.3 Timber harvesting operations on landings must be suspended when continuation would result in significant deterioration of the landing surface causing increased levels of compaction or mixing of bark through soil on the landing surface.

3.5 Forest Regeneration and Management

This section covers the regeneration of private native forest and the subsequent management of such stands, where required. Unless required for another approved purpose, private native forests in Victoria are to be successfully regenerated to approximate the original forest composition.

3.5.1 Regeneration

Operational Goals

Harvested native forest is managed to ensure that the forest is regenerated and that the biodiversity of the native forest is perpetuated.

The natural floristic composition and representative gene pools are maintained when regenerating native forests by using appropriate seed sources and mixes of dominant species.

Mandatory Actions

3.5.1.1 Action must be taken to secure the regeneration of harvested coupes, except where:

- **i. the land is to be used for an approved purpose for which native vegetation is not compatible (for example, approved services and infrastructure, and structures); or**
- **ii. timber has been harvested by thinning a stand; or**
- **iii. the stocking of seedlings or regrowth is assessed as sufficient through natural regeneration processes.**

3.5.1.2 Silvicultural methods for regeneration must suit the ecological requirements of the forest type and local conditions.

3.5.1.3 Where fire is used in regeneration, all practicable measures must be taken to protect all areas excluded from harvesting (including buffers and filter strips).

3.5.1.4 Private native forest must be regenerated following timber harvesting operations, with species native to the area, wherever possible using the same provenances, or if not available, from an ecologically similar locality. An ecologically similar locality for a species is from a similar elevation, aspect, soil type and/or climate, preferably as close as possible to the harvested area.

3.5.1.5 Except where past management practices may have altered species composition, regeneration must aim to approximate the composition and spatial distribution of canopy species common to the coupe prior to harvesting, where they can be determined.

3.5.1.6 Where mechanical disturbance is used, it must be undertaken with due consideration of erosion risk potential and the proximity of waterways (refer to Section 3.1).

3.5.2 Stocking Assessment and Remedial Treatment

Operational Goal

Stocking and early seedling growth is monitored and remedial action is taken where necessary to successfully regenerate harvested areas of native forests.

Mandatory Actions

3.5.2.1 Stocking on harvested coupes must be assessed within three years of treatment, to determine whether regeneration has been successfully achieved and to ensure that re-treatment occurs where necessary.

3.5.2.2 Where stocking, health or early growth is inadequate, remedial work must be conducted as soon as practicable to obtain adequate regeneration. Further assessment must be undertaken following remedial treatment.

3.5.2.3 The results of assessment must be recorded for future reference.

3.5.3 Tending

Tending includes stand improvement (such as overwood removal or reduction), thinning, fertilising and other silvicultural practices to promote stand health and timber production. Appropriate action may be taken to tend native forest stands where consistent with environmental safeguards and offsite impacts are minimised.

Operational Goal

The productive capacity and other values of the forest are maintained or enhanced by appropriate tending of stands.

Mandatory Actions

Tending must be planned and conducted in a manner that minimises adverse impacts on areas that are excluded from harvesting.

4 Code Application – Plantations

Plantations are managed stands of trees of either native or exotic species, planted or sown primarily for timber harvesting operation purposes. This Chapter applies to timber harvesting operations in all plantations, except those managed by the Department of Environment and Primary Industries (which are subject to Chapter Two).

Plantation development is regulated by the Victoria Planning Provisions (VPP) and a permit is generally not required. Refer to your local planning scheme for details. The Code is an incorporated document in the VPP.

4.1 Environmental Values in Plantations

Environmental values such as biodiversity, carbon sequestration, salinity control and water quality in plantations must be considered at all stages, from planning through to harvesting and re-establishment. Adverse impacts from plantations on environmental values, particularly water quality and river health, can be minimised by appropriate planning and management.

4.1.1 Water Quality, River Health and Soil Protection

Waterways include all permanent and temporary streams, pools, wetlands and drainage lines[*]. Well managed plantation establishment, tending, roading and harvesting near waterways may avoid unacceptable off-site impacts.

Operational Goals

Water quality and river health values are maintained or improved in plantations by protecting waterways from disturbance.

Soil erosion and water pollution are minimised by avoiding timber harvesting operations in inappropriate areas or slopes and undertaking necessary preventive measures.

Mandatory Actions

Waterways

4.1.1.1 The entry of soil and other pollutants into waterways must be avoided as far as is practicable.

4.1.1.2 Waste oil, all empty drums, discarded machinery parts and other waste must be removed from the forest and taken to an approved disposal facility.

4.1.1.3 Timber harvesting operations (including establishment, tending, roading, harvesting and re-establishment) must be planned and conducted in such a manner as to minimise mass movement or sedimentation of waterways.

4.1.1.4 Machinery activity within 20 metres of any waterway must be kept to the minimum necessary, to avoid soil disturbance.

4.1.1.5 Machinery activity must not occur within five metres of the saturated zone of a permanent or temporary stream (except for the minimum necessary to construct stream crossings), or wetland.

[*] Note that artificial drainage lines (ditches) are not considered waterways for the purpose of this Code.

4.1.1.6 Crossing of waterways with ground-based machinery must be avoided, except when constructing or using a designated crossing. Where temporary crossings or log culverts are used, they must be removed immediately after harvesting or any subsequent replanting work for which they are required, using a technique that minimises soil disturbance.

