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NORTHERN FOREST REGION

INFORMATION NOTE

Department of Conservation
and Land Management

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SPRING VERSUS AUTUMN BURNING

It is acknowledged that the relationship between fire and flora and fauna and the season of burning is quite complex. For this reason, a considerable amount of research has been carried out into effects of prescribed burning in forest areas, including the differences between Autumn and Spring burning.

Spring burning produces the greater abundance of species in the understorey shrubs, whereas Autumn burning tends to favour species regenerating from seed alone, such as acacias. There is a rapid regeneration of shrub species from Lignotuberos rootstock after Spring, and the cover of new growth over the forest floor is rapidly replaced.

After Autumn burning, regeneration occurs with the first winter rains but there is very little growth until the following Spring, hence the forest floor is bare compared with the results of a Spring burn. As well as being aesthetically less pleasing, the Autumn burn removes food supply for fauna over the winter months.

Spring burning, because it follows the winter rains, provides for unburnt patches on the forest floor which are important shelter areas for fauna, especially in creeks and wet areas.

Autumn burns, after the Summer drought, tend to consume more ground fuels and cover areas more completely, so that most of these shelter areas are temporarily destroyed.

Most of the smaller marsupials, for instance numbats, rely on hollow logs and other dead wood for refuges, and in some cases for food supply, (eg. white ants). In Spring these refuges are damp after the Winter rains and most are preserved after the burn. In Autumn, logs and other heavy wood are dry and often burn away, destroying the refuge.

Numerous bird studies have shown that birds have little trouble avoiding the direct effects of cool and moderate Spring burns. Indeed, the species of the upper canopy are almost completely unaffected. In the shrub and understorey layers, fire initiates a well-established succession starting with species such as the robins, which prefer an open understorey. Two or three years later, as the vegetation develops further, the original inhabitants return to re-occupy the site. Population numbers observed two years after burning usually exceed pre-burn numbers.

Trials have shown that trees are more resistant to fire damage in Spring than in Autumn, when they often suffer from drought stress. This is important in planning burning operations.

Many aspects are therefore taken into account when planning prescribed burning in forest areas for hazard reduction. Most favour Spring burning.

The Department of Conservation and Land Management does have a programme for Autumn burning, but it is often frustrated by the limited number of days of safe, suitable weather conditions. This imposes a practical constraint on any increases in the programme.