BUSHFIRES, BRUSHES & ROOS -

A STUDY OF AN AERIAL BURN.

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INTRODUCTION

There has been some criticism, both by spoken word and in the press, of the Forests Department burning policy. In particular the ignition of large blocks of forest from the air has caused grave concern among a sector of wild-life enthusiasts.

What happens to the larger animals in an aerial burn? Are they killed? Do they escape? Are they injured? In an attempt to answer at least some of these questions the Dwellingup research section conducted a survey before, during, and after an aerial burn in Dwellingup division that covered an estimated area of 16, 000 acres.

The burn was started at 11. 40 a. m. on 10 October 1969, and by 2. 00 p. m. the whole area had been lit in strips 14 chains apart. The area was located to the eastern side of Dwellingup division and included good to mediocre jarrah forest and some fairly extensive flats.

ANIMAL POPULATION BEFORE THE FIRE

An estimate of the number of animals in the area was made one week before the burn. All the tracks traversing and some bordering the area were covered by Landrover with a spotlight between 7. 30 p. m. and 10. 45 p. m. The total distance travelled was 1, 950 chains (24. 37 miles) and a strip 4 chains either side of the track was covered by the light. This gave a total area of 1, 560 acres, and in this area 11 grey kangaroos and 19 black gloved wallabies (brush) were seen. It was estimated by simple proportion that the population of the 16, 000 acre block was of the order of 113 grey kangaroos and 195 brush.

ANIMAL MOVEMENTS DURING THE FIRE

At 10. 00 a. m. on the day of the fire 8 men were stationed on the track bordering the eastern, windward edge of the area to be burned. Each man was positioned to have a great a length of track visible as possible. A total of 3, 920 yards (2. 23 miles) of track was kept under observation in this way. The total boundary length of the area was 28. 5 miles, so in fact 8% of it was covered by the observers.

Observations were confined to the windward side of the burn for two reasons. Firstly, ignition was to be started on the leeward side and the boundary on that side would rapidly become obscured by smoke. Secondly, there was considerable activity by fire suppression patrols on the leeward side. This was expected to cause some disturbance, and the presence of observers there was likely to hinder the suppression patrols in their work.

The observers maintained their positions until the fire was within two or three chains of them. The number of animals seen leaving the burning area and the time and manner in which they left was recorded.

A total of 8 kangaroos and 1 brush was recorded leaving the fire in sight of the observers. The first kangaroo left the area at 1.05 p.m. when the nearest line of fire was 500 ~~years~~ YARDS away. It loped out in a leisurely manner following a pad. The rest of the kangaroos were recorded as leaving between 1.45 and 2.10 p.m. when the fire was from 200 yards to within 50 yards of the boundary. In most cases they were moving fast and not apparently using well worn pads. The solitary brush moved out at high speed when the fire was about 50 ~~years~~ yards from the boundary.

An estimate of the number of animals leaving the area can be made on two different bases. If it is assumed that they were able to leave the burning area anywhere along the whole boundary of 28.5 miles, then the observers covered 8% of the possible exits. By simple proportion the estimate of animals leaving the fire is 100 kangaroos and 12 brush. A more likely assumption is that due to smoke, disturbance, and to the pattern of ignition the majority of animals would leave by the 15.0 miles of windward boundary. The numbers leaving on this basis are estimated at 54 kangaroos and 7 brush.

It was concluded that half to two thirds of the grey kangaroos left the burning area while only a very small proportion of the brush did so, possibly less than 5% of the number in the area. In no case was any injury observed.

POST-FIRE INSPECTION

By 4.00 p.m. on the day of the burn it was estimated that about 40% of the area remained unburnt and was unlikely to burn. It was planned to light up the unburnt patches by hand on the following day. Those doing the burning were asked to watch out for animals, and particularly for any dead or injured ones. A number of kangaroos, brush, and pig were reported, none showing any sign of injury and all well inside the boundaries of the aerially ignited block.

DISCUSSION

The exercise was disappointing in that the burn was far from complete. 40% unburnt area represents a vast haven for animals to move into from the fire, and it seems likely that most of the brush population did just this.

The only conclusion that can be drawn from the present study is that it is extremely unlikely that any mortality or injury to the larger animals resulted from this particular fire.

Further studies are planned for next burning season. If a 100% burn is achieved, then the area will be sampled a week or 10 days after the burn with dogs to detect any corpses.