4.1.1.7 Tree extraction must not cause disturbance to the bed or bank of permanent or temporary streams. Damage to associated riparian vegetation must be minimised.

4.1.1.8 Retained native vegetation along a waterway must be protected from damage caused by ground based timber harvesting operations. Trees accidentally felled into retained vegetation or across a waterway may only be removed with minimal disturbance to vegetation or soil.

4.1.1.9 Additional measures to protect water quality and aquatic habitat, including increasing the zone of minimal machinery activity, must be adopted where there is a high local risk due to:

- **i. the erodibility of soils;**
- **ii. rainfall erosivity;**
- **iii. steep slopes;**
- **iv. particular riparian habitat values;**
- **v. the intensity and magnitude of the timber harvesting operation; and**
- **vi. any particular requirements of a water supply off take point.**

Steep Slopes

4.1.1.10 Timber harvesting operations (including establishment, tending, roading, harvesting and re-establishment) must be planned and conducted in such a manner as to not compromise soil stability or lead to mass movement or sedimentation of waterways.

4.1.1.11 Timber harvesting operations must not occur on slopes where they cannot be conducted safely, or if it threatens the stability of the soil or has high potential for adverse off-site effects. The potential for mass soil movement must be assessed and necessary preventative actions applied.

4.1.1.12 Soil and water values must be protected by the limitation of site preparation and timber harvesting operations on steep slopes or on lesser slopes of unstable soil where erosion hazard is high.

4.1.1.13 On slopes greater than 30 degrees with low or medium soil erosion hazard, and slopes less than 30 degrees with a high or very high soil erosion hazard, additional measures must be taken to avoid movement of soil into streams, such as the adoption of cable harvesting or the provision of appropriate buffers and filter strips.

4.1.2 Conservation of Biodiversity

Operational Goal

Timber harvesting operation planning and implementation in plantations address the conservation of biodiversity, including rainforest, in accordance with relevant laws.

Mandatory Actions

4.1.2.1 Retained native vegetation must be protected from damage caused by timber harvesting operations.

4.1.2.2 Any burning undertaken must be planned and managed to minimise damage to retained native vegetation both within and outside the operational area.

4.2 Plantation Planning and Design

4.2.1 Plantation Planning and Design

Operational Goals

Plantations on private land are designed, managed and operated in accordance with this Code.

Local government is appropriately informed of new plantation development on private land by the lodgement of either a Plantation Development Notice or a planning permit, in accordance with this Code.

Mandatory Actions

4.2.1.1 Plantation design must take account of environmental values, and be consistent with relevant fire protection requirements.

4.2.1.2 For new plantations where a planning permit is not required, a Plantation Development Notice must be lodged with the local government not less than 28 days prior to the commencement of site preparation. The 28 day minimum lodgement time may be waived with the agreement of the local government.

4.2.1.3 A Plantation Development Notice must include:

i. **the landowners name and address;**
ii. **the total area to be planted;**
iii. **species to be planted;**
iv. **year of planting;**
v. **a map of the plantation, showing:**
    - **the location of the plantation;**
    - **any access roads or tracks;**
    - **power lines;**
    - **any retained native vegetation within the plantation boundaries.**

4.3 Establishment and Management of Plantations

Establishment activities for plantation development include site preparation, chemical usage and processes for maintaining forest health.

4.3.1 Site Preparation

Site preparation activities should be appropriate for successful tree establishment and growth, whilst minimising potential adverse environmental impacts.

Operational Goal

Site preparation is appropriate to the characteristics of the particular site, and take into account the maintenance of soil and water values as well as site productivity.

Mandatory Actions

4.3.1.1 If waste timber and debris are to be burned, then burning must minimise damage to retained native vegetation within or outside the operational area.

4.3.1.2 Burning must not be conducted under power lines except with approval from the electricity supply and distribution authority.

4.3.1.3 Where windrows or heaps are created, soil within them must be kept to a minimum.

4.3.2 Chemical Usage

Fertilisers may be applied at establishment and during the life of the plantation to stimulate growth and correct nutrient deficiencies. Chemicals may also be used to limit competition from grasses and weeds to maximise tree growth or to manage tree diseases or nutrient deficiencies affecting tree health.

Operational Goal

Fertiliser and chemicals are only used where appropriate to the site conditions and circumstances and with care for the maintenance and protection of water quality, biodiversity, soil values and neighbouring land uses.

Mandatory Actions

4.3.2.1 Chemical use must be appropriate to the circumstance and conducted with due consideration given to the maintenance of water quality, soil and biodiversity. Potential off-site, non-target impacts must be minimised.

4.3.2.2 When using herbicides or pesticides in declared Special Water Supply Catchment Areas, the relevant Water Authority must be notified prior to application.

4.3.3 Plantation Health

Plantation health may be promoted through management practices such as thinning, salvage harvesting, weed, pest and disease control, to ensure the ongoing viability of the stand and avoid impacts on nearby landowners.

Operational Goal

Plantation health is monitored and maintained by employing appropriate preventative, protective and remedial measures.

Mandatory Actions

4.3.3.1 If the introduction of an exotic agent is suspected, DEPI's Biosecurity section must be informed.

4.3.3.2 Where there is a known risk of introducing pests and pathogens, the risk must be minimised through appropriate treatment of equipment when moving from known infected areas.

