

Resource Notes

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PREScribed BURNS: FIGHTING FIRE WITH FIRE

A fire needs fuel to sustain itself and spread. In the bush, fuel consists of living plants, leaves, twigs, bark and dead plants which accumulate on the ground. In Western Australian forests, the build-up of this fuel can be very rapid. Summer fires burning in heavy fuels are almost impossible to control, and dangerous to towns, farms, people's lives, and forests. To help control summer wildfires, prescribed (planned) fires are lit around towns and farms and within forests. These prescribed burns do not prevent wildfires but, by burning up some of the fuel, they reduce the risk of dangerous, uncontrollable wildfires.

These fires are lit every 5 to 10 years to prevent the excessive build-up of fuel. By burning in the spring, early summer, and late autumn when it is cool and relatively moist, prescribed fires can be kept small and controllable.

The decision to burn an area is based on the closeness of the fuel hazard to the things at risk (e.g. towns, pine plantations, farms), the measured weather conditions (temperature, humidity, wind, fuel moisture), the time since the last fire, and the amount of fuel.

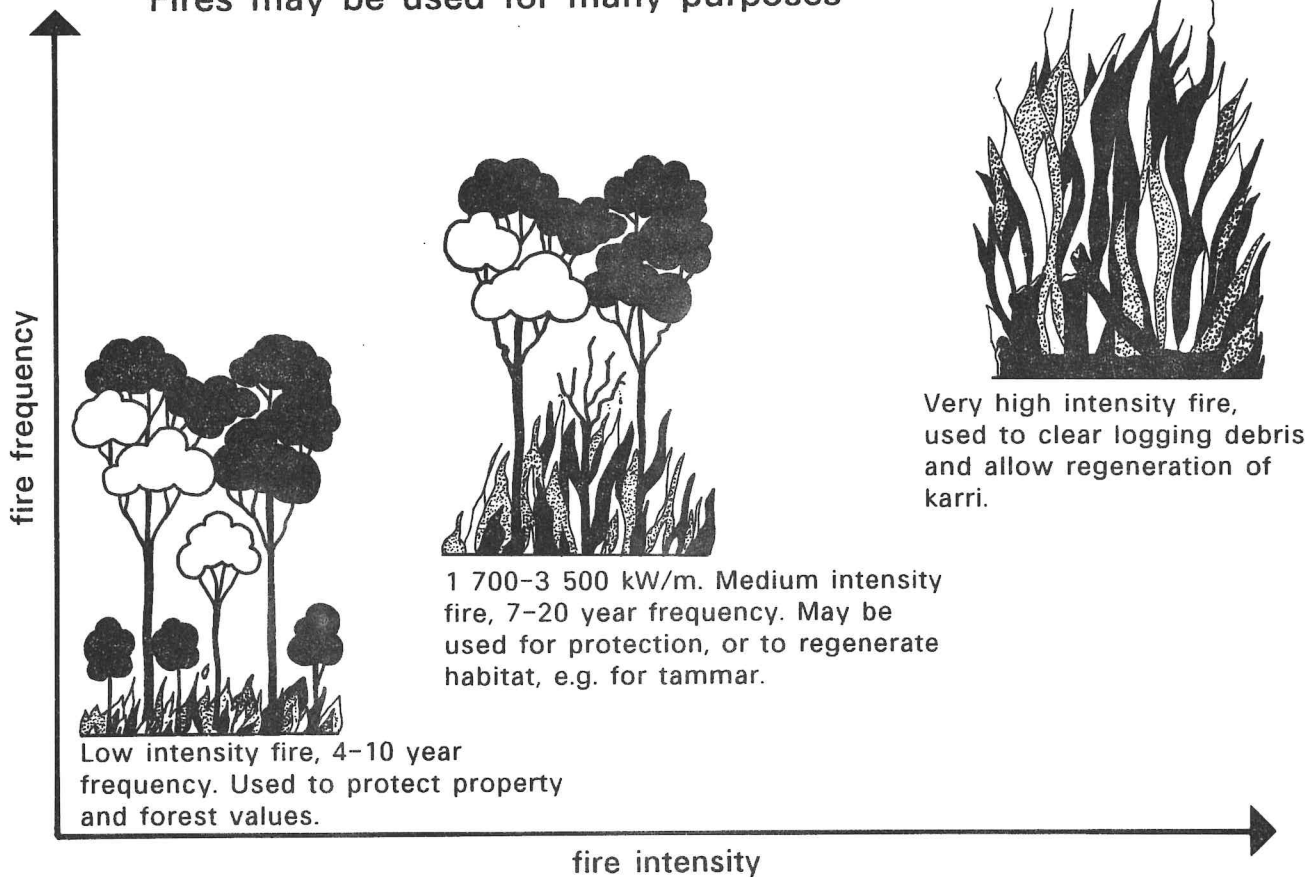
Before a burn can be carried out, a plan which details the exact weather and fuel conditions required as well as the spacing or lighting-up pattern required to achieve the aim of the burn is written. The plan is based on careful field measures of fuel quantity and fuel moisture, and the prediction of fire behaviour.

Within any burned area the effect of fire varies, due to variations in the vegetation, the fuel, and the slope of the land. Typically, a burn produces a mosaic of burnt and unburnt areas. In Western Australia, forest blocks that are more than 60 per cent burnt out are effective for at least four years as a barrier even to fast-spreading, intense wildfires. They provide a firebreak, slowing the wildfire and allowing fire-fighters to control it.

Although the use of fire can be an advantage in protecting life and property, its effect on the natural environment cannot be ignored. Many plants can survive a fire, but fires that are repeated every two or three years can in time change the vegetation of an area, favouring grasses at the expense of plants with longer life cycles. That is why it is important to allow a period of at least four years between burns.

Like the plants, the native animals are often able to survive fires. Although some are killed, either by fire or by predators after the fire, population levels of some birds and mammals may return to pre-burn numbers within three to four years. Some birds (e.g. Noisy Scrub-bird) and mammals (e.g. Mardo) favour forest areas unburnt for at least 15 years. By studying the effect of fire on the natural environment, it is possible to plan fire patterns for some areas to create the best conditions for certain species of plants and animals. Prescribed burns are often done around these conservation areas, providing a fire buffer zone to help protect them from wildfires.

Fires may be used for many purposes



Written by Rick Sneeuwjagt, CALM's Principal Fire Officer who has spent several years studying fire behaviour and management.
