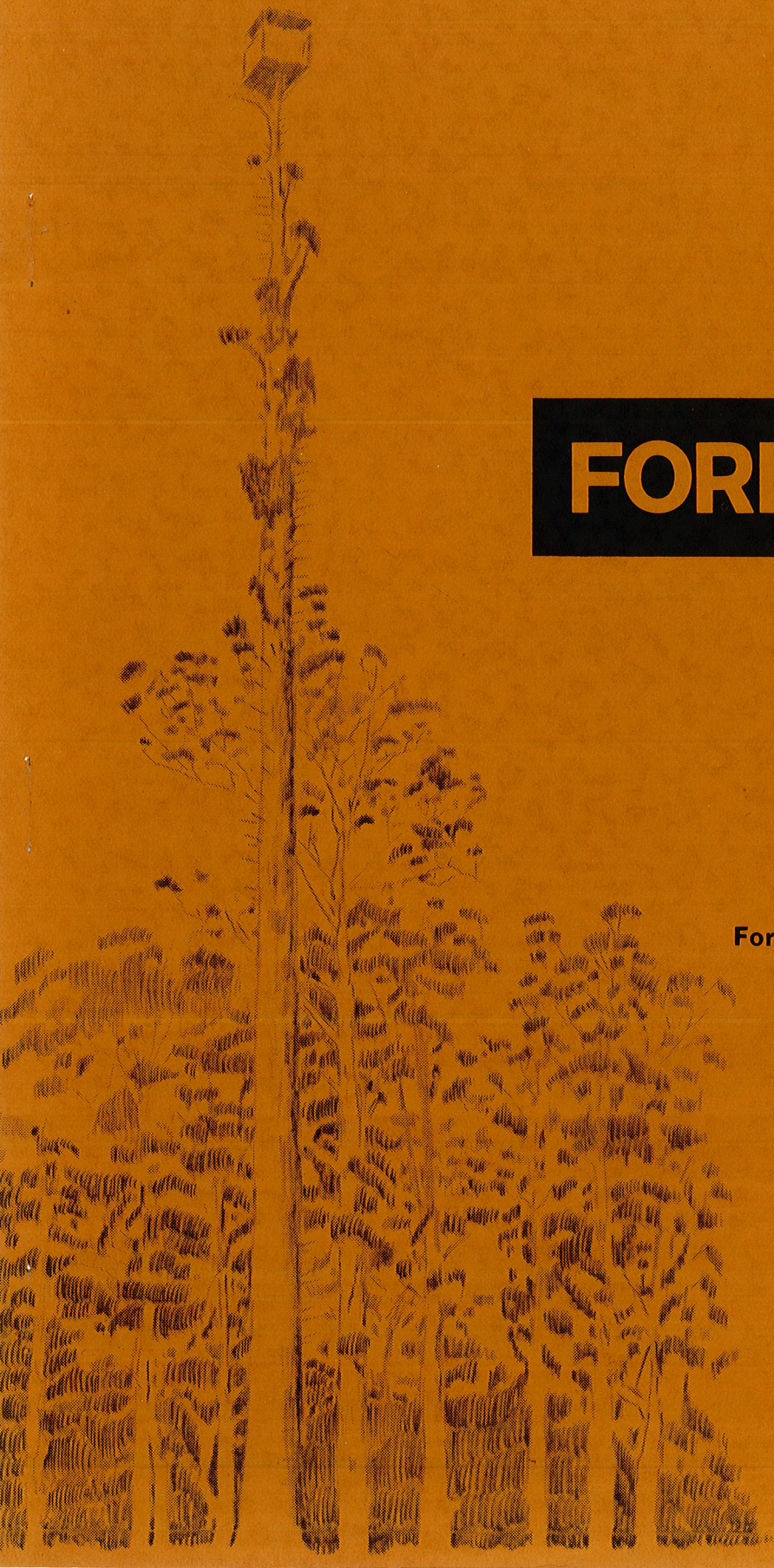

FOREST NOTES

Forests Department Perth Western Australia

VOL 10 NUMBER 2

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78870/6/72-230-K454

Forests Department,
121 Todd Avenue,
COMO W.A. 6152

The Editor,
"Forest Notes",
PEMBERTON

Dear Sir,

VENEER FROM W.A. SPECIES

Contrary to the statement on p. 34 of Forest Notes for March 1972 practically all imaginable likely indigenous W.A. species have been tested for veneer but the only significant trade remaining is in karri and jarrah.

In 1957 red tingle was peeled experimentally at Neeta Furniture but the presence of kino made the yield of face veneers unacceptably low; end checking of sheets was also serious.

Work was proceeding on blackbutt at the same time at Cullitys' and from 1958 onwards a small trade in blackbutt plywood developed but log supplies were difficult and recovery of faces too low. This situation has not changed up to the present and blackbutt has not been produced since 1969.

For the opening of the Wesply slicing plant in 1959 many species including both tingles were supplied and sample sliced panels were made up but no trade has developed except in jarrah.

In 1963 Wesply had a further burst of enthusiasm and sliced half a dozen of the more promising minor species (no tingles) a second time but without any continuing result.

Also in 1963 Neeta Furniture peeled two billets of Wandoo, expressed interest and asked for logs but being unable to arrange an assured supply of reliable quality they dropped the project.

Red tingle has a good appearance as plywood but an assured source of billets of good practically gum-free quality from a steady sawmill logging operation is required before commercial production will be seriously considered by a manufacture.

H.C. Wickett
UTILISATION OFFICER

SANITATION IN FOREST RECREATION

by

A.B. Selkirk

The ever increasing use of established picnic spots by the general public will eventually make it absolutely essential to have some sanitary form of conveniences that is within the financial scope of our forest recreation services, and yet be within a realistic degree of hygenic suitability which the public will accept and use.

