



Waroona Bushfire Special Inquiry
Level 6 Dumas House
2 Havelock Street
West Perth WA 6005

Submission to Waroona Bushfire Special Inquiry

The Institute of Foresters is a national organisation that represents the views of forest management professionals and has more than 120 members in Western Australia who work in native forests, plantations and environmental services. Members of the Western Australian Division of the Institute have extensive experience in forest fire management through their role as land managers, employees of emergency service agencies, and as volunteer fire fighters.

The scale and impact of fires in south-west forests has increased dramatically over the past decade. Factors contributing to this trend include reduced rainfall and a prolonged bushfire season, expansion of fire vulnerable development at the rural urban interface, increased complexity of land management, and most significantly a decline in the extent of prescribed burning. All of the key issues for bushfire management identified by the 2010 Ferguson Review conducted for the Western Australian Government remain pertinent today, and many of these have become more critical with the passage of time.

The Institute is concerned at the growing incidence of large and damaging summer bushfires in south-west Western Australia. These latter bushfires are having severe detrimental impacts on forested water catchments, commercial tree plantations, productive regrowth forests, biodiversity values and a wide range of forest amenity values important to the community. This trend must be reversed, with greater emphasis placed on bushfire prevention and mitigation activities on all land tenures. The focus of this submission is therefore directed primarily at Special Inquiry Term of Reference 1 (a) – *The effectiveness of pre-incident bushfire prevention and mitigation activities*. The Institute of Foresters believes that the Inquiry should pay particular attention to land management issues that may have contributed to the scale, intensity and difficulty in controlling the Waroona bushfire. Issues of specific concern include:

1. Impact of bauxite mining in State forest on access and the ability to undertake effective fuel management

During 6 and 7 January 2016 the fire burnt through State forest heavily disturbed as a result of bauxite mining operations feeding the Wagerup refinery. Fragmentation of the native forest within the Willowdale minesite has made it impossible to undertake effective broadscale fuel reduction burning in this area for several decades. While it may be technically possible to undertake prescribed burning in patches of remnant native forest and in older rehabilitated stands, the fragmented nature of the forest landscape within the mining envelope greatly increases the complexity, cost and risk of conducting burns (Fig. 1). Access for firefighting operations can also be compromised by mining infrastructure such as minepits, conveyors, pipelines and haul roads. Bauxite mining has been underway in the northern jarrah forest since the 1970s, making this a very significant legacy issue.



The potential for bushfires of a similar scale, intensity and impact to the Waroona fire exists for much of the forest estate between Jarrahdale and Harvey.

This situation must be addressed urgently, and will require a multi-faceted approach including:

- Identification of buffer zones where fuel reduction takes priority over other land uses including mining
- Increased resources for prescribed burning on State forest within active mining leases
- Evaluation of silvicultural approaches, including mechanical fuel treatment, for managing stands rehabilitated after mining
- Greater consideration of the consequences of mining and other developments for strategic fire protection during environmental impact assessment

2. Inadequate management of fuels across all land tenures including remnant vegetation on the Swan coastal plain

The declining extent of prescribed burning on public lands managed by the Department of Parks and Wildlife including State forest, national park and nature reserve is well documented and has been the subject of considerable scrutiny and discussion. This is entirely justified given the predominance of public forest land in the south-west and the need to manage the inherent biodiversity values of the forest areas.

Fuel management on smaller holdings of public land managed by a variety of Commonwealth, State and local government agencies also deserves scrutiny, particularly where these remnants are close to settlements, main roads and critical infrastructure. This is clearly highlighted by the situation at Yarloop where long unburnt remnant vegetation close to the townsite was directly responsible for the extreme fire impact on the community. All agencies responsible for land must accept responsibility for fire management on these lands.

Fuel build up following changes in land use is also likely to have contributed to the large extent of the fire in agricultural lands on the Swan coastal plain. Reduction in open channel irrigation and a shift to dryland farming operations have made agricultural lands more flammable than during past decades. During the Waroona bushfire the network of roads, channels and drains acted as wicks that allowed fire to spread very rapidly. Many road verges were poorly maintained and carried heavy fuels of dry grass and weeds (Fig. 2). This contributed to the difficulty of containing the fire and to serious damage to the electricity transmission network.

Actions required to address this situation include:

- Tenure-blind planning for fuel management on public and private land, with increased resourcing and support for agencies responsible for fuel management
- Better incentives and support for volunteer bush fire brigades prepared to undertake prescribed burning



- Evaluation of the role of private fire management contractors to undertake fuel management, including issue of accreditation, risk management and community consultation

3. Recognition of the importance of plantations and forests as valuable State assets

Commercial tree plantations are valuable assets with a long investment timeframe, up to 30 years in the case of pines. During the past decade bushfires have resulted in very significant damage to pine plantations in the Blackwood Valley, at Gngangara and Yanchep, and most recently at Waroona (Fig. 3). Regrowth stands of native forest are also significant assets, with certain age classes critical to the sustained supply of high quality sawlogs to industry. Large bushfires at Babbington in 2012 and O'Sullivan in 2015 impacted heavily on regrowth stands of karri, necessitating salvage harvesting and costly rehabilitation activities.

The Waroona bushfire will have caused many deleterious effects on catchment and biodiversity values which impact on water production, recreational activities and tourism. These additional assets underpin many local, regional and national employment opportunities that support our industries and communities.

The Institute questions whether the current WestPlan Fire document and associated doctrine that guides decision-making during bushfires places sufficient emphasis on these values. Lack of recognition of these values may lead to poor operational firefighting decisions that result in needless loss and damage to future timber values. There is a strong case to be made that consolidated areas of plantation and regrowth forest should be given equal status to critical infrastructure when deciding on priorities and actions during bushfire response.

The Institute looks forward to presenting these views to the Special Inquiry in person.

John Clarke
Bushfire Spokesman
Western Australian Division

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Figure 1. Forest fragmented by bauxite mining, Willowdale minesite



Figure 2. Poorly maintained road verge with heavy fuel load, Fawcett Rd Waroona



Figure 3. Defoliated immature stand of *Pinus pinaster*, McLarty plantation