POSITION STATEMENT

JUNE 2023

FOREST FIRE RECOVERY AND RESTORATION

CONTEXT

Severe bushfires often result in adverse impacts on a range of and environmental values as well as on local communities, forest industries and forest uses. While many native Australian forest ecosystems are fire-adapted and reasonably resilient to fire, the increased frequency and intensity of severe bushfires is affecting the resilience and ecological integrity of both fire sensitive and fire tolerant forest ecosystems. In plantations, particularly those of exotic species, the trees are killed by bushfire and require salvage harvesting and replanting. Bushfire recovery and forest restoration programs assist with restoring the health and productivity of forests as well as minimising and addressing the adverse impacts of severe bushfires on forest uses and values.

FORESTRY AUSTRALIA ADVOCATES THE FOLLOWING:

- Forest managers and relevant government agencies should formulate and adequately resource bushfire recovery plans that involve both initial stabilisation and recovery actions, to minimise environmental degradation, and longer-term forest and biodiversity recovery actions, particularly for forest ecosystems that have been severely impacted by bushfire.
- Forest fire recovery plans should consider the short and long term impacts on forest industries as well as the livelihood and mental health impacts on forest industry personnel.
- Forest fire recovery and restoration programs should acknowledge and respect the culture, knowledge, values and rights of Traditional Custodians, and increased awareness and application of their traditional knowledge and land management practices is strongly supported.
- Post-fire recovery harvesting, assisted natural regeneration and early control of invasive species should be used in productive forests that are severely fire-damaged, subject to the strict requirements of Codes of Practice and local prescriptions that take account of effects on biodiversity, soil, water, and cultural heritage.
- Monitoring programs for forest fire recovery need to address a broad range of forest values, such as species composition, biodiversity, structural diversity and resilience to future fires and other threats posed by climate change.
- Areas of regenerating and restored forests should be afforded greater recognition in forest fire management plans to ensure ongoing, adaptive management over time.

SUPPORTING NOTES

Severe bushfires in forests impact on environmental values, commercial forest owners and wood processors as well as on the livelihoods and mental health of forest industry personnel. When large areas of commercial forest are burnt, the impacts on the forest industries can occur at the local, State and national levels.

In recent years, Australia's national system for the management of bushfire suppression operations has incorporated an approach to enhance implementation of forest fire recovery and restoration activities. A Rapid Risk Assessment Team, involving people with relevant disciplinary expertise, is established to assess the impacts of the bushfire and provide advice to the Incident Management Team and public land managers on potential treatment options to reduce risks to the environment, infrastructure, life and property.

For large forest bushfires, Incident Controllers should ensure that all potential bushfire impact risks are systematically assessed and reported while fire suppression personnel and equipment are present, so that initial stabilisation and recovery works can commence once it is operationally safe to do so. Rapid risk assessment teams should map fire severity across the forest estate and assess impacts on assets, biodiversity, cultural heritage, economy and tourism, and flooding and erosion. Assessments of the economic and health impacts of bushfires on communities and forest industries should become a routine input to bushfire recovery plans but these may need to be undertaken by specialists.

Ecologically, the most urgent task after serious bushfire damage – especially in steep or highly erodible areas – is to physically prevent or at least minimise soil erosion and loss as well as the pollution of waterways with sediment and embodied nutrients.

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At the same time, every effort should be made by land managers to restore ground and tree cover and prevent further soil erosion and waterway pollution. There are well-established regeneration techniques and technologies – both natural and assisted – with early control of invasive weeds and animals.

In implementing recovery and restoration programs, local land managers will determine appropriate actions, taking account of Rapid Risk Assessments, available resources, forest management commitments and future land use.

With increased frequency of severe bushfires some native forest ecosystems require active intervention to recover when natural regeneration mechanisms have been affected. This is becoming an increasing challenge across forested landscapes, particularly in Victoria, which is seeing many areas burnt multiple times before the vegetation reaches reproductive maturity.

Without active artificial seeding and replanting, these forests will either be lost or transition to other vegetation types. For forest managers to actively restore these forests, large strategic seed banks need to be maintained and difficult decisions need to be made about where and when to intervene, given limited resources. Forest managers may need to decide whether to restore forests with different provenances or species, taking into account future climate projections.

Post-fire recovery harvesting in burnt native forests and plantations has been conducted in Australia for the past 80 years. The primary objective is to utilise the wood resource before it degrades and becomes unusable, thereby minimising pressure on unburnt forests to continue to meet society's timber demand while supporting regional communities affected by bushfires. Using salvaged wood before it degrades can also maintain sequestered carbon in-product or displace fossil-fuel emissions through bioenergy.

Post-bushfire harvesting can also assist regeneration of natural resources and can reduce the safety risks to people working in or travelling through the forests. In plantations, the dead trees need to be removed to enable re-establishment and to reduce the risks associated with dead trees in future bushfire events.

Prescriptions for post-fire recovery harvesting should be developed and clearly expressed in state-based or regionally based operational guidelines. Important considerations are:

- effects on biodiversity, soil, water, structural diversity across forests, species regeneration, tourism and recreation, and cultural values;
- engagement of relevant government agencies, local government, and regional communities;
- allowing public and private forest managers the flexibility to apply the guidelines to their regional circumstances and particular post-fire environment; and
- being subject to independent audits by environmental regulators and certification auditors.

Further reading

Forestry Australia, 2022, Forest Fire Management Resources. Accessed June 2023. https://www.forestry.org.au/fire-resources/

Bartlett, T, Butz, M & Kanowski, P, 2005, 'Engaging the community in reforestation after the 2003 Canberra bushfire' Paper presented to the 22nd Biennial Institute of Foresters of Australia Conference on Burning Issues in Forestry. Accessed 28 June 2023. http://www.markbutz.com/Bartlett%20Butz%20Kanowski%202005%20Engaging%20the%20community%20in%20reforestation%20etc.pdf

Fagg, P, Lutz, M, Slijkerman, C, Ryan, M & Bassett, O, 2013, 'Silvicultural recovery in ash forests following three recent large bushfires in Victoria,' *Australian Forestry*, 76 (3-4), pp. 140-155.

Fairman, T A, Nitschke, CR, & Bennett, LT, 2015, 'Too much, too soon? A review of the effects of increasing wildfire frequency on tree mortality and regeneration in temperate eucalypt forests,' *International Journal of Wildland Fire*, 25(8), pp. 831-848.