To preserve the attractiveness of most of our undeveloped spots it should be the first requirement to make these facilities available - particularly so where the spot is on a road verge clearing or adjacent to some scenic stream.

Flush toilet systems would of course be the ideal method of disposal where a reliable water pressure was available at reasonable cost, or the proximity of the recreation area to settlement demanded such a system be maintained.

However the isolation of most picnic spots is desirable and generally demanded by the public and it is within this field that the Author considers the deep earth form of sanitation can be put to sound use with the minimum of establishment and maintenance cost. Vandalism, the greatest menace of the water borne system should not be so evident in the deep earth type. Water table levels will always dictate where such deep earth types must be sited, and in fact such requirements may have the main bearing on siting the resting place or actual picnic spots. Where water table problems of good seepage are impossible the planner would have to compromise with concrete pit and pump out system.

Good ventilation of pits is of course essential to maintain continuous hygenic use and this can be obtained by the fitting of up draft pipes constructed to include either an oil lamp heater or wind driven vanes to lift the foul air to a desired height.

The aesthetic disadvantages developed from having buildings on or near picnic spots could be overcome by using the suggested large vertical pipe design illustrated. If this form could be suitably camouflaged to blend in with the tree bowl colours there is no reason to regard such structure as having any disadvantage on a well planned, well maintenanced site.

The mistake is often made by establishing the stopping place too close to some particular scenic or beauty spot. As these spots can then be monopolised by the few to the disadvantage of many, perhaps the spot is inhabited by some particular species of flora and is trampled into history, so it would seem the better plan to establish a number of picnic spots within a short walking distance of the vantage point. In this way more use would be made of walking trails and more people are able to move onto and away from a vantage view point for the purpose of viewing and photography with the least possible damage and compaction of the soil and flora. At the same time they can retire to the privacy of a family picnic area and enjoy the undisturbed solitude of the forest.

The construction of a building is visualised on the visiting site and not on the vantage point of scenic attraction. Sections of 5 ft. concrete pipe would give a structure of rugged strength and able to withstand any uncontrolled fire of high intensity that may ravage an area at a time of extreme fire danger.

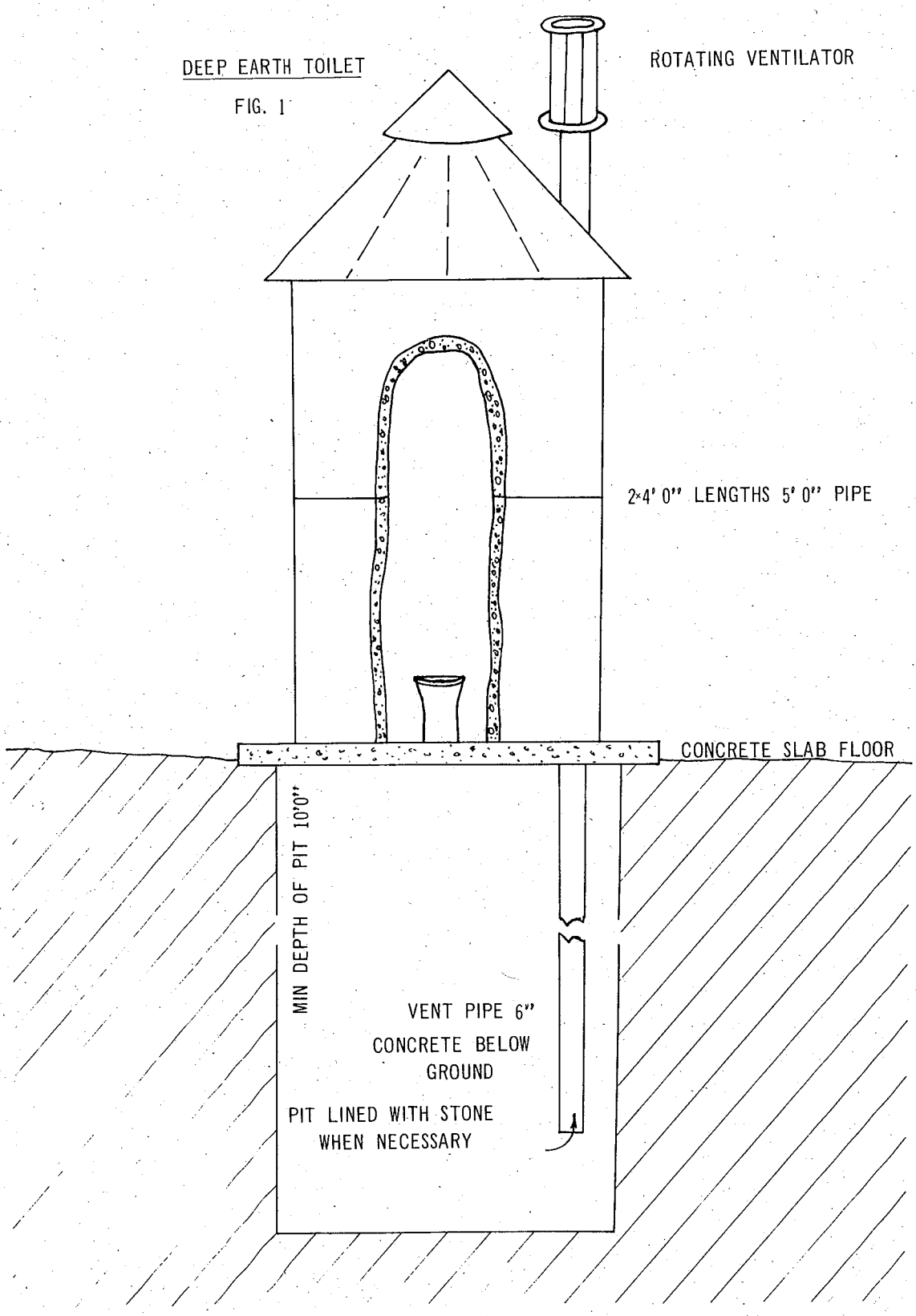
These buildings could be expected to have a serviceable life of over half a century. The structure could be installed and maintained by the departments existing work force.

