

Studying effects of fire

By NEIL BURROWS

WHAT are the long term effects of different types of fires on plants and animals?

This was the most popular response by the then Forests Department staff to a fire research questionnaire circulated some three years ago.

It is also one of the most pressing areas requiring research according to the Australian Forestry Council's Research Working Group on Fire Management.

It is obviously critical that we, as land managers, have a firm understanding of fire effects in this fire prone environment in which we live.

There have been many studies of short-term responses of plants and animals to wildfires and prescribed fires, but there are very few long-term studies anywhere in Australia.

Probably the most serviceable long-term study in WA is the one set up in karri and marri forest near Manjimup.

This study was established by Dr Per Christensen in 1972 and was designed to examine the effects of different fire regimes on the forest understorey.

The study is revealing some very interesting and very important results and

a progress report should be available within a few months.

Long-term fire effects studies are scarce for a number of reasons.

Firstly, they require a commitment by the organisation funding the research and by staff to maintain the plots, the treatments, and an interest in the study.

Secondly, long-term studies often fail, due to operations and research staff changes.

A third reason why long-term studies are disbanded is due to the disturbance factor under study — wildfire.

In the past, intended long-term study sites have been unintentionally burnt.

While the study could continue in spite of wildfires, it is difficult to interpret the results in the absence of a control and difficult to determine seasonal and intensity effects.

Changes in research priorities with time is another reason for the lack of long-term fire effects studies.

While the odds are stacked against us, CALM researchers at Manjimup have established a major long-term fire effects study in the South West.

Plots have been set up at six sites ranging from the Sunklands, west of Nanup, through to the tall karri and jarrah forests near Manjimup, out to the eastern dry jarrah forest (Perup) and down to the treeless, myrtaceous flats near Walpole.

The working plan was written and proposed in 1983.

The first fusee matches will be dropped this coming summer at both the Sunkland and Perup sites.

At each of the six locations, plots have been constructed to study five fire regimes.

The regimes, or fire treatments, will be no burn; burn as frequently as possible (summer every three years); burn in spring every 6-10 years; burn in autumn every 6-10 years; burn in spring every 12-15 years.

Each of these fire treatments will be replicated at each site and carried out indefinitely.

Vegetation structure and floristics have been and will be measured regularly.

Gordon Friend and

David Mitchell, from the Woodvale Research Centre, are assisting by studying the effects of these fire regimes on the lizards, frogs and insects at the Perup site.

Towards the year 2000, we hope to have a much deeper understanding of some of the ecological effects of fire.

Naturally, the study becomes more important, more productive and more valuable with time.

Hopefully, CALM Staff in generations to come will reap the benefits and extinguish the debate on that most controversial of land management practices.

FIELD AT YALGORUP

CALM's Director of Natural Day at Yalgorup National Shires of Harvey, Waroona

Chris and Trevor Smith, the Ranger-in-Charge at Yalgorup, provided a guided tour around the Park to introduce people to its beauty and scientific significance, as well as some of the