

POSITION PAPER

The Institute of Foresters of Australia/Australian Forest Growers



BUSHFIRE RECOVERY HARVESTING OPERATIONS

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Introduction

Following major bushfires, burnt forests can be harvested to salvage wood from fire-affected trees before it decays and is no longer suitable for use. Post-fire recovery harvesting operations have been conducted in Australia for at least 80 years, within both burnt native forests and plantations. This paper presents the IFA/AFG's position on the scope for conducting post-fire recovery harvesting and the key issues and controls to be considered.

Purpose and benefits

The primary objective of post-fire recovery harvesting is to utilise the wood resource before it is degraded;ⁱ and in doing so, to avoid placing more pressure on other unburnt forests designated for production and to recover, where possible, a valuable natural resource.

Salvaged wood can be processed directly or stored for an extended period to enable best-value uses prioritised to sawn timber, then fibre for pulp and paper products, or bioenergy products. Use of salvaged wood before it deteriorates can also maintain sequestered carbon in-product; or displace fossil-fuel emissions through bioenergy.

Bushfire recovery harvesting operations can be important, if not critical, to maintaining a viable level of supply to log processing and downstream manufacturing industries so they can continue to sustainably meet societal demand for wood products while providing livelihoods for regional communities. Without log recovery operations, these industries could be forced to close; which may result in major constraints on the future direction of forest and fire management, forest industries and rural communities.

Post-fire recovery harvesting can also help reduce future fire risk by removing fire-killed

trees along roads and access tracks that could otherwise become spotting hazards or endanger public safety.ⁱⁱ Similarly, removal of dead trees on ridges may be necessary or strategic to reduce potential spotting if the subsequent regrowth is ignited.

Stakeholder concerns

The IFA/AFG recognises that bushfire recovery harvesting can be contentious; and that there are risks associated with post-fire recovery harvesting, as reflected in scientific literature and community stakeholder concerns.

For example, it has been argued that post-fire recovery harvesting in native forests can reduce the prevalence of multi-aged forests and habitat structures that typically support the highest diversity of arboreal marsupials and forest birds.ⁱⁱⁱ Post-fire recovery harvesting has attracted concern from ecologists because it involves removing standing fire-damaged trees, as well as dead trees and potentially fallen logs, which can provide shelter and breeding hollows to surviving and recovering wildlife.^{iv} As such, there are concerns that fire recovery harvesting can lead to a shortage of larger hollows until the regenerating forest matures and new hollows develop.^v

Such views underpin wider concerns raised by ecologists that post-fire recovery harvesting, and its associated ground disturbance, will adversely impact on natural regeneration processes causing many flora and fauna species to decline; and have led to calls to leave fire-affected areas untouched.

These concerns have been raised following major Australian bushfire events over many years, including the 1983 'Ash Wednesday' bushfires; the extensive and severe 2003, 2006/07 and 2009 bushfires in Victoria; and most recently, the major bushfires of 2019/20 that

have burned extensive areas of forests and plantations in south eastern Australia.

The IFA/AFG recognises the contentious nature of bushfire recovery harvesting; but considers many of the concerns raised to be based on misunderstanding and misinformation.

Bushfire recovery harvesting operations can be designed to build upon best practice forest management. This includes maintaining key elements of forest habitat to facilitate the recovery of biodiversity (including seed trees and aggregated retention of hollow-bearing trees wherever possible). It also includes minimising risks to water quality, protecting regenerating flora and providing a safe working environment.^{vi} After the Victorian Alpine Fire in 2003, for example, forest management agencies modified prescriptive and non-prescriptive elements of recovery harvesting protocols to:

- increase the distance of landings from streams and drainage lines on slopes >15 degrees;
- increase the frequency of drainage structures when rehabilitating log extraction tracks; and
- preferentially retain patches of remnant live trees over single isolated trees.

These types of prescriptions can be reviewed after each major fire event to best protect ecological values at the landscape level and balance the social and economic aspects of timber recovery.

Furthermore, it is important to note that post-fire harvesting is restricted to those parts of the forest estate that were already designated for timber production. Australia's *State of the Forests Report*, published every five years, presents data on the total area of 'salvage harvesting' conducted in multi-use public native forests nationwide.^{vii} Between 2001/02 and 2015/16, the maximum area of post-fire recovery harvesting (using clear-felling) in a year was around 3,000 ha (in 2009/10);^{viii} and the average area of post-fire recovery harvesting was around 950 ha per year. These areas are dwarfed by the scale and extent of total bushfire impacts across public native forests over the same period; resulting in millions of hectares of fire-killed trees.

