

ATTACHMENT C

TASMANIA'S FIRE MANAGEMENT FRAMEWORK

Tasmania has an effective fire management framework. It consists of legislation, policies and operational plans within Tasmanian Government agencies. These give effect to and implement fire management programs within and surrounding the TWWHA.

List of Tasmanian legislation, policy and plans for fire management

Fire management programs cover prevention and mitigation (e.g., prescribed burning), preparedness (e.g., training), wildfire response (e.g., jointly managed through the Inter-agency Fire Management Protocol) and recovery (e.g., rehabilitation of machinery tracks created during wildfire suppression operations).

The key elements of Tasmania's fire management framework are listed below.

Legislation

Fire Service Act 1979

National Parks and Reserves Management Act 2002

Forestry Act 1920

Policies and Procedures

Inter-agency Fire Management Protocol 2007-2008

Forest Practices Code 2000

Parks and Wildlife Service

Tasmanian Reserve Management Code of Practice 2003

Policy Fire Management PWS P-050 2006

Procedure – Wildfire Response Procedures PWS PR- 048 2006

Forestry Tasmania

Policy: Fire Management (2007, under review)

(Interim) Policy: Bark Heap Management (2007, under review)

Standard Operating Procedure for Low Intensity Fuel Reduction Burning 2005

Prescribed Burning – High Intensity 2005 (Manual of Procedures)

Prescribed Burning – Low Intensity 2005 (Manual of Procedures)

Fire Management in Native Forests and Plantations: National Principles (undated)

Forest Industry Fire Suppression Protocol 1997/98

Procedure for auditing high intensity burns (undated)

Procedure: State Fire Duty Officer Tasks #1 Fire Season (2007)

Procedure: State Fire Duty Officer Tasks #2 Planned Burning Season (2007)

Forest Operational Plan For Burning Created or Modified Fuels (2006)
Forest Operational Plan For Burning Natural Fuels (2005)

Forest Industry Fire Management Committee

Procedure: Fire Prevention at Forest Operations (2008)

Statutory Plans

Tasmanian Wilderness World Heritage Area Management Plan 1999

Other Plans and Manuals

Parks and Wildlife Service:

Tasmanian Wilderness World Heritage Area Tactical Fire Management Plan
(version 4) 2004/2005

Pencil Pine Development Zone Fire Protection Plan 1990

Orange-Bellied Parrot Recovery Plan: Prescriptions for Habitat Management
Burns 1993

Lyell Highway Fire Management Plan 1996

Melaleuca – South West Cape Fire Management Plan 1997

Walls of Jerusalem National Park and Central Plateau Conservation Area Fire
Management Plan 1997

Buttongrass Moorland Fire Behaviour Prediction and Management: A Field Guide
for Operational Fire Management in Buttongrass Moorlands in Tasmania 1999
(published in *Tasforests*)

Northern Region Fire Action Plan 2007 - 2008

Northwest Region Fire Action Plan 2007 - 2008

Southern Region Fire Action Plan 2007 - 2008

Hazard-Reduction and Habitat-Management Burning Form 1996

Forestry Tasmania:

Forestry Tasmania Strategic Fire Management Plan V1 (2007 - under ongoing
development)

District Tactical Fire Management Plans (reviewed annually)

- Huon District Fire Action Plan 2007/2008
- Derwent District Fire Action Plan 2007/2008
- Murchison District Fire Action Plan 2007/2008
- Mersey District Fire Action Plan 2007/2008

THE ROLE OF FIRE IN THE TASMANIAN WILDERNESS WORLD HERITAGE AREA

Fire within the TWWHA – in the right place at the right time – can achieve important management objectives and thus can play a positive role. Unplanned fires, however, occur as a result of various causes and these can be environmentally damaging and economically costly when in the wrong place at the wrong time. Unplanned, unwanted fires are generally referred to as ‘wildfires’.

The causes of wildfires within the TWWHA have changed considerably since the inscription of the TWWHA in 1982. Arson and accidental and escaped fires are becoming less common, and wildfires resulting from lightning strikes are becoming more common. Lightning accounted for only 2.8 per cent of the total area of the TWWHA burnt by wildfires in the 1980s, but since 2000, it has accounted for 83 per cent of the total area burnt.

More recently, in November 2007, lightning started at least three fires in the TWWHA, burning more than 4000 ha.

In contrast, arson has dropped from 46 per cent in the 1980s to zero per cent of the area burnt so far this decade, and management escapes have reduced from 31 per cent to 13 per cent during the same period (see **Attachment D**).