4.3.3.3 Trees in the vicinity of power lines that are suffering from damage or disease must be removed where they are at risk of falling and making contact with power lines.

4.4 Plantation Roading

This section covers the planning, design, construction, maintenance and use of plantation roads and stream crossings.

Operational Goal

The management of all roads that are part of timber harvesting operations takes account of environmental and cultural values, the safety of road users and the intended use of the road.

4.4.1 Road Planning

Mandatory Actions

4.4.1.1 Road planning for new roads must:

i. **identify and record possible environmental risks and construction difficulties, so that adequate design standards can be used, and so that construction activities can be timed to minimise risks associated with wet weather;**

ii. **locate roads to minimise risks to environmental values, particularly soil, water quality and river health, during both construction and ongoing road use, while ensuring road user safety;**

iii. **minimise the number of stream crossings.**

4.4.2 Road Design

Road design includes the consideration of traffic type and volume, surface materials, road shape as well as road infrastructure including culverts, drains, batters, bridges and fords.

Good road design is vital for maintaining water quality. It is important to control the speed (and hence erosivity) of water, and to provide the greatest possible infiltration to trap sediments before discharge into waterways.

Mandatory Actions

4.4.2.1 Plantation roads must be designed to a standard capable of carrying anticipated traffic with reasonable safety, and meeting Code requirements, particularly water quality.

4.4.2.2 All fill disposal areas and embankments must be planned and designed to minimise soil erosion, mass soil movement, and potential water quality deterioration.

4.4.2.3 Stream crossings must be designed according to the nature, size and period of flow (both pre and anticipated post-harvest) and characteristics of the bed and banks of the stream.

4.4.2.4 Appropriate drainage must be provided. Spacing of drainage outlets along a road must take into account of the soil erodibility, the rainfall erosivity, and the proximity of the road to streams.

4.4.2.5 Energy dissipating structures or silt traps must be used where necessary to reduce water velocity and trap sediments.

4.4.2.6 Drainage onto exposed erodible soil or over fill slopes must be avoided where possible. Structures and earthworks required to avoid such discharges must be identified during planning and construction as required.

4.4.2.7 Stream crossings must be appropriately designed to minimise barriers to the passage of fish and other aquatic fauna.

4.4.3 Road Construction

Mandatory Actions

4.4.3.1 Road construction must be conducted in a manner consistent with plans and designs.

4.4.3.2 All fill disposal areas must be stabilised and rehabilitated when no longer required.

4.4.3.3 Adequate temporary stabilisation must be employed to deal with site earthwork drainage and erosion control if road construction is halted or suspended for any reason.

4.4.3.4 Quarry materials must not be used if known to be infected with *Phytophthora cinnamoni*.

4.4.3.5 Road construction must ensure that:

- **i. disturbance to stream beds and banks is kept to a minimum;**
- **ii. soil and rock fill is not pushed into streams, nor placed into a position where there is a risk that it will erode into a stream; and**
- **iii. cement, raw concrete, soil fill and other road making materials are not spilt into watercourses during any construction.**

4.4.4 Road Maintenance

Mandatory Actions

4.4.4.1 Roads used for timber haulage must be maintained to minimise erosion and protect water quality and other environmental values.

4.4.4.2 Road drainage systems must be maintained to minimise erosion and the discharge of turbid water into waterways.

4.4.4.3 Blading off of roads is only permitted where measures are in place to prevent potential adverse impacts on water quality and where effective side drainage can be maintained.

4.4.5 Suspension of Haulage

Mandatory Actions

4.4.5.1 Heavy vehicle traffic must not use roads in plantations when persistent wet weather or road stability compromise road drainage and water quality.

4.4.5.2 Heavy vehicle traffic must not use roads in plantations when persistent dry weather causes the surface materials to unravel to a degree that poses a threat to water quality, in the absence of suitable preventative or remedial actions to manage the risk to water quality.

4.4.6 Road Closures

Mandatory Actions

4.4.6.1 Roads must be closed (either temporarily or permanently) and effectively rehabilitated where they are no longer required or where their continued use will threaten environmental values.

4.4.6.2 Roads that are permanently closed must be adequately drained.

4.5 Timber Harvesting

Timber harvesting is the felling of trees, and includes thinning of plantations. Mandatory Actions relevant to timber harvesting operations that are necessary for the protection of environmental values are described in section 4.1.

4.5.1 Timber Harvesting Plan

Operational Goal

A Timber Harvesting Plan is prepared in accordance with the requirements of this Code and submitted to the relevant local government prior to the commencement of timber harvesting operations.

Mandatory Action

4.5.1.1 A Timber Harvesting Plan must be submitted to local government not less than 28 days before the commencement of any timber harvesting operations.

