

Fuel-reduction burning

Background

A key question for fire management is whether or not to conduct planned burns or to leave nature to itself. Fuel-reduction burning is a type of planned burn, where the sole objective is to reduce the fuel load. The Parks and Wildlife Service use the term 'planned burn' because it takes into account other burn objectives, such as ecological requirements.

The Tasmanian Wilderness World Heritage Area (TWWHA) is a mosaic landscape where some of the world's most flammable plants sit right next to fire-sensitive relicts that have survived since the age of dinosaurs. The complexity and diversity of the landscape is due to the practices of the Aboriginal Tasmanians, who occupied the area for over 40,000 years, until their dispossession in the 1830s.

Changes in burning regimes since the dispossession of Aboriginal Tasmanians of their land has generally resulted in less frequent fire, particularly in the remote parts of western Tasmania. This absence of fire has led to an increase in shrubby and woody vegetation, as buttongrass moorlands and highland grasslands become overgrown. The increase in heavier vegetation, such as shrubs and eucalypts, also increases the fuel load. Fuel refers to the vegetation available to be burnt in a bushfire – larger fuel loads result in more intense and difficult to control bushfires. Very large bushfires have become common in the TWWHA in recent times, due in part to this increase in the fuel load. Uncontrolled bushfires put at risk the ancient fire-sensitive species, such as King Billy pines, pencil pines, deciduous beech and Huon pines.



Three different objectives for planned burning are currently recognised:

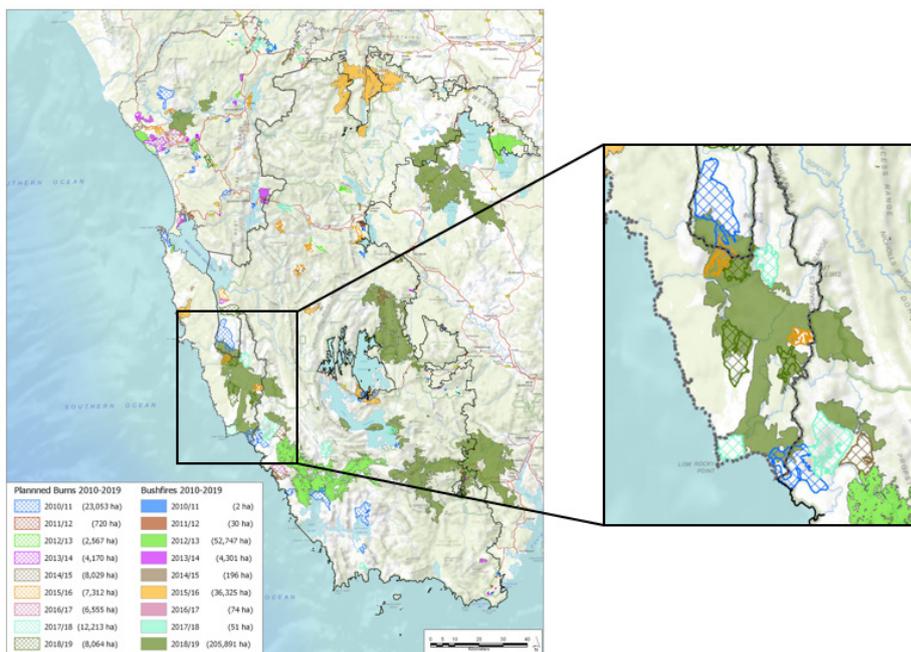
1. Asset protection burns aim to protect human life, property and natural and cultural assets. The intent of this type of burning is to undertake it frequently in order to keep fuel levels low. Frequent fuel-reduction burning may exceed the ability of an ecosystem to recover to its prior state, and consequently result in vegetation change.
2. Strategic fuel-reduction burning (landscape) aims to provide areas of reduced fuel in strategic locations in order to reduce the forward spread and intensity of bushfires. This limits the adverse impact of a bushfire and increases the chance of controlling it. These planned burns are always undertaken at a frequency and intensity that the ecology of the area is known to cope with.
3. Ecological burns are aimed at maintaining a fire-dependent community or habitat.
4. It is likely that in the near future another category of burn will be acknowledged to recognise Aboriginal burning.

A planned burn can achieve more than one outcome. A strategic fuel-reduction burn is always planned at intervals and intensities that will benefit fire-dependent communities, yet also assists in keeping fuel levels as low as possible.

Planned burns have proven effective at slowing and stopping the spread of bushfires. This was demonstrated in a number of locations in southwest Tasmania during the 2018/19 bushfire season.

Current fire management objectives for the TWWHA, which will be captured in the TWWHA fire management plan, are to return the landscape to a low-intensity, small-size, fire regime.

An example of past fuel-reduction burns halting and shaping bushfire progression during the 2018/19 fire season



Challenges

Climate change is increasing the risk of bushfires in the TWWHA. This is occurring through an increase in the number of lightning-caused bushfires, which has risen substantially since 2000. Recent fire seasons in 2015/2016 and 2018/19 illustrate our limitations in extinguishing fires that arise from mass ignition events.

Reducing fuel loads in fire-dependent vegetation communities reduces the intensity of bushfires and increases the chance of controlling the fire. Manipulation of the fuel is the only feasible way of minimising the broadscale negative impacts of bushfires. The reduction of fuels can be through planned burning or through bushfires themselves and it needs to be noted that not all bushfires are destructive. Bushfires under certain conditions can achieve the same outcomes as planned burns.

The need to increase the level of planned burning to address the risks posed by climate change is challenging, as climate change is also decreasing the windows of opportunity in which planned burning can occur, due to longer bushfire seasons.

Planned burning can only occur under very specific weather conditions and when these conditions occur there is often competition for resources across the state. It then becomes difficult to undertake enough planned burns to achieve the objective of a low-intensity, small-size, fire regime.

Planned burns, like bushfires, create a lot of smoke. There is widespread concern in the community about smoke pollution, so efforts are made to only carry out planned burns when conditions are favourable to minimise smoke impact. This includes taking into consideration things such as wind direction, time of year and co-ordination to ensure the amount of smoke emitted on any one day is capped.



Photo: Chris Emms

The way forward

In order to increase the chances of success in reducing damage to the TWWHA from bushfires, a range of options should be utilised to reduce fuel loads. These include planned contemporary fuel-reduction burning, Aboriginal burning, and, in some cases, using bushfires to achieve fuel-reduction. In relation to bushfires, it would mean under some circumstances adopting a 'let-go' policy for bushfires when an assessment indicates outcomes similar to that of a fuel reduction or ecological burn, resulting in positive ecological outcomes and protection of life or property.

OTHER ISSUES SHEETS THAT MAY BE OF INTEREST

- 01 Tasmanian Wilderness World Heritage Area fire management objectives
- 03 Planned burning: landscape fuel-reduction burns for asset and ecosystem protection
- 04 Planned burning: use of fuel-reduction burns for ecosystem maintenance
- 05 Aboriginal burning