It was previously believed that lightning, as a cause of fire, was a relatively minor component of the fire regime that has fashioned the intricate mosaic of vegetation communities in western Tasmania. Since around the turn of the century, however, the incidence and impact of lightning fires appear to have increased significantly in western Tasmania. There is insufficient conclusive data available to state that this is related to climate change.

While lightning fires are ‘natural’, they not treated as ‘healthy’ – they have the potential to damage World Heritage values and are thus a category of wildfire.

The increase in lightning as a primary cause of wildfire has highlighted the outcomes of fire research over the past 15 years – that a substantial increase in the application of prescribed fire in buttongrass moorlands is required to protect the fire-sensitive communities within the TWWHA.

A project funded by the Australian National University and the Tasmanian Parks and Wildlife Service involving a computer simulation model evaluated various prescribed burning options that could be engaged to mitigate the risk posed by wildfire to natural values within the south-west part of the TWWHA. The model was based on real landscape (including the neighbouring State forest), vegetation, fire behaviour, ignition source and weather inputs. It tested various ‘treatment’ levels of prescribed burning of buttongrass moorland.

The study forecasts the level of buttongrass moorland burning that is optimal for meeting multiple management objectives in south-west Tasmania. These include the general objectives of reducing fire size, incidence, and areas burnt, and the specific ecological

objectives of reducing the fire risk to fire-sensitive vegetation and orange-bellied parrot habitat, and maintaining biodiversity.

A more recent study undertaken by Dr Jon Marsden-Smedley of the University of Tasmania, has quantified the risk of significant wildfires occurring in the TWWHA in terms of the frequency of days with weather conditions capable of sustaining large, landscape scale fires. The risk is significant, and in the absence of increased prescribed burning of buttongrass moorlands, very large wildfires are likely.

Findings from this research are incorporated into operational fire management systems and are regularly reviewed to ensure that a 'continuous improvement' and 'adaptive management' approach is taken.

These research studies demonstrate the Tasmanian Government's ongoing commitment to managing fire in the TWWHA and in the broader Tasmanian context.

Prescribed Burning

Prescribed burning is used by the Tasmanian Parks and Wildlife Service in areas with a low sensitivity to fire (i.e., primarily buttongrass moorland) to protect areas where there is a threat of fire to fire-sensitive assets within or adjacent to the TWWHA, and where prescribed burning will increase the ability of the Tasmanian Parks and Wildlife Service to protect those assets from fire.

Fire-sensitive assets include natural values such as coniferous forest and alpine vegetation, cultural and heritage assets such as Aboriginal heritage sites, and economic assets such as visitor infrastructure and neighbouring State forests.

Habitat management burning is used in the TWWHA to conserve the habitat of rare or endangered flora and fauna species, maintain the biodiversity of the TWWHA or maintain successional processes. For example, it is used to prevent the vegetation changing to a stage or condition where it will not provide suitable habitat for the targeted rare or endangered species, such as the orange-bellied parrot. Habitat management burns are specified in fire management plans that take account of the effects of such burning on other values, for example, organic soils.

Since the proclamation of the TWWHA in 1982, prescribed burning within the TWWHA has been mostly limited to relatively small areas of buttongrass moorland in areas where illegal human fire lighting has been occurring (e.g., the Lyell Highway between Bronte Park and Queenstown) and to promote habitat for the endangered orange-bellied parrot (e.g., Birchs Inlet and Melaleuca).

Several prescribed burns conducted by the Tasmanian Parks and Wildlife Service in the TWWHA have burnt significantly larger areas of buttongrass than intended. The most notable of these burns was the Birchs Inlet fire in 1985 (36,700 ha), the Ummarrah Creek fire in 2000 (5,000 ha) and the Melaleuca fire the same year (4,700 ha). None of these burns, however, burnt any fire sensitive vegetation or caused any long-term damage to ecological values. Indeed, all of these burns were part of either planned habitat management for the endangered orange-bellied parrot or for research. Learnings from these events underpin an adaptive management approach.

Research burning has been undertaken by the Tasmanian Parks and Wildlife Service in buttongrass moorlands to improve the science and techniques for applying prescribed fire. This research has identified the appropriate weather and soil dryness conditions for conducting prescribed burning in buttongrass moorlands, as well as the spatial pattern and frequency of burning. This research has been published in peer-reviewed journals (cited in the Fire Management Report at **Attachment D**).

