



Precautionary Principle Assessment – Salvage Harvesting of Fire Killed Ash

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Precautionary Principle Assessment – Salvage Harvesting of Fire Killed Ash

General Information

Approval

Position	Date
Manager Environmental Performance	30/03/2020

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1. Purpose

The Victorian fires of 2019-20 have impacted a range of species and ecosystems. The following document outlines VicForests' application of the Precautionary Principle to planned post-bushfire harvesting.

2. Background

This document provides an overview of the way in which Victoria's forest biodiversity values are managed in accordance with the precautionary principle and the ways in which VicForests meet the requirements of this principle, through their compliance with the extensive and complex regulatory regime governing biodiversity conservation within Victoria. Where additional threats to the environment exist, VicForests applies additional adaptive management measures to the protection of High Conservation Values.

The precautionary principle has been embedded in Australian environmental legislation, through a range of policies and statutes, in addition to being incorporated into a number of international treaties and agreements that Australia is a signatory to (Peterson, 2006). Forest management in Victoria is multi-layered and represents the multiplicity of biodiversity values requiring protection at National, State, regional, landscape and operational levels. These layers of forest management and planning are inherently precautionary and underpin a framework that is precautionary in its approach to biodiversity management. The regulatory framework governing forest management and the instruments within it have been developed and designed to be implemented in a manner that is proportionate to the threat of serious or irreversible damage to the environment. Therefore, the compliance and implementation of these regulatory instruments is inherently precautionary.

Forests provide a wide range of commercial and non-commercial values to human populations. Commercial uses, such as timber, can generally be measured in market values, while non-commercial uses, such as biodiversity, conservation and aesthetic values cannot be so readily measured. Sustainable forest management requires an appropriate balance between competing uses. The precautionary principle of environmental management requires that the risk-weighted consequences of the options be assessed (Ferguson 2010).

VicForests seeks to be transparent in the process of assessment and decision-making around the management of biodiversity values, and base its management on the best available information.

The Precautionary Principle requires a proportionate response. Measures should not go beyond what is appropriate and necessary in order to achieve the objective in question. The Principle requires the avoidance of serious or irreversible damage to the environment 'wherever practicable'. It also requires the assessment of the risk-weighted consequences of optional courses of action.

3. Scope

The focus at this stage is fire-killed Ash species forest stands affected by the 2019-20 fires in Victoria.

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4. Procedure

4.1. Precautionary Principle application to VicForests

The source of the obligation on VicForests to comply with the precautionary principle is:

- a. Section 46 of the Sustainable Forests (Timber) Act obliges VicForests to comply with the Code.
- b. Section 2.2.2.2 of the Code provides that:

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.

- c. Page 14 of the Code sets out the definition of precautionary principle:

‘Precautionary principle’ means when contemplating decisions that will affect the environment, careful evaluation of management options be undertaken 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.

VicForests considers that the precautionary principle is applied through a risk-based approach to forest management and seeks to communicate the precautionary measures being undertaken and their basis. VicForests application of the Precautionary Principle derives from Justice Osborne’s judgment in the case *Environment East Gippsland v VicForests* [2010] VSC 335, at [212]. In respect to environmental management this principle is engaged where:

- (A) there is a real threat of serious or irreversible damage to the environment; and
- (B) the threat is attended by material scientific uncertainty as to the damage to the environment.

4.2. Threat assessment

Where there are potential threats of serious or irreversible environmental damage by way of impact upon endangered species of fauna and flora, it is a question of fact in each instance as to whether the proposed harvesting does constitute such a threat.

Relevant factors in such an assessment may include:

- (a) the spatial scale of the threat (for example, local, regional, statewide, national, international);
- (b) the magnitude of possible impacts, on both natural and human systems;
- (c) the perceived value of the threatened environment;
- (d) the temporal scale of possible impacts, in terms of both the timing and the longevity (or persistence) of the impacts;
- (e) the complexity and connectivity of the possible impacts;
- (f) the manageability of possible impacts, having regard to the availability of means and the acceptability of means; level of public concern, and the

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- rationality of and scientific or other evidentiary basis for the public concern; and
- (h) the reversibility of the possible impacts and, if reversible, the time frame for reversing the impacts, and the difficulty and expense of reversing the impacts.