As picnic areas are extended some indication of where toilets can be found would have to be shown on large route location boards or in prepared brochures of the layout.

If forest recreation progresses and bus routes are planned throughout the forests it would be all the more necessary to have such facilities available on all stopping places.

DEEP EARTH TOILET

FIG. 1



A POST-BURN FAUNA COUNT IN THE NORTHERN JARRAH FOREST

by

J. McCormick

Following aeroplane prescribed burning which took place in late November 1971 in Dwellingup division, a quality control survey was carried out on foot. The primary aim of the survey was to assess the degree of crown scorch obtained and in general, to assess the nature of the burns. A record was made of all fauna sighted during the assessment.

THE BURNED AREA

The burned area is situated in the western sector of the division and includes all or part of the blocks - Myara, Wilson, Turner, Urbrae and Scott. The burning covered some 28,000 acres in hilly country broken up by gullies and creeks. On several sections of the assessment area, thick jarrah coppice occurred. Flats and creek beds contained dense scrub up to fifteen feet high in places whilst a remnant of the post Dwellingup fire period was evidenced by the presence of the occasional dense clump of Bossiaea aquifolium some four feet in height. The scrub clumps often occurred in conjunction with Jarrah coppice growth.

BURNING INTENSITY

The burning which took place could well be described as 'very good' in that 78.5% of the total ground area was burned. The remaining unburnt area had a light fuel amounting to 27% ground cover which was insufficient to carry a burn.

The crown scorch histogram gives an indication of the intensity of the burning which took place e.g. the bulk of crown scorch occurred in the 1"-3" girth class trees therefore an average scorch height of around 10 feet was obtained. In the 3"-6" and 6"-12" girth class trees scorch heights ranging from 20 to 50 feet were encountered in small pockets mainly in thick coppice, in scrub areas or in 'tops' in recently cut-over areas.

THE ASSESSMENT

Random points were established throughout the area and from each point a 60 chain line was assessed for crown scorch, ground area burned and presence of fauna. No random start point was accepted if it fell within five chains of a major road or track so as to avoid 'edge effect' bias. In all, 85 lines were sampled, representing a total distance of 64 miles.

THE FAUNA COUNT

On pacing the lines a total of 87 large marsupials were seen; there being 67 brush wallabies, 19 grey kangaroos and one bandicoot. Of avifauna, 29 species were sighted in a total of 277 individuals (re frequency table). Statistically speaking then, one large marsupial and four birds were encountered per paced mile with the brush/kangaroo ratio of three to one in favour of the brush wallaby being present.

There appears to be little room for pessimism at least where burns of this intensity are carried out. Should anyone experienced in such matters complain of a certain paucity in bird numbers: it is noted that the assessment was carried out in mid-summer between the hours of 10 a.m. and 3 p.m. daily at which time and in such conditions that bird activity would be at its lowest. The larger part of the assessment was carried out in temperatures between 90 and 100 degrees fahrenheit.

The assessment was completed in a period of seven weeks commencing five weeks after the burning took place. No account was taken of possible fauna migrations into or out of the area. Certainly a considerable number of bird feeding associations (Butler) were encountered. Close study of these associations and their flight range might be beneficial to the conservationist particularly where fire is considered.

ACKNOWLEDGMENT

The writer extends his thanks to A.D.F.O. Paul Jones on whom the sun shone constantly throughout this arduous if rewarding survey.