The Tasmanian Parks and Wildlife Service is now developing a fire management plan for an expanded prescribed burning program for the TWWHA. This follows an extensive program of research into the effects of fire on flora, fauna and soils, along with research into the dynamics of buttongrass moorland fuels and fire behaviour.

The plan will include a map that divides the entire TWWHA into fire management zones with clearly defined objectives. For example, the maintenance of low fuel levels will be the primary objective in some buttongrass moorland areas to protect neighbouring fire sensitive vegetation, while the maintenance of a fire regime that protects special ecological and geoheritage values will be the priority in other areas.

Fire Suppression

Fire suppression is about extinguishing wildfires. An effective and coordinated approach to wildfire suppression and fire protection planning requires close liaison and working arrangements with other emergency and support services. The Tasmanian Parks and Wildlife Service, Forestry Tasmania and the Tasmania Fire Service have a very close working relationship, underpinned by the Inter-agency Fire Management Protocol.

All wildfires within and near the TWWHA are actively suppressed in operations that are jointly managed are often assisted by private companies (e.g., aircraft contractors, forest industry companies) and other Tasmanian Government agencies (e.g., Tasmania Police and the State Emergency Service).

The arrangements for the detection of wildfires are tailored to the level of risk. Detection services are undertaken with close cooperation between the above-named Government agencies.

TWWHA Boundary Risk Management

Based on the statistics detailed in the Fire Management Report at Attachment D, there is no evidence to indicate that distancing forest harvesting operations on State forest further away from the TWWHA would reduce the threat of fire to the natural values of the TWWHA. This is because the forest harvesting operations, including regeneration burning, are managed by systems and practices that minimise the risk of escapes. Forest regeneration burns on State forest have never escaped into the TWWHA since its declaration.

Current practices now take into account the proximity of the TWWHA and implements the necessary measures and resources to protect its values. Significantly, extensive areas adjacent to the TWWHA are either not available for logging, not suitable for forestry, or set aside from harvesting by Forestry Tasmania through the forest planning process.

The prevailing wind direction associated with what is referred to commonly as 'fire weather' (i.e., when wildfires are most likely to spread quickly, which is summer/autumn in Tasmania), is from the north and north-west. Forest harvesting operations occur predominantly downwind of the TWWHA. Thus, there is a greater risk of wildfires spreading to State forest from the TWWHA than vice versa.

A wildfire under 'fire weather' conditions will spread quickly in buttongrass moorland. For example, a wildfire in February 2007 that was started by lightning in the TWWHA spread 36 kilometres in one day.

Future directions for the Tasmanian Fire Management Framework and risk management planning for the TWWHA

The Tasmanian Government is strongly committed to continuous improvement of its systems and practices relating to the TWWHA. Several internal reviews of fire management have been commissioned by the Tasmanian Parks and Wildlife Service in recent years. These reviews have recommended changes to the fire management system covering reserved land and the TWWHA. These changes are now being implemented. Examples of work in progress by the Tasmanian Parks and Wildlife Service are:

- amendments to legislation, particularly the *National Parks and Reserves Management Act 2002*, to give a clear mandate for fire management responsibility by the Tasmanian Parks and Wildlife Service;
- development of a Code of Practice for fire management, empowered by legislation, including a clearly defined fire management framework for planning and policy;
- further revision and development of policies and procedures for fire management;
- strategic fire management planning and risk assessment; and
- increase in the amount of prescribed burning to mitigate wildfire risk based on research.

The Tasmanian Parks and Wildlife Service is developing an integrated and strategic fire management plan for its three regions, each of which includes a part of the TWWHA. Using GIS, the risk assessment identifies the assets at risk of wildfire (e.g., fire-sensitive vegetation and threatened species), the factors that contribute to that risk (e.g., ignition sources, fire history, vegetation fuels) and risk mitigation treatments (e.g., prescribed burning). This project aims to be completed by the end of 2009.

The outputs from the plans are as follows:

- GIS tools and computer models to conduct a wildfire risk assessment across the landscape on all land tenures, including the TWWHA, State forest and private lands;
- An AS/NZS 4360:2004 compliant landscape scale wildfire risk assessment of the Tasmanian reserve system;
- A strategic fire management zoning system for reserved land, along with a map of fire management zones;

- Wildfire prevention, preparedness, suppression and recovery strategies;
- Community and other stakeholder ownership of the plan and planning process;
- Delivery to and uptake of the plan at the regional level by relevant stakeholders.

These strategic fire management plans will identify priorities for fire management strategies and guide the development of operational plans for prescribed burning and other works.