Most concerns about the potential ecological impacts of post-fire recovery harvesting ('salvage logging') have ignored this important context of scale and extent.

There will be changes in forest structure resulting from severe bushfires that have long-term impacts on biodiversity, ecosystem health, productive capacity and water values. Recovery of those values may take decades or centuries, depending on the forest type and its condition at the time of the fire. Forest managers will need to account for site-specific values in recovering fire-killed timber, but this cannot be used as an excuse alone to ignore the equally important social and economic requirement for impacted community and industry recovery from bushfires.

IFA/AFG position

The IFA/AFG supports the use of post-fire recovery harvesting operations in productive and available forests that have been severely burnt and killed by fires; as a means of maintaining sustainable utilisation and regeneration of natural resources, while reducing the safety risks to people working in or travelling through the forests, and reducing the potential risks posed by future bushfire events.

This IFA/AFG support is subject to the following requirements for forest managers:

- Prescriptions for post-fire recovery harvesting should be developed to suit the circumstances encountered on the site, taking account of the effects on biodiversity, soil, water and cultural heritage. These may be either State-based or regionally-based; but should represent an authoritative and transparent set of operational guidelines that include provision for input from affected stakeholders.
- In the case of native forests, planners and managers should ensure detailed consideration is given to retaining or supporting the development of structural diversity across the forests; e.g., through the retention of all large hollow-bearing (habitat) trees, both living and dead, to support recovering populations of arboreal animals, forest birds and other flora and fauna.
- Managers should also implement practices to minimise the levels of physical site

disturbance, especially in native forests, to reduce disruption to regeneration of a range of flora species that would recolonise the site.

- Agencies with direct land management interest should be given the opportunity to input into these harvesting plans – notably agencies responsible for biodiversity conservation, water catchments, soils management, Indigenous and non-Indigenous cultural values, tourism and recreational values.
- Post-fire recovery plans should incorporate feedback from local government and regional communities that may be exposed to salvage operations including haulage on public roads.
- Like all timber harvesting operations, post-fire recovery operations should be subject to timely independent audit by environmental regulators to provide a level of assurance of

compliance with applicable laws, standards and approved plans.

On this basis, the IFA/AFG recommends that state forest management agencies and private forest growers be allowed a level of flexibility in designing post-fire recovery harvesting plans and operational prescriptions to address their specific regional circumstances, through a transparent and timely process of consultation with stakeholders.

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ⁱ Theobald, M. and Lawlor, S. (2006) The Victorian alpine fires salvage program: response, progress and lessons. *Australian Forestry*, 69, 83-89, DOI: [10.1080/00049158.2006.10676232](https://doi.org/10.1080/00049158.2006.10676232)

ⁱⁱ Ferguson, I.S. (2009) Fires, Forests and Futures: The ANU Westoby Lecture. *Australian Forestry*, 72 195-205, DOI: [10.1080/00049158.2009.10676301](https://doi.org/10.1080/00049158.2009.10676301)

ⁱⁱⁱ Lindenmayer, D and Ough, K. (2006) Salvage logging in the Montane Ash Eucalypt Forests of the Central Highlands of Victoria and its potential impacts on biodiversity. *Conservation Biology*, 20, 1005-1015, DOI: [10.1111/j.1523-1739.2006.00501.x](https://doi.org/10.1111/j.1523-1739.2006.00501.x)

^{iv} Lindenmayer, D and Ough, K. (2006) Ibid.

^v Poynter, M. & Ryan, M. (2018) Leadbeater's possum and Victoria's Central Highlands' forests: flawed science and environmental activism as drivers of forest management change. *Australian Forestry*, 81 250-272, DOI: [10.1080/00049158.2018.1537455](https://doi.org/10.1080/00049158.2018.1537455)

^{vi} Theobald, M. and Lawlor, S. (2006) Ibid.

^{vii} Montreal Process Implementation Group for Australia and National Forest Inventory Steering Committee (2018) *Australia's State of the Forests Report 2018*, ABARES, Canberra.

^{viii} Post-fire recovery harvesting using selective silviculture is not reported in *Australia's State of the Forests Report*.