4.5.1.2 The 28 day minimum lodgement time may be waived with the agreement of the local government.

4.5.1.3 When preparing a Timber Harvesting Plan the following issues must be addressed:

- **i. protection of relevant environmental and cultural heritage values;**
- **ii. methods to minimise impacts on water quality and river health from the timber harvesting operation and associated roads; and**
- **iii. any necessary arrangements with the distribution authority for the electrical operational control of power lines during harvesting.**

4.5.1.4 The Timber Harvesting Plan must include:

- **i. landowners name and address**
- **ii. the months during which timber harvesting operations are to occur;**
- **iii. estimated timber volumes to be harvested;**
- **iv. proposed haulage routes;**
- **v. a map showing:**
  - **the plantation or coupe location;**
  - **significant features within the coupe boundary including waterways and any areas reserved or specifically managed for protection of biodiversity or aboriginal cultural heritage values;**
  - **the area(s) to be harvested;**
  - **new or upgraded roads;**
  - **power lines;**
  - **plantation infrastructure**
- **vi. conditions applying to the timber harvesting operation, including any permit conditions where required; and**
- **vii. fire protection measures.**

4.5.1.5 **A copy of the Timber Harvesting Plan and any supporting prescriptions must be provided to the harvesting team leader. The Plan's implementation, including specific prescriptions to be applied to the plantation, must be discussed with him/her. These documents must be available on site while timber harvesting operations are in progress.**

4.5.1.6 **All amendments and variations to operational requirements (such as the removal of trees from buffers for safety purposes) must be documented in the Timber Harvesting Plan and dated by the harvesting team leader.**

4.5.1.7 **A Timber Harvesting Plan is current for 24 months following lodgement with the local government.**

4.5.1.8 **It applies to a single coupe, a number of coupes or to an entire plantation's timber harvesting operations.**

4.5.1.9 **Local government may accept the lodgement of a Timber Harvesting Plan for multiple locations and timber harvesting operations rather than individual Timber Harvesting Plans if it is satisfied that the composite Timber Harvesting Plan adequately covers the information required for all coupes included in the Plan.**

4.5.1.10 **For larger timber harvesting operations covering several coupes over a period of years, a Scheduling Plan may be prepared and submitted (with the agreement of local government), which identifies:**

- **i. coupe general locations;**
- **ii. planned operational periods;**
- **iii. Haulage routes; and**
- **iv. expected volumes.**

4.5.1.11 **This plan replaces the need to include this information on the Timber Harvesting Plan. Submitting a Scheduling Plan does not remove the requirement for the other information on a Timber Harvesting Plan to be prepared and submitted at the appropriate time.**

4.5.1.12 **A Scheduling Plan is current for up to five years following lodgement with local government, however any significant variations must be communicated to local government prior to their implementation.**

4.5.2 Timber Harvesting Operations

Operational Goal

Timber harvesting operations are conducted in a manner appropriate to the site, to manage the impact on soil, water and other values, including biodiversity and cultural heritage.

Mandatory Action

4.5.2.1 **All timber harvesting operations, including thinning, must be consistent with the Timber Harvesting Plan.**

4.5.2.2 **The location of boundaries must be easily distinguishable in the field.**

4.5.3 Plantation Infrastructure

The operation of a harvesting coupe generally requires the development and use of specific infrastructure, including log landings and dumps, and snigging and forwarding tracks. The planning and use of plantation infrastructure must be undertaken in a manner that minimises impacts on environmental values.

Mandatory Actions

4.5.3.1 Plantation infrastructure (including tracks) must be designed, located, constructed and maintained to minimise potential adverse impacts on soil and water quality.

4.5.3.2 The placement of log landings and dumps must avoid areas that have been excluded from harvesting.

4.5.3.3 The area of log landings and log dumps must be minimised without compromising safety.

4.5.3.4 All infrastructure must be stabilised and rehabilitated to minimise erosion risk upon completion of timber harvesting operations, where not required for future timber harvesting operations. All tracks must be effectively rehabilitated to prevent soil erosion.

4.5.3.5 Extraction and forwarding tracks must be located to minimise potential adverse impact on soil and water quality and maintain effective drainage to prevent soil erosion. They should be placed at the greatest practicable distance from waterways, without compromising safety.

4.5.3.6 Tracks must have effective drainage to prevent soil erosion. Cross-drains, where used, must be spaced and angled to prevent surface run-off and subsequent discharge of turbid water into streams or drainage lines.

4.5.3.7 Snigging and forwarding tracks must not be bladed off where this would result in an adverse impact on water quality or the loss of topsoil from the site.

4.5.4 Operational Restrictions

Operational Goal

During or following wet weather conditions, timber harvesting operations are modified or where necessary suspended to minimise risks to soil and water quality values.

Mandatory Actions

4.5.4.1 Timber harvesting operations must be restricted or stopped where there is a risk to soil and water quality values during or following wet weather conditions.

4.5.4.2 Extraction, forwarding and haulage must be suspended when water begins to flow along tracks, except where appropriate preventive actions have been taken to address risks to off-site water quality.

Glossary

The following definitions apply to the interpretation of terms used in this Code:

Agroforestry – as defined in the Victoria Planning Provisions - 'the simultaneous and substantial production of forest and other agricultural products from the same land unit'.

Approved – a plan or practice that is:

(a) in the case of State forest, approved by the Secretary to DEPI or delegate or VicForests; or

(b) in the case of private land, approved by the Responsible Authority (usually local government) in accordance with a planning scheme or a permit issued under a planning scheme.

Authorised officer – a person appointed as an Authorised officer under the *Conservation Forests and Lands Act 1987* and other relevant Acts (*Forests Act 1958*).

Biodiversity – the natural diversity of all life: the sum of all our native species of flora and fauna, the genetic variation within them, their habitats, and the ecosystems of which they are an integral part.