FREQUENCY TABLE

BIRDS OBSERVED IN POST-BURN JARRAH

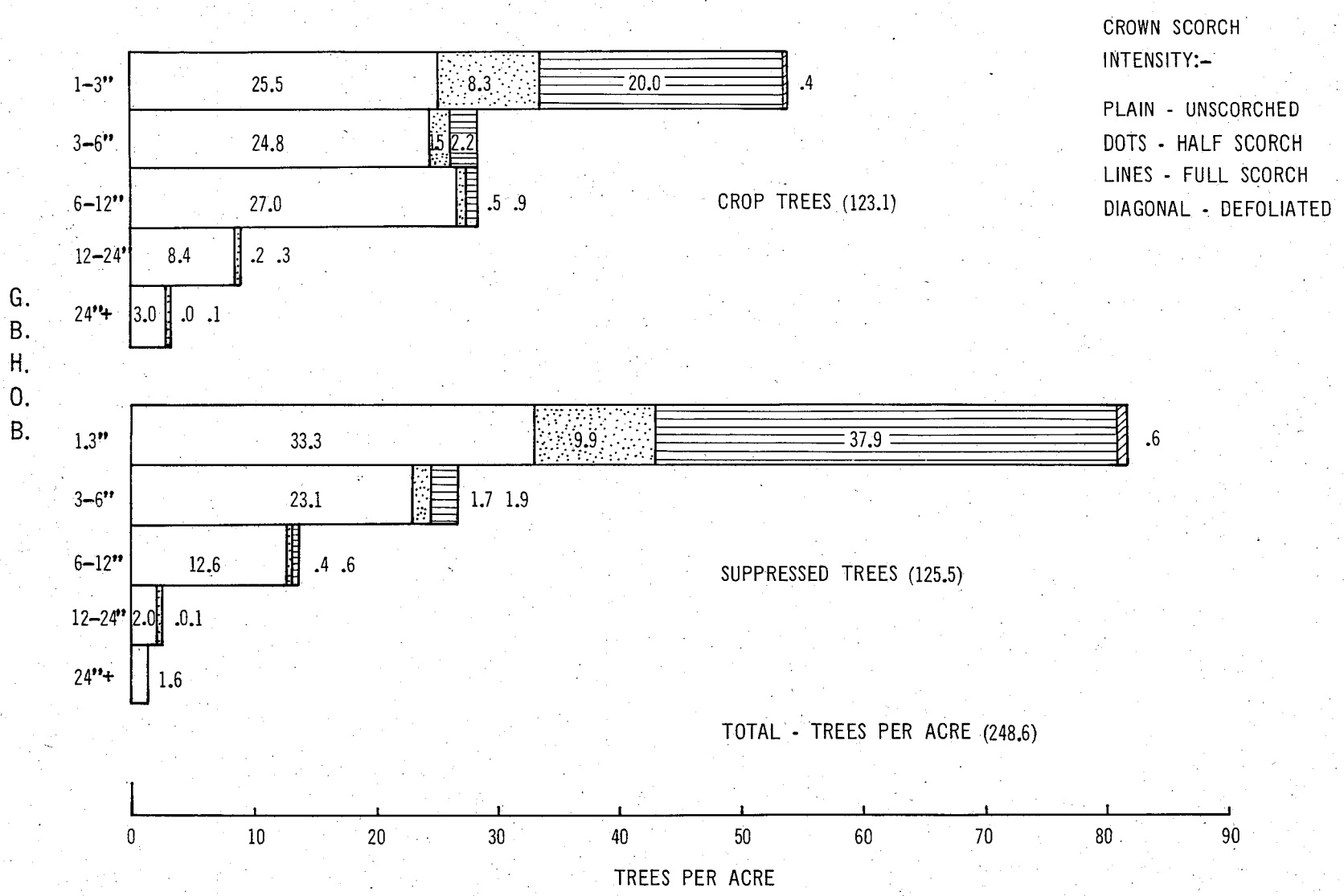
January to February 1972

Name	No.	Name	No.
Grey Fantail	37	Currawong	5
Spinebill	28	Raven	4
Red Tipped Pardelote	26	Kookaburra	4
Yellow Tailed Thornbill	20	Spotted Pardelote	4
Rainbow Bird	19	Rosella	3
Broad Tailed Thornbill	17	Red Tailed Cockatoo	3
Splendid Wren	16	Twenty Eight Parrot	3
Western Thornbill	15	Black Faced Cookoo Shrike	2
Rufous Tree Creeper	13	White Tailed Cockatoo	2
Black Capped Sitello	11	Dusky Wood Swallow	2
Yellow Robin	10	Western Warbler	1
Golden Whistler	9	King Parrot	1
Frogmouth Owl	7	Bronzewing Pidgeon	1
Scarlet Robin	7	Little Eagle	1
Western Shrike Thrush	6	TOTAL	277

CROWN SCORCH HISTOGRAM - TREES PER ACRE

DWELLINGUP BURNS - 1971 85 SAMPLE LINES

FIG. 1



STRATIFICATION OF YOUNG PINE PLANTATIONS BY HEIGHT CLASSES

by

J. Brearley and A. Lush

Until 1965, site quality assessments were carried out in softwood plantations and the subsequent maps used as an aid in planning a works programme. Unfortunately their useage did not justify their cost of production and use of Working Plan's strata maps has not proved successful. With a definite need for some form of quality stratification in large plantations a simple method of height stratification has been devised in the Wanneroo Division with the resulting maps aiding in:

i) deciding which areas are ready for pruning and non merchantable thinning. (i.e. about 16 feet)

ii) programming the above operations for the following two or three years.

METHOD OF STRATIFICATION

With the majority of the Wanneroo Division plantations being flat and very gently undulating, 4 x 4 vehicular access is unimpaired and consequently all five to six year old plantings can be readily toured. For our height stratification the plantings were assessed along extraction tracks at 4 chain intervals. With extraction tracks at a 1 chain interval and cross tracks every two to ten chains the intensity of the assessment can be varied to give greater or less precision. Our initial interval of 10 chain appeared to be too wide while the 2 chain interval was too close, giving the same results as a 4 chain interval.

To measure heights, a 20 foot height pole (2 x 10' sections) was affixed to the front bumper of a Willy's 1 ton utility, using a 4' support post similar to that used on the aerial burning marker vehicles to support their aerials. This height pole was painted the different colours coinciding with the height class colours used on the final map which are:

20' and over - green
16' - 20' - blue
12' - 16' - red
12' and less - yellow

Recent aerial photographs provide an ideal means of recording the height classes as each extraction track and cross track is readily visible. The height classes are recorded continuously along each assessment line using coloured chinagraph pencils to coincide with the height class colour code. The height class boundaries are then drawn in and transferred to an F.D. 10 chain plan.

The recorder found that standing on the tray of the utility and resting on the cabin roof was the most convenient way to observe the tree height and his standing position minimised any error due to parallax. A counter was used to count the cross tracks and the photographs were filled in at each height class change or as required.

RATE OF ASSESSMENT

The rate of assessment is determined by the assessment line interval and with a four chain interval, our two man crew (recorder and driver) mapped approximately 500 acres per day (6 hours of assessment). The assessment vehicle could comfortably cruise along the extraction tracks at about 5 m.p.h. and the recorder had little trouble maintaining his balance while leaning on the cabin (and wearing a safety belt).

