

FAUNA SURVEY

by
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On the evening of October 13, 1970, a road survey of fauna within State Forests was conducted between the hours of 5.00 p.m. and 7.00 p.m. The main purpose was to obtain some indication of the relative numbers of grey kangaroos (Macropus fuliginosus) and western brush wallaby (Macropus irma) within the forest area. A total of 76 crews consisting of 180 volunteers took part in the survey and 1,652 miles of road were covered. The 13th of October was a fine warm day with clear skies and light winds.

709 grey kangaroos and 277 brush wallabies were sighted. Some of the crews also recorded other animals and birds, but no unusual sightings were made. The grey kangaroo predominantly occurred either singly or in small family groups of two or three individuals. The few larger mobs were invariably associated with pasture or trial plot areas. The wallaby most commonly occurred singly and, more rarely, in pairs.

Sixty three and Seventy six percent of the kangaroos and brush respectively were sighted either on, or within $1\frac{1}{2}$ chains of a road. The number of sightings reached a peak in the period between 6.00 and 6.30 p.m. and fell off very rapidly around dusk. The sightings of the brush wallaby were much more uniform with respect to time than were those for the grey kangaroo.

Most of the animals were observed in vegetation which was typical of the type of forest in which they occurred. However the grey kangaroo did appear to have a distinct preference for pasture and trial plot areas. The numbers observed per 100 miles of travel are shown for a range of forest types (Table 1). The data indicates that considerable differences between forest types are likely, both in the total number of animals observed and in the relative abundance of the two species. Further sampling will be necessary to confirm these trends.

Brush and kangaroo numbers were much greater in the more recently burnt areas and the numbers fell off steeply as the period since burning increased (Fig. 1). This relationship assumes that there were approximately equal areas of fuel, aged from one to five years, within the areas surveyed. In the northern jarrah forest, the burning season had commenced prior to the survey and this accounts for the fuel age given as zero. The lower numbers of animals in this fuel category is due to both its smaller area and to the temporary destruction of forage as the result of the burn.

Discussions with zoologists indicate that there is often great variability between the results of successive animal censuses, for the degree of activity of these animals is strongly controlled by a number of environmental factors. An estimate of the sampling error of the original survey is being obtained by additional resurveys along selected routes.

Probably the most interesting facet of the survey is the apparent correlation between the number of kangaroo and brush and the age of the burn. More intensive studies into this aspect are indicated. The use of fire as a tool to manage vegetation to the advantage of wildlife (and domestic stock) is not new. Thus controlled burning may be an important tool in the management and conservation of kangaroo and brush populations within the State Forests of Western Australia.

TABLE 1

ANIMAL SIGHTINGS BY FOREST TYPE

(This is expressed as the number of animals observed per 100 miles of travel. Forest types with poor coverage have been excluded from this Table. Data for jarrah forest north of Collie includes an additional 250 miles of "reruns" in the Dwellingup, Harvey and Collie Divisions.)

Forest Type	Miles Travelled	No. of Animals/100 Miles		
		Kangaroo	Brush	Total
Coastal heaths and <u>P. pinaster</u> Plantations	99	49	5	54
Jarrah Forests North of Collie	683	22	13	35
Mixed Jarrah- Wandoo Forest North of Collie	411	22	25	47
Jarrah Forest, Sunklands	126	35	7	42
Jarrah Forest South of Collie (Western portion)	109	51	15	66
Jarrah Forest South of Collie (Eastern portion)	104	87	23	110
Karri Forest	211	26	1	27

NUMBER OF ANIMALS WITH RELATION TO FUEL AGE
(OBSERVATIONS IN PLANTATIONS & PASTURE AREAS ARE EXCLUDED)