Blading-off – the use of a machine to sweep drifts of loose mud, slush, vegetation or soil from the surface of a road or coupe infrastructure (landings etc.).

Buffer (strip) – a protective margin of vegetation excluded from any harvesting activity abutting a waterway or an area of rainforest or other special area, which protects it from potentially detrimental disturbances in the surrounding forest. Buffer width is defined as horizontal distance from which various timber harvesting operations are excluded.

Cable harvesting – a hauling system using towers, winches, blocks and cables to extract harvested timber.

Chemical control agent – refer to Pesticide.

Clear-felling – silvicultural method of harvesting a coupe whereby all merchantable trees, apart from those to be retained for wildlife habitat, are removed.

Coupe – as defined in the *Sustainable Forests (Timber) Act 2004* means a specific area of State forest identified for the purposes of a timber harvesting operation in a timber release plan or, on private land a single area of forest or plantation of variable size, shape and orientation from which timber is harvested in one operation.

Coupe diary – the key means of communicating and documenting information relevant to the management of timber harvesting operations and subsequent silvicultural treatment during the life of a coupe. The coupe diary forms part of the Forest Coupe Plan and entries can be made by the harvesting entity, the contractor/logging team leader, or additional contractors working during the life of the coupe.

Coupe infrastructure – log landings, log dumps / storage facilities, snigging and forwarding tracks and boundary trails.

Delegate - means an employee of DEPI delegated the powers, functions and duties of the Secretary to DEPI in or under relevant law.

Drainage lines – are depressions that have visible evidence of periodically flowing water (including obvious sedimentation or other clear evidence of overland flow) that feed into temporary or permanent streams. A defined channel may or may not be present. Visible water flow would be expected after

storm events or briefly in the wettest times of the year. Distinctive riparian vegetation is not likely to be present.

Artificial drainage lines that do not discharge directly into waterways are not considered within the above definition.

In native forests, drainage lines will generally be protected from harvesting by a filter strip (Figure 2). Refer to Management Standards and Procedures.

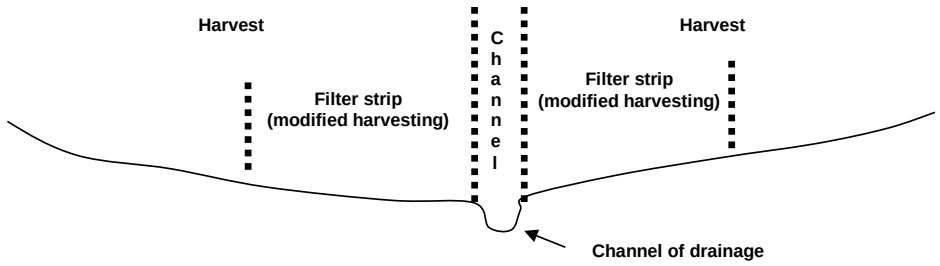


Figure 2 – Drainage Lines in Native Forests †

Erosion risk – the likelihood of erosion occurring due to soil erodibility, rainfall erosivity, slope and soil disturbance.

Exotic – introduced to Australia, not native.

Extraction – removing produce from stump to log landing or storage area.

Exclusion area – an area within the GMZ or SMZ where timber harvesting operations are excluded in accordance with this Code.

Extraction track – the track along which logs are extracted from the forest to the roadside or a landing. Also called a forwarding track or a snig track.

Fill disposal area – site where surplus soil and rock material produced as a by-product of road construction may be stockpiled or disposed of.

Filter strip – a strip of vegetated ground adjacent to a waterway (with merchantable overstorey removed) retained to minimise soil compaction and erosion. Trees may be felled from within a filter strip subject to certain conditions, however machinery entry is generally not permitted.

Forest Coupe Plan – a plan that must be prepared for each timber harvesting operation in State forest, containing a map identifying the area and a schedule incorporating the specifications and conditions under which the timber harvesting operation is to be administered and controlled. The coupe diary is considered part of the Forest Coupe Plan.

Forest stand – as defined in the *Sustainable Forests (Timber) Act 2004* means a group of trees within a State forest that share common characteristics relating to eucalypt species composition and age;

Forwarding track – an extraction track along which logs are carried in a forwarder.

† diagrams not to scale: zone widths vary according to circumstance.

Habitat Tree – a tree identified and protected from harvesting to provide habitat or future habitat for wildlife. A habitat tree may be living or dead, and often contains hollows that are suitable shelter and/or nesting sites for animals such as possums and parrots.

Harvesting entity – either VicForests or the holder of a licence granted under section 52 of the *Forests Act 1958*.

Landing – a place where trees or parts of trees are sorted, processed and/or loaded for transport from the forest. Areas where there has been no significant soil disturbance associated with landing establishment, and where no further processing takes place, are not regarded as landings. Conversion sites that do not involve earthworks or clearing, or where there has been no significant soil disturbance, are also not regarded as landings.

Landscape sensitivity (high) – areas identified as having a high scenic quality and visual sensitivity. They are usually areas that are readily visible from high-usage recreational facilities such as look-outs, walking tracks, tourist roads, or campsites.

Local government – see **Responsible Authority**. Note that the term local government has been used throughout this Code for ease of reader use, however it is the Responsible Authority (which is usually the local government) that administers the operation of the Code on private land and for plantations.

Microclimate – climate of a small, localised part of a forest. Vegetation, soil conditions and local topography may create pronounced microclimatic differences.