4.3. Uncertainty assessment

The second condition is that there be a lack of full scientific certainty. That too, is a question that might involve the following assessment criteria:

- (a) the sufficiency of the evidence that there might be serious or irreversible environmental harm caused by the development plan, programme or project;
- (b) the level of uncertainty, including the kind of uncertainty (such as technical, methodological or epistemological uncertainty); and
- (c) the potential to reduce uncertainty having regard to what is possible in principle, economically and within a reasonable time frame.

If, when planning to undertake timber harvesting operations VicForests determines both a threat of serious and irreversible harm and a lack of full scientific certainty, then consideration is given to the following questions in determining whether activities may commence (or resume):

- (a) is the threat of serious or irreversible damage to the environment negligible?
- (b) is the threat of serious or irreversible damage to the environment able to be addressed by adaptive management? and
- (c) is the measure proposed to be implemented proportionate to the threat?

Consideration of these questions when assessing whether areas planned for harvest are conducted in a manner that is consistent with the precautionary principle is central to VicForests High Conservation Value management framework.

VicForests has developed a supplementary internal High Conservation Values management framework which builds on the existing regulations in place. This framework considers each of the questions above.

If there remains any residual risk of irreversible damage to the environment, after the State and Federal legislation has been followed, VicForests policy is to take further measures to ensure there is a proportionate adaptive management response.

The precautionary principle permits the taking of preventative measures without having to wait until the reality and seriousness of the threat have been fully known. The precautionary principle is not however, directed to the avoidance of all risks. The degree of precaution appropriate will depend on the combined effect of the seriousness of the threat and the degree of uncertainty. The margin for error in respect of a particular proposal may be controlled by an adaptive management approach.

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5. Risk weighted Assessment of Salvage Harvesting of Fire Killed Ash in the 2019/20 Fire Footprint

The Code of practice for Timber Production 2014 (the Code), through the incorporated Management Standards and Procedures for timber harvesting operations in Victoria's State forests 2014 (MSP's), considers and provides prescriptions for Fire Salvage Harvesting in Chapter 8. These prescriptions have been developed following a series (2003, 2006, 2009) of landscape fires. Therefore, implementation of, and compliance with these regulatory instruments are inherently precautionary.

However, since 2014 there have been instances, such as the listing of species as endangered, that have required consideration by VicForests under the precautionary principle. The impact of this seasons' fires has substantially changed the forested landscape and there are levels of uncertainty about the impact of this. As a result, VicForests has assessed the planned Salvage Harvesting operations in fire killed Ash stands in North East, Tambo and Central Gippsland FMA's.

Due to the level of uncertainty regarding the impacts of this seasons' bushfires, VicForests took an immediate precautionary response to the bushfires by ceasing harvesting in the fire affected FMA's until further assessment could be undertaken.

VicForests has undertaken a risk weighted assessment of the bushfire and timber harvesting impact on a range of species, populations and EVC's. This was undertaken using the best available science, data and research information. This assessment first looked at the impact of the fires on relevant species.

To do this, understanding of the location of significant populations of threatened species and the vulnerability risk of these populations at the statewide and FMA scale was required. This assessment was informed by the best available information and was tenure blind covering both reserves and area available for timber harvesting. The datasets used to inform this assessment included:

- Habitat Distribution Models of the species;
- Forest Management Zone (FMZ)
- Fire Severity
- Victorian Biodiversity Atlas
- VicForests Species Observations

This was undertaken by overlaying the Fire Severity class ratings with the modelled Habitat Distribution and FMZ layer. This approach allows the consideration of the spatial variation in the severity of the fire. Rather than the coarse early assessments that were part of the rapid response assessment and only overlaid species distribution with the fire footprint. Using the FMZ layer allowed an impact assessment across areas in reserve and areas available to timber harvesting. At this stage a risk category was assigned to each species and population based on the areas affected by high severity fire.

Following this, an evaluation of the relative vulnerability of the species to the threat of timber harvesting was undertaken at both Statewide and Forest Management Area scale to capture differing scales of risk to these values. This is because the threat posed by timber harvesting may manifest at certain scales (e.g. the meta population scale), but not at others (e.g. the state level scale). DELWP Biodiversity Division have provided bushfire threatened species of interest assessment information. This information provides a point in time overview of the current state of knowledge for current species of concern (species that are bushfire impacted and impacted by timber harvesting). This information along with other sources including

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action statements were used to understand and define impacts and threatening processes posed by timber harvesting operations. An assessment was undertaken on each species and asked *is the threat of serious or irreversible damage to the environment negligible?*

Many of the impacted species have existing prescriptions or regulatory guidance within the Code, MSP's and Action Statements. These existing prescriptions have been assessed as to their appropriateness considering the risk rating applied to the species. Where these are assessed to be inadequate a further question is asked. *Is the threat of serious or irreversible damage to the environment able to be addressed by adaptive management?*

Following the above assessments VicForests has developed adaptive management strategies to respond to these risks. As part of VicForests Forest Management Plan and High Conservation Values framework a Post-Bushfire Timber Recovery Instruction has been developed. This instruction outlines these adaptive management strategies and they represent a proportionate response to the threats posed by timber harvesting.