CONCLUSION

This assessment provided an accurate and low cost method of stratifying young Pinus stands and it is assumed that the height classes obtained will remain as such for many years and can thus be used to programme high pruning and subsequent thinnings in the ensuing 10 years as well as the more immediate low pruning and non merchantable thinning.

NEW SPECIES - NATIVE FLORA

by

A.B. SELKIRK

Reading of the new species identified by Noel Ashcroft brings to mind another striking example of what evolution can do in our wildflower State.

It has been noticed for some years that an introduction was taking place along our many highways and roads, but some difficulty was experienced with the identification.

It was finally decided to give these specimens a separate section to be known as "Kan-fanny" group. The species is most colourful in all forms and it is very tolerant of the various soil types.

Specimens identified to date are as follows:-

Kan fanny	Colai	Brilliant Red
" "	Swanii	Red and black with gold
" "	Emuea	Red, black and green
" "	Lemonadea	Pale shade of yellow
" "	Passiona	Pale yellow and green
" "	Orangea	Deep yellow

Recently a new specimen has been observed and at first was thought to be a hybridization between "Kan-fanny" Swanii and "Kan-fanny" Lemonadea, however after a thorough examination the structure was found to be very much changed from either K. Swanii or K. Lemonadea and it was then named K. Shandyea - colour is generally a light shade of gold.

Most specimens appear to have a reflective quality and are best observed on an early morning drive, preferably into the rising sun.

A METHOD OF MAPPING THE VISIBLE AREA FROM A TOWER SITE BY COMPUTER

by

R.H. Smith

INTRODUCTION

The cost of a fire lookout tower in construction and maintenance is very high and so the maximum use must be made of each one. Recently the viewing range at prospective tower sites has been investigated using a temporary portable tower. This method, although effective, takes quite a bit of setting up, and needs an experienced person with a good knowledge of the area to map the seen area. The method described here employs a computer programme developed in Canada which calculates from a gridded contour map, the areas directly visible and the distance below the line of direct sight of the unseen areas for the different tower sites and heights. The resultant map outputs form the basis for deciding on the optimum position and height of prospective lookout towers.

METHOD

A grid is first drawn on a 1: 100,000 scale Survey Corps Topography Map at half or one kilometre intervals with the tower site as the centre point. For tower sites with plantation protection in mind, the half kilometre grid is used in order to give a more intensive coverage although the range is reduced to only 18 kilometres (11½ miles). The kilometre grid is more suitable for the hardwood forest where a range of 37 kilometres (23 miles) is achieved.

The contour heights are extracted from the map at each grid point and read to the nearest 5 or 10 metres depending on the steepness of the country.

The kilometer grid is also drawn on an A.P.I. 40 scale map which shows the average canopy height and the presence of cleared paddocks. Where the canopy height is reasonably constant and there are only a few cleared areas, the contour heights are taken as the canopy height (usually 30 metres). Using this method of allowing for tree canopy height, the tower site contour height on the map is the height of a 30 metre tower, and a reduction must be made to this if the tower is sited in a cleared area.

Another method may be employed for canopy height correction where a large percentage of the area is cleared or the forest has distinct areas with a large variation of canopy height.

In this method the contour heights are taken as the ground level and the various canopy heights are added to each grid point.

The contour heights of the 2601 grid co-ordination are Transferred onto computer code sheets in sequence as shown in Figure 1.

The Tower site is usually placed in the centre of the grid in order to determine the best overall coverage. However, if one is interested in one particular direction only, the tower site may be crucially placed to give emphasis to the area of interest.

The computer in processing this data takes each point starting at grid reference 1, 1 and works along the top line to 1,51 and then the second line 2,1 to 2,51 and so on throughout. As the computer comes to each co-ordinate it draws an imaginery line to the tower site. As this line intersects the grid lines it calculates from the heights of the two nearest grid points the height at the intersection and whether or not it is an obstruction to the view.

The angle of the depression (O) is calculated to the top of the obstruction (Y) using the equation TAN O = $\frac{XY}{AX}$. From this the height above sea level of point (C) is calculated from angle ? in triangle ABC. If the height of this point (C) is greater than the elevation of the grid fount, the difference is the distance below line of sight. If it is lower than the grid height, the point is in direct view.

The programme is designed so that the print out shows in coded form, the maximum distances below the line of sight for each co-ordinate. A separate series of printouts are produced for each tower height. In order to facilitate decisions on optimum tower siting the printouts simply show those areas with distances below the line of sight greater than 20, 30 and 50 feet.

The extraction of the 2,601 spot heights and preparation of the computer code sheets takes about 3 days. It took about 2 days to make the overlay maps for the 3 different tower heights.

CONCLUSION

The seen area maps produced by this method have been reasonably comparable to the maps produced by eye from the temporary tower, but in some cases the visual estimate of the visible area 8 or 9 miles from the tower was indefinite in area and tended to be inaccurate in distance from the tower. Also by eye it is impossible to get any idea of how far below the line of sight an unseen area is. The computer program method also allows for the determination of optimum tower height for best results. However, it is felt that a combination of both methods provides the best method of checking for optimum tower siting. Both methods were successfully used to locate favourable sites and tower heights for two towers in the Kirup and Busselton division.