Native Forest – an area originally naturally occurring, that is dominated by trees having usually a single stem and a mature or potentially mature stand height exceeding two metres and with existing or potential crown cover of overstorey strata about equal to or greater than 20 per cent. This definition includes areas of trees that are sometimes described as woodlands, but does not include plantations (which may exhibit the characteristics of a native forest but are established for commercial purposes).

Native vegetation – plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses.

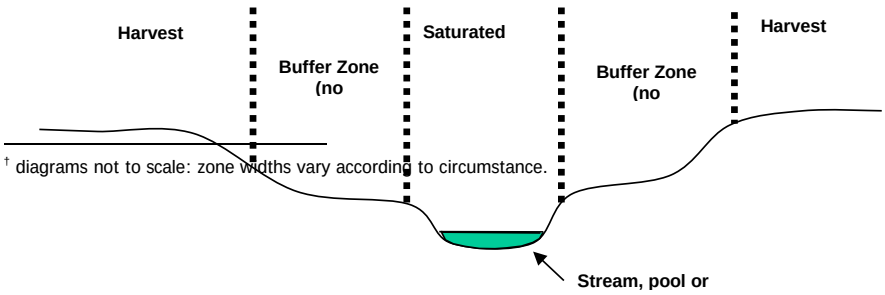
New plantation – a plantation development where the previous land use was not plantation.

Permanent Road – a generally high standard road permanently required for the continuing management of the forest including timber harvesting operations.

Permanent streams – rivers and streams that flow throughout the year. Permanent streams may stop flowing or dry out in extremely dry years. Permanent streams will support distinctive riparian vegetation (except where previously removed by human activity, and not including *E camaldulensis*), indicative of extended periods of saturation and distinguishable from vegetation communities in surrounding areas. Streams have a well-defined incised permanent channel. See also **Pools** and **Wetlands**.

In native forests, permanent streams, pools and wetlands are buffered from harvesting (Figure 3). Refer to Management Standards and Procedures.

Figure 3 – **Permanent Streams, Pools or Wetlands in Native Forests** †



† diagrams not to scale: zone widths vary according to circumstance.

Person who has control of the timber harvesting operation - as per the *Sustainable Forests (Timber) Act 2004* the person who has, or may reasonably be presumed to have, control over the timber harvesting operation in the State forest. Typically a VicForests or DEPI officer.

Pesticide (and/or Chemical control agent) – a chemical product that is used to control pest plants or animals. Includes herbicides, insecticides, fungicides, rodenticides and other similar products. Their registration for sale and use is controlled by State and Commonwealth legislation.

Plantation – managed stands of trees of either native or exotic species, planted or sown primarily for timber harvesting operations purposes.

Plantation Development Notice – a notice that must be prepared and lodged with local government before a plantation is established for the first time. The notice must contain the information set out in Section 4.1 of this Code.

Pool – an area of still water of at least 4 metres in diameter within or adjacent to the main channel of a permanent or temporary stream. A pool may dry out in extremely dry years. In native forests, pools are buffered from harvesting (refer to Tables 2 and 3).

Precautionary Principle – when contemplating decisions that will affect the environment, the precautionary principle requires careful evaluation of management options to wherever practical avoid serious or irreversible damage to the environment; and to properly assess the risk-weighted consequences of various options. When dealing with threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Private land – for the purposes of this Code, private land comprises:

ii) land alienated from the Crown;

iii) unalienated land of the Crown managed and controlled by other than the Minister for Environment and Climate Change, the Minister for Agriculture and Food Security, or the Secretary to the Department of Environment and Primary Industries;

iv) unalienated land of the Crown occupied under a lease from the Crown; or

v) land licensed under the *Victorian Plantations Corporation Act 1993*.

Provenance (of seed) – the original geographic source or place from which that seed was obtained.

Public land – unalienated land of the Crown managed and controlled by the Minister for Environment and Climate Change, the Minister for Agriculture and Food Security, or the Secretary to the Department of Environment and Primary Industries, whether or not occupied under a licence or other right (but not including land occupied under a licence under the *Victorian Plantations Corporation Act 1993*).

Rainfall erosivity – is the potential of rainfall to cause soil erosion and is directly related to rainfall amount and rainfall intensity.

Regeneration – the renewal or re-establishment of native forest flora by natural or artificial means following disturbance such as timber harvesting or fire.

Rehabilitation – the restoration and revegetation of a site of disturbance usually associated with landings and other within-coupe infrastructure.

Rainforest community – closed (>70 per cent projected foliage cover) 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, of at least 1000 square metres in area and 20 metres width. Rainforest includes closed transitional and seral communities, with emergent eucalypts, that are of similar botanical composition to mature rainforests in which eucalypts are absent.

Rainforest tree canopy species – characteristic shade tolerant tree species which are able to establish below an undisturbed canopy, or in small canopy gaps resulting from locally recurring minor disturbances, such as isolated wind throw or lightning strike, which are part of the rainforest ecosystem. Such species are not dependent on fire for their regeneration.

Responsible Authority – as defined in s.13 of the *Planning and Environment Act 1987*. Generally the local government authority responsible for administering the local planning scheme.

Retained trees – trees retained on a coupe during a timber harvesting operation because they are unmerchantable, are to serve as seed trees or wildlife habitat trees, or have been selected to grow on after thinning.