This is an ongoing risk assessment process and will be repeated as new science, knowledge and data becomes available.

6. VicForests Adaptive Management

As part of VicForests broader remit and responsibility for the sustainable harvest, regrowth and commercial sale of timber from public native forests on behalf of the Victorian Government, we have developed a High Conservation Values (HCV) Management System. This management system for HCVs forms an integral component of the our Forest Management Plan which communicates the policy settings that govern our operations, describes our responsibilities and proposed approaches to forest management. Through this we invite ongoing collaboration with stakeholders to help us realise continual improvement in the way we look after Victoria's unique native forests.

Landscape-level conservation measures are addressed principally at the State and regional level through Regional Forest Agreements and forest management planning processes. However, as a result of the fires, coupe level measures require additional attention through more adaptive management. Specifically, VicForests has identified the need for a greater focus on individual habitat elements such as hollow bearing trees and maintaining connectivity between retained forest areas. These efforts will complement the reserve network and existing Forest Management Zones.

From July 2019 VicForests altered its decision framework for harvesting and regeneration to prioritise the maintenance of populations of habitat trees within both nett and gross coupe areas. This variable retention forestry is additional to habitat retention prescribed by the Code. The aim of this new management approach is to reduce harvesting impacts on the loss of hollow-bearing trees and habitat fragmentation and degradation, particularly for hollow-dependent species. Post-harvest monitoring of coupes has been designed to ascertain whether this aim is being achieved and to evaluate how and when management may need to be altered to improve outcomes. The strategies for increasing this focus are discussed further in the context of VicForests' Harvesting and Regeneration Systems document.

Building on the approach outlined above, as a result of the 2019/20 fires, a Post Bushfire Timber Recovery Instruction was developed to detail the process and provide support to

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staff in the planning and prioritisation of salvage harvesting operations. As a result of the risk weighted assessment, adaptive management prescriptions have been developed to manage the risk timber harvesting may pose to these values.

In developing these adaptive management prescriptions, VicForests have considered the habitat requirements, distribution, level of knowledge, threats, bushfire extent and severity and, species and habitat recovery information provided by DELWP.

Some of the adaptive management strategies developed as part of this assessment include:

- No harvesting in East Gippsland FMA until further assessments and certainty is gained;
- Restricting harvesting of fire affected areas to only fire killed Ash stands (ie high fire severity) in the first instance;
- Retention of all green patches;
- Retention of all green/unburnt trees where safe to do so;
- Retention of all dead large hollow bearing trees where safe to do so;
- Developing the gaps and corridors method of salvage harvest, to minimise the creation of large, contiguous areas impacted and to retain forest structure and connectivity.

As part of coupe planning an assessment at a local scale will be undertaken on a coupe by coupe basis. This will entail the application of a planning envelope beyond the coupe boundary and a GIS overlay process run to assess a range of forest values and attributes within that planning envelope. It will also take account of any other current planned or possible future salvage areas.

At a coupe level these species and EVC management prescriptions will be captured in HCV and Coupe Plans.

Where a value that has not been considered during this planning or assessment is identified or required to be managed, VicForests will consult with DELWP on the appropriate management prescriptions.

As stated in section 5 above, this is an ongoing risk assessment process and these adaptive management measures may be reviewed and updated as new science, knowledge and data becomes available.

7. Document Administration

7.1. References

Document Title	Version Number	Document Owner
VicForests High Conservation Values Management Systems	1.2	Manager, Biodiversity Conservation and Research

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VicForests Forest Management Plan	3.2	Manager Environmental Performance
VicForests Harvesting and Regeneration Systems	1.2	Manager, Biodiversity Conservation and Research
Post Bushfire Timber Recovery Instruction	3.4	Manager Environmental Performance

7.2. Recent revision history

A summary of the recent document revision history is outlined below.

Version number	Revision date	Revision author(s)	Revision notes
1.0	30/3/20	VicForests	1 st version