FIG. 1

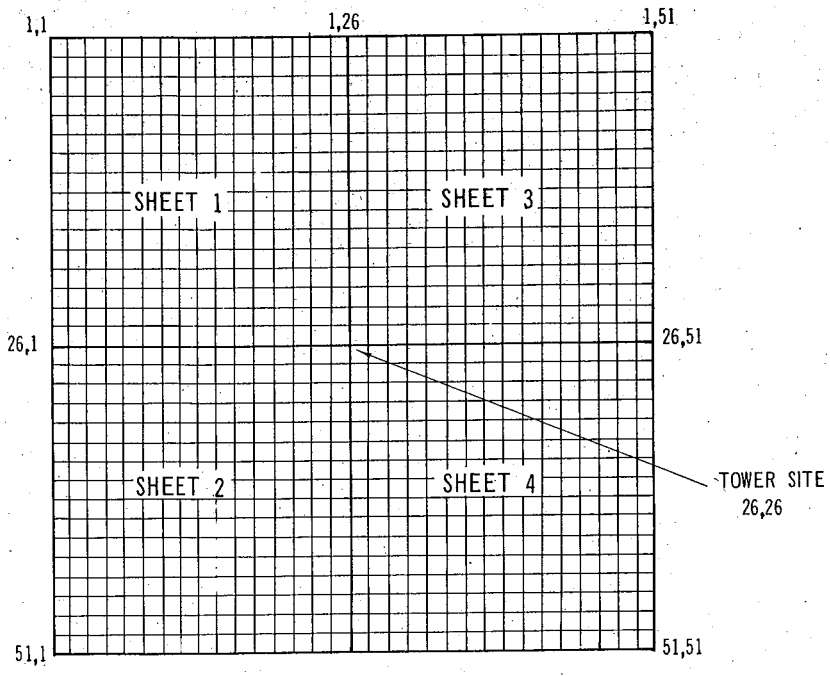


FIG. 2

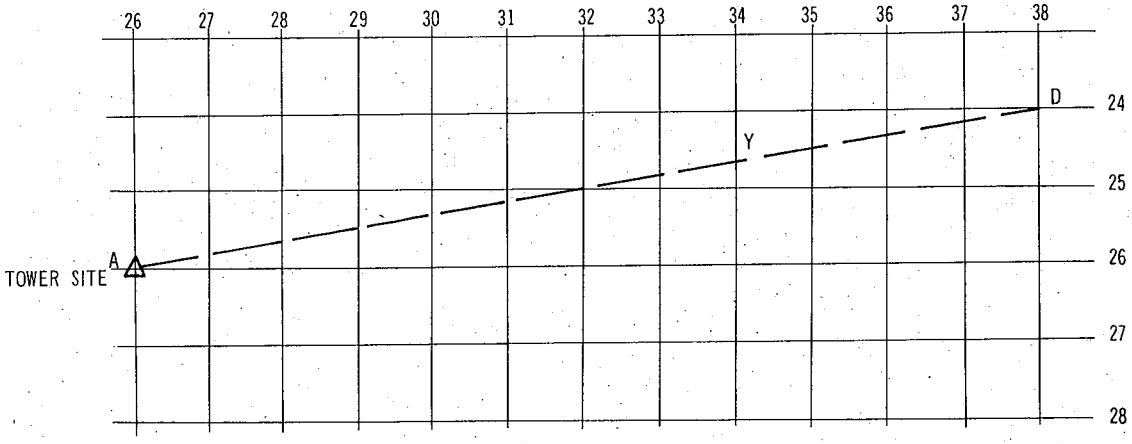
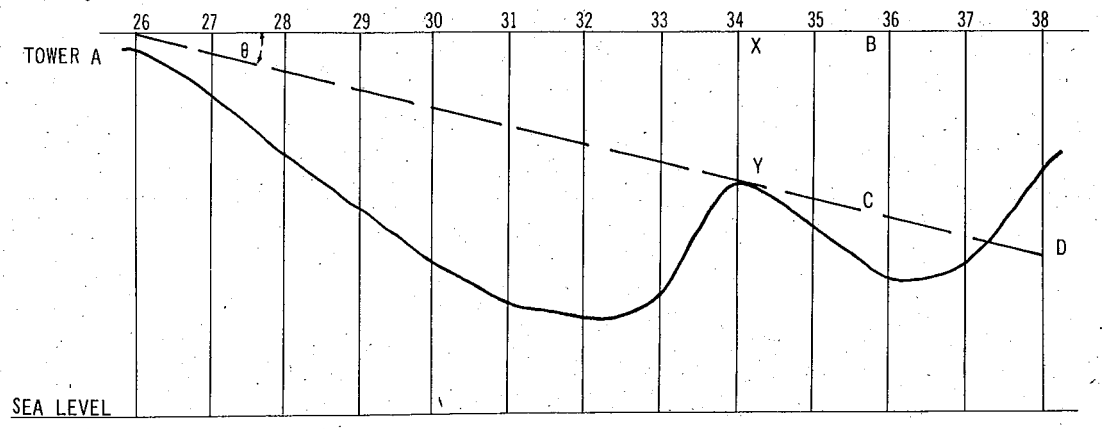


FIG. 3



EARLY THINNING OF KARRI REGENERATION

by

B.E. HARVEY

In January 1972, thinning of five year old karri regeneration was begun along the eastern slopes adjacent to Pine Creek Road south of the junction with Henwood Road.

The aim in establishing these trial plots was primarily to demonstrate the effect of thinning at such early stages in the growth and the regeneration. A series of thinning spacings were made and each will be compared with growth of stems in their natural state in the control plot. It is planned that measurements will be made regularly in the future and that they will indicate a thinning distance that maximises the production of merchantable karri.

DESCRIPTION OF THE AREA PRIOR TO THINNING

Under the Group Selection System the total area of 122 acres was logged in 12/66 and a regeneration burn carried out in January 1967.