River health – an ecologically healthy river is one where the major natural features, biodiversity and/or functions of the river are still present and will continue into the future. Some change from the natural state may have occurred to provide for human use.

Riparian vegetation – vegetation that requires free or unbound water, or conditions that are noticeably moist along the margins of streams, drainage lines, and lakes.

Rotation – the planned number of years between the regeneration of a forest stand and its final harvesting, taking into account the full range of values and uses the owner wishes to derive from the forest.

Run-off (with regard to road construction) – a short graded channel angled away from road edges to divert road drainage water off the road into undisturbed vegetation. Sometimes called a mitre drain.

Salvage harvesting operation – timber harvesting operations conducted to recover timber following wildfire, storms, floods, disease, insect attack or other events that cause significant tree mortality or damage.

Sanctioned – a practice that is sanctioned by the person who has control of the timber harvesting operation unless otherwise stated.

Saturation zone – associated with waterways, the area where the soil is muddy or permeated with water attributable to the water body. The zone ends where moisture is no longer visibly present in the soil. This zone is often delineated by riparian vegetation.

Secretary – as defined in the *Sustainable Forests (Timber) Act 2004* means the body corporate established by Part 2 of the *Conservation, Forests and Lands Act 1987*;

Seed trees – trees retained on harvested coupes to provide seed for natural regeneration of that coupe. May also be a **Habitat Tree**.

Silviculture – the science and practice of managing harvesting, forest establishment, composition, and growth, to achieve specified objectives.

Site preparation – the preparation of the ground to provide conditions suitable for seedling establishment by either seed or planted seedlings.

Snigging – the towing or winching of a log from the stump to the landing site, usually along a snig track.

Snig track – the track along which a log is snigged.

Soil erodibility – the susceptibility of a soil to erosion when exposed and/or disturbed. Classified into low, medium or high according to prescribed techniques.

Special Water Supply Catchment – a catchment that has been officially declared under Schedule 5 of the *Catchment and Land Protection Act 1994*. More information available at www.depi.vic.gov.au/vro/

State forest – as defined in Section 3 of the *Forests Act 1958*. State forest comprises publicly owned land which is managed for the conservation of flora and fauna; for the protection of water catchments and water quality; for the provision of timber and other forest products on a sustainable basis; for the protection of landscape, archaeological, historical and other cultural values; and to provide recreational and educational opportunities.

Stocking – a measure of density of any given forest stand, which can be expressed in a variety of terms, such as the number of trees per hectare, the basal area per hectare, and the percentage of stocked plots.

Temporary road – a timber-extraction road constructed specifically for use during the timber harvesting operation and closed at the completion of timber harvesting operations. It is generally a short length of road leading from a permanent timber extraction road to a landing or series of landings in one or more harvesting coupes.

Temporary streams – streams that have a clearly defined continuous channel or streambed and flow during certain seasonal periods of the year, such as following snowmelt, but not throughout the year. Temporary streams contain distinctive riparian vegetation (except where previously removed by human activity, and not including *E camaldulensis*), indicative of periods of saturation and distinguishable from vegetation communities in surrounding areas.

In native forests, temporary streams may be protected from harvesting by buffers or filter strips (Figure 4). Refer to Management Standards and Procedures.

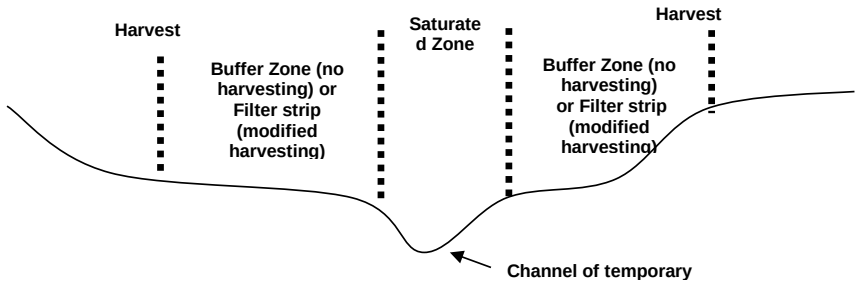


Figure 4 – Temporary Streams in Native Forests [†]

Tending – the treating of a forest stand to protect, maintain, or improve its stand health and/or timber production potential.

Thinning – the removal of part of a forest stand or crop, with the aims of increasing the growth rate and/or health of retained trees and, in commercial thinning, obtaining timber from trees that would otherwise eventually die before final harvest.

Timber – a general term used to describe standing trees or felled logs before processing into wood products. This includes timber from trees or parts of trees which are specified as available for timber harvesting operations, but does not include firewood collected for domestic use.

Timber harvesting operation – means any of the following kinds of activities carried out by any person or body for the purposes of sale or processing and sale —

(a) felling or cutting of trees or parts of trees;

(b) taking or removing timber;

(c) delivering timber to a buyer or transporting timber to a place for collection by a buyer or sale to a buyer;

(d) any works, including road works, site preparation, planting and regeneration, ancillary to any of the activities referred to in paragraphs (a) to (c)—

but does not include—

(f) the collection of firewood for domestic use.

Timber Harvesting Plan – a plan prepared under this Code of Practice for private native forests (section 3.1) and plantations (section 4.5), usually consisting of a map identifying the area(s) to be harvested and a statement of conditions applying to the timber harvesting operation, and lodged with the Responsible Authority. The plan may apply to a single coupe or to an area in which a number of coupes are to be harvested.