In October/November 1971 the area was converted to a clean-cut. Care was taken in falling and snigging to avoid damage to the 4½ year old regeneration which was up to 30 feet in top height.

THE KARRI REGENERATION

Prior to the thinning the regeneration was quite vigorous in growth, where it existed. However as a result of the Group Selection type of system and the removal of timber approximately five years after the burn, many gaps with little or no regeneration exist. Snig tracks and log landing areas caused some bare and open spaces. Other areas comprised little regeneration but thick scrub regrowth. Often small suppressed karri existed under the Netic and Trymalium canopy cover.

The karri regeneration along with the scrub species formed a tightly packed regrowth stand, supporting each other in standing erect with their crowns competing for height

dominance, and thus maximum sunlight gain. This plant association was completely broken down by a thinning prescription which brought about the removal of all plant species except karri which was thinned to the prescribed espacement.

THE HECTARE PLOTS

Six plots, each of hectare (2.47 acres) were established by hand slashing all the regrowth scrub and chopping the karri stems as near to their base as possible. Plastic tubing (in metre lengths) was used to select stems to be retained at their prescribed spacings. The C.U.R.A.R.A. gang worked in the thick scrub and regeneration using short handled slashers and then pruning axes on any larger stems (e.g. coppice growth). The regrowth was very dense as can now be seen in the control plot, and the thinning was hard and tedious work. Large logs and tops made the task even more difficult. However the C.U.R.A.R.A. gang worked well and are to be commended for their efforts during the dry summer months.

The thinning was completed in the first week of March totalling about 740 man hours (including travelling and maintenance time) and costs of approximately $900 in wages, thus averaging about $60 per acre. This included time involved in falling stags and cull trees, and would not normally be carried out in these thinning operations.

RESULTS AND OBSERVATIONS

There was found to be a slight tendency towards under-thinning the regeneration and the plots show that some stems are a little closer than their prescribed espacement.

The first effects of the thinning were noticed after the first few weeks when some wilting of the leaves of smaller karri stems was observed. However this was not very widespread nor severe, and the majority of stems have recovered completely.

Two unfavourable effects of the thinning were seen as:

1. The stems removed were left remaining as sharp spikes protruding upright and presenting dangerous ground

over which to walk.

2. The brush and karri removed were left to dry on ground providing a dangerous fire hazard.

However this latter problem will be solved as the winter months bring rain and the degradation of the thinnings, and thus a considerable reduction in fire hazard for next summer.

It has been observed during the past few weeks that the thinned karri stumps are coppicing and at some time will need another removal by hand or spraying.

At the beginning of March, and before the first rains, after quite a long dry hot spell of weather, a series of days with high winds resulted in noticeable wind damage. This was particularly noticeable in the 2 x 2, 3 x 3, 4 x 4, and 5 x 5 metre spacings. The remaining two plots (control and 6 x 6 metre) showed nil damage. During these days of strong winds about a dozen stems snapped completely and between one in ten to one in twenty received what appear to be irrecoverable leans. Although at first this damage appeared severe, random sampling checks prove the damage to be only minor at the moment. The damage varies from 11% in the 2 x 2m plot to 2% in the 4 x 4m and nil in the 6 x 6m plot. It was thought that perhaps with the coming of the winter rains that the further weighing down of the crowns would increase the damage already caused by the wind after the thinning.

However, the first rains have only been moderate to light in amounts and as yet no further damage is obvious. In fact it appears as though some amount of the damaged stems have shown a recovery in straightening up from their leans. This could be due to the availability of moisture in the soil and its uptake into the plants' vascular systems increasing the rigidity of the stem.

The winter effects on the regeneration should be observed closely as these first few years will determine their loss or survival.

Senior Silviculturist B.J. White has stated after observation of the early effects of the thinning that perhaps karri regeneration in its early years of rapid upward growth depends on support from other plant species in maintaining it erect. Thinning would thus be more advisable in either its first year of growth before it can be affected by wind etc. or

after its firm establishment at age 15 - 20 years.

However these trials are important in that their relative effects and growth rates can be compared to that of the control plot. Sample trees have been measured for g.b.h.o.b. and height and have been tagged as permanent samples. It is recommended that these stems be measured every three to five years and their rate of girth and height growth be calculated and then compared between plots.

Thus it can be concluded that early detrimental effects upon the thinning are only minor at this stage and that it is hoped these plots may indicate a suitable thinning regime from which to gain maximum merchantable volume.

BIRDS IN PINUS PINASTER PLANTATIONS

A Frequency Count II

by

J. McCormick

Observation into the presence and relative abundance of avifauna species in coastal P. pinaster plantations resulted in a frequency table for the period October 1971 to March 1972. A similar table was illustrated in Forest Notes (Vol. 9, No. 3) for the previous six month period.

Thirty nine visits were made to pine plantations by Dwellingup fire research staff during the latter six month period compared to 49 visits during the previous six months. The frequency table (tab. 1) gives bird species, number sighted, number of visits in which individual species were sighted and number of individual species sighted per visit.

During the April-September cycle a total of 2,466 birds were sighted whilst only 1,256 sightings were recorded during the present cycle. Allowing for the reduced number of visits to plantations, the expected number of sightings would have been 1,963. The discrepancy would no doubt be largely accounted for by day-lengthening during the 'warm' season since bird activity would be confined largely to the early daylight hours i.e. outside of visiting times.

In all, 39 bird species were encountered throughout the year, there being 31 in the cool and 25 in the warm season. Irrespective of time, season or migratory habit, the fifteen most common birds have been listed in table two. The data included in this table was taken from 88 plantation visits over one year.