Timber release plan - as defined in the *Sustainable Forests (Timber) Act 2004* means a plan prepared under section 37, notice of which has been published under section 41.

Timber production - has the same meaning as 'timber harvesting operation'.

VicForests – has the same meaning as it has in the Conservation, Forests and Lands Act 1987.

Water supply catchment – a catchment from which water is used for domestic water supply purposes.

Waterway – a permanent stream, temporary stream, drainage line, pool or wetland as defined in this Code.

Wetland – a permanent spring, swampy ground, wetland or other body of standing water. A wetland may dry out seasonally. A wetland will support distinctive riparian vegetation (not including *E camaldulensis*), indicative of extended periods of saturation and distinguishable from vegetation communities in surrounding areas.

Wildlife – an animal as defined under the *Wildlife Act 1975.*

Wildlife corridor - a strip of forest of varying width reserved from harvesting, to facilitate fauna movement including gene movement between patches of forest of varying ages and stages of development.

Appendix A

Legislation, Regulations and Policies applying to forest management for timber harvesting operations on public and private land

Commonwealth Legislation	Public Land	Private Land
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	✓	✓
Australian Heritage Commission Act 1975	✓	✓
Environment Protection and Biodiversity Conservation Act 1999	✓	✓
Export Control Act 1982		✓
National Environment Protection Measures (Implementation) Act 1998	✓	✓
Native Title Act 1993	✓	✓
Quarantine Act 1908	✓	✓
Regional Forests Agreement Act 2002	✓	✓

State legislation	Public Land	Private Land
Aboriginal Heritage Act 2006	✓	✓
Accident Compensation Act 1985	✓	✓
Agricultural and Veterinary Chemicals (Control of Use) Act 1992	✓	✓
Agricultural and Veterinary Chemicals Act 1994	✓	✓
Building Act 1993	✓	✓
Catchment and Land Protection Act 1994	✓	✓
Conservation, Forests and Lands Act 1987	✓	✓
Country Fire Authority Act 1958	✓	✓
Crown Land (Reserves) Act 1978	✓	
Dangerous Goods Act 1958	✓	✓
Electricity Safety Act 1998	✓	✓
Emergency Management Act 1986	✓	✓
Environment Protection Act 1970	✓	✓
Extractive Industries Development Act 1995	✓	✓
Fences Act 1968		✓
Firearms Act 1996	✓	✓
Fisheries Act 1995	✓	✓
Flora and Fauna Guarantee Act 1988 (Vic)	✓	✓
Forests Act 1958	✓	✓
Forest Rights Act 1996		✓
Heritage Act 1995	✓	✓
Heritage Rivers Act 1992	✓	✓
Land Act 1958	✓	✓
Land Conservation (Vehicle Control) Act 1972	✓	

Local Government Act 1989		✓
Occupational Health and Safety Act 2004	✓	✓
Planning and Environment Act 1987 (Vic)	✓	✓
Planning and Environment (Planning Schemes) Act 1996		✓
Plant Health and Plant Products Act 1995	✓	✓
Prevention of Cruelty to Animals Act 1986	✓	✓
Reference Areas Act 1978	✓	
Road Management Act 2004	✓	✓
Safety on Public Land Act 2004	✓	
Summary Offences Act 1966	✓	
Sustainable Forests (Timber) Act 2004	✓	
Water Act 1989	✓	✓
Wildlife Act 1975	✓	✓

Regulations	Public Land	Private Land
Agricultural and Veterinary Chemicals (Control of Use) Regulations 2007	✓	✓
Country Fire Authority Regulations 2004		✓
Dangerous Goods (Explosives) Regulations 2011	✓	✓
Dangerous Goods (HCGD) Regulations 2005	✓	✓
Dangerous Goods (Storage and Handling) Regulations 2012	✓	✓
Electricity Safety (Electric Line Clearance) Regulations 2010	✓	✓
Electricity Safety (Network Assets) Regulations 1999	✓	✓
Extractive Industries Development Regulations 2007	✓	✓
Flora and Fauna Guarantee Regulations 2011	✓	
Forests (Fire Protection) Regulations 2004	✓	
Forests (Miscellaneous) Regulations 2000	✓	
Land Act Regulations 1996	✓	✓
Land Conservation (Vehicle Control) Regulations 2013	✓	
Road Management (General) Regulations 2005	✓	
Sustainable Forests (Timber Harvesting) Regulations 2006	✓	

Policy	Public Land	Private Land
Code of Practice for Fire Management On Public Land (2006)	✓	
Code of Practice for Safety in Forest Operations (1990)	✓	✓
National Forest Policy Statement (1992)	✓	✓
Victoria's Native Vegetation Management - A Framework for Action (2002).	✓	✓
Our Forests, Our Future (2002)	✓	
State Environment Protection Policy (Air Quality Management)	✓	✓
State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade)	✓	✓
State Environment Protection Policy (Groundwaters of Victoria)	✓	✓
State Environment Protection Policy (Waters of Victoria)	✓	✓
Victorian Pest Management Framework (2002)		
Victorian River Health Strategy (2002)	✓	✓
Victorian Biodiversity Strategy (1997)	✓	✓