It is appreciated that not all of the birds listed make their habitat in the plantations but all do to someextent find sustenance therein.

Frequency Table (1)

Birds Observed in Pinus pinaster Plantations

October 1971 - March 1972

NAME	NO.	NO. SIGHTING VISITS	NO. PER VISIT
White tailed cockatoo	869	16	54.31
28 Parrot	94	22	4.27
Magpie	64	19	3.37
Butcher bird	39	22	1.77
Splendid wren	36	9	4.00
Raven	31	11	2.82
Little wattle bird	24	12	2.00
Golden whistler	24	14	1.71
Kookaburra	10	7	1.43
Grey fantail	9	6	1.50
Western shrike thrush	9	6	1.50
Scarlet robin	8	6	1.33
Fairy wren *	8	1	8.00
Bronzewing pidgeon	7	5	1.40
Rainbow birds	6	2	3.00
Quail	4	2	2.00
Emu	3	2	1.50
Wedgetailed eagle	2	2	1.00
Sacred kingfisher	2	2	1.00
Yellow tailed thornbill	2	1	2.00
Pipit	1	1	1.00
Yellow robin	1	1	1.00
Frogmouth owl	1	1	1.00
Little eagle	1	1	1.00
Pidgeon (domestic)	1	1	1.00

* Fairy wrens - female - possibly the red winged blue wren

Frequency Table (2)

15 Most Common Species April 1971 - March 1972

NAME	NO.	NAME	NO.
White tailed cockatoo	2,512	Scarlet robin	46
28 parrot	294	Golden whistler	45
Magpie	186	Kookaburra	34
Grey butcher bird	76	Yellow tailed thornbill	27
Little wattle bird	71	Pipit	23
Raven	65	Bronzewing pidgeon	14
Splendid wren	65	Emu	5
Grey fantail	56		

REGIONAL NOTES

SOUTHERN REGION

Staff:

Alaister Mather has been seconded to Nepal to take over the administration of a Columbo Plan Forestry Project.

He will be centred at Katmandu, well up into the foothills of the Himalayas and among picturesque and mountainous terrain. He left on the 22nd May, 1972. Rumour (started by G. Peet) has it that the only satisfactory mode of travel is by four-wheel drive YAK.

John Smart has been transferred from Harvey and has replaced Alaister as D.F.O. Manjimup.

Jack Bradshaw has been transferred from Manjimup W.P.O. to Kelmscott.

Frank Quicke moved from Jarrahdale to Pemberton early in June as District Forester.

Paul Jones from Dwellingup to Manjimup.

Bruce Harvey moved from Manjimup Administration to Manjimup Working Plans.

Miss Sandra Cutts (Working Plans) is the local entrant in the Miss Australia Quest 1972. We wish her well.

C.U.R.A.R.A.

Gangs employed under the Commonwealth Unemployment Relief Aid Scheme for Rural Areas have been active in both Manjimup and Pemberton Divisions and have done some excellent work mainly in the fields of Karri thinning and tourist development projects.

Metro Region

Staff

Alan Lush transferred to Wanneroo as A.D.F.O. Andy Robertson has commenced as Forest Guard in the Wanneroo Division.

Don Spriggins transferred to Collie.

Dave Watson is taking his Long Service Leave.

Equipment

Wanneroo Division have just taken delivery of our second Massey Ferguson Forwarder (Treever). This will be modified before commencing work but should give added flexibility to the chipwood logging programme.

The Weather

At the time of writing (May 1972), it appears that unless rain falls very soon the 1972 pine planting season may well be deferred. The Drought Index at May 10th was still around the 600 mark and conditions are extremely dry, especially in the Wanneroo Division.

Fauna

Although the Metro Region cannot match the various "tiger" reports from Nannup and Margaret River, there have been so many recorded sightings of Numbats that we may expect a plague before long. There have been two reports of a pair of Numbats near Mundaring D. HQ. and flocks (?) are allegedly a common sight near Jarrahdale.

Mining

There are occasions when mining groups appear to be unaware of the particular merit of timber, but is is re-assuring to see the Jarrah pillars set up as sign-posts for Alcoa's new township of Carcoola - North Pinjarra. They were prepared by the Jarrahdale District, who have used a similar style for a forest boundary sign on the road to Serpentine Dam.

BUSSELTON REGION

Staff

The following staff changes have recently taken place -

Mrs. Dearle has retired from Kirup Office.

Miss Elizabeth Allen is the new Office girl.

F/G Rod McIntyre transferred from Hamel to Nannup.

T/A Brian Hartley has commenced duties on Soil Survey work at Busselton, replacing T/A John Emery who has resigned.

A.D.F.O. Ashcroft recently spent two weeks in Victoria attending a Civil Defence Officer Course at Macedon. Following this, he was shown various plantation establishment and maintenance practices by A.P.M. Forests and Victorian Forest Commission. Interesting topics will be reported in the next issue of Forest Notes.

Plantations

Brown topping was again in evidence at Nannup this autumn, being confined mainly to 9 and 10 year old stock.

Nannup reached a peak Drought Index of 715 during the season and at 14th May, the index was still as high as 585.

Other plantation areas Drought Indices were Grimwade 727, Ludlow 714 and Margaret River 729.

Forest Estate

With the purchase of farming properties for planting pines in the Kirup area, the Forests Department has become the owners of two historically significant houses.

1. Ferndale (Built early 1800's)

   Arrangements are in hand to preserve this house by organising a caretaker to live in the house and plant established arboreta around it.

2. Mile's House (Built 1864)

   It is hoped that arrangements can be made to lease this house to a historically minded person.