

**SOME NATURE RESERVES
OF THE
WESTERN AUSTRALIAN
WHEATBELT**

**PART 7 : VICTORIA PLAINS
SHIRE**

B.G. MUIR

1978

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B.G. MUIR
WESTERN AUSTRALIAN MUSEUM
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A report prepared for
and funded by the
Department of Fisheries
and Wildlife.

This report may be referred to as:

MUIR, B.G. (1978). Some nature reserves of the Western Australian wheatbelt. Part 7: Victoria Plains Shire. Perth: Dept. Fish. Wildl. Unpubl. Rept.

This series of reports may be referred to as:

MUIR, B.G. (1978-). Some nature reserves of the Western Australian wheatbelt. Parts 1- continuing. Perth: Dept. Fish. Wildl. Unpubl. Repts.

SOME NATURE RESERVES OF THE
VICTORIA PLAINS SHIRE

B.G. Muir

INTRODUCTION

Victoria Plains Shire lies in the western central wheatbelt and has an area of about 2563 square km. There are 7 Nature Reserves within the Shire totalling about 7.9 square km or about 0.3% of the area of the Shire.

Of the Reserves all except 1 are smaller than about 125 ha in area. The largest Reserve is ca 259 ha in area and the smallest ca 36 ha.

Only 1 Reserve within the Shire has "A" classification, A27595. Only 2 Reserves are vested, 2332 (Gillingarra) and 20738 (Koodjee) both of which are under control of the Western Australian Wildlife Authority. The remainder are unvested and enjoy no particular protection. None of the Reserves have been studied by biologists prior to these brief surveys, except for an occasional visit by fauna wardens.

The current survey took place in July 1978 and consisted of brief examinations of 5 Reserves, 3345, 7615, 23201, 26841 and A27595.

METHODOLOGY

Physical characteristics of the Reserves were obtained directly from the most recently available lithographs as published by the Department of Lands and Survey, and interpreted from observations made on the reserves.

Reserves were examined by vehicle where tracks were available, or on foot. Local knowledge and air-photographs were consulted to find areas of particular interest. Only a very short time could be spent on each Reserve, the smaller ones being examined in 1 or 2 hours, the larger ones in a full day.

Vegetation was classified using Muir's (1977) system (Table 1), which was designed specifically for describing wheatbelt vegetation. In the presentation of the abbreviated descriptions (in section titled "Vegetation") capital letters in descriptive terms refer to specific classes of life form, height and canopy cover as used in the classification.

As the survey period on any Reserve was very brief only the commonest plant species could be noted. Any species in which less than 3 individual plants were encountered within a space of 10-15 minutes examination of the vegetation were considered uncommon and are not listed. As much of the survey work was carried out rapidly and in unfavourable seasons, many plants were not flowering and so identifications were made from foliage alone. Only if an important dominant plant was not recognised were specimens brought back to the laboratory for examination.

TABLE 1: VEGETATION CLASSIFICATION AS USED IN WHEATBELT SURVEY

LIFE FORM/HEIGHT CLASS	CANOPY COVER			
	DENSE 70-100% ^d	MID-DENSE ^c 30-70%	SPARSE ⁱ 10-30%	VERY SPARSE ^r 2-10%
T Trees >30m M Trees 15-30m LA Trees 5-15m LB Trees <5m	Dense Tall Forest Dense Forest Dense Low Forest A Dense Low Forest B	Tall Forest Forest Low Forest A Low Forest B	Tall Woodland Woodland Low Woodland A Low Woodland B	Open Tall Woodland Open Woodland Open Low Woodland A Open Low Woodland B
KT Mallee tree form KS Mallee shrub form	Dense Tree Mallee Dense Shrub Mallee	Tree Mallee Shrub Mallee	Open Tree Mallee Open Shrub Mallee	Very Open Tree Mallee Very Open Shrub Mallee
S Shrubs >2m SA Shrubs 1.5-2.0m SB Shrubs 1.0-1.5m SC Shrubs 0.5-1.0m SD Shrubs 0.0-0.5m	Dense Thicket Dense Heath A Dense Heath B Dense Low Heath C Dense Low Heath D	Thicket Heath A Heath B Low Heath C Low Heath D	Scrub Low Scrub A Low Scrub B Dwarf Scrub C Dwarf Scrub D	Open Scrub Open Low Scrub A Open Low Scrub B Open Dwarf Scrub C Open Dwarf Scrub D
P Mat plants H Hummock Grass GT Bunch grass >0.5m GL Bunch grass <0.5m J Herbaceous spp.	Dense Mat Plants Dense Hummock Grass Dense Tall Grass Dense Low Grass Dense Herbs	Mat Plants Mid-Dense Hummock Grass Tall Grass Low Grass Herbs	Open Mat Plants Hummock Grass Open Tall Grass Open Low Grass Open Herbs	Very Open Mat Plants Open Hummock Grass Very Open Tall Grass Very Open Low Grass Very Open Herbs
VT Sedges >0.5m VL Sedges <0.5m	Dense Tall Sedges Dense Low Sedges	Tall Sedges Low Sedges	Open Tall Sedges Open Low Sedges	Very Open Tall Sedges Very Open Low Sedges
X Ferns Mosses, liverwort	Dense Ferns Dense Mosses	Ferns Mosses	Open Ferns Open Mosses	Very Open Ferns Very Open Mosses

Soil was examined very briefly and classified according to Northcote's (1971) texture groups and Munsell (1954) colour terms.

Fire history was determined from observation of the area, appearance of air-photographs and information from nearby farmers.

Fauna were not specifically sought, but some species (usually the most obvious) were encountered while examining vegetation. The lists provided are only a small fraction of the species present on nearly every Reserve examined. Scats, footprints, burrows, nests and other indirect evidence is used only where identification is certain. Observations by farmers are used if considered reliable.

Opinions and recommendations expressed in these reports are entirely those of the author and are based on extensive experience in vegetation mapping and description in the wheatbelt, and association with faunal and habitat studies conducted by suitably qualified researchers.

RESULTS AND DISCUSSION

The features of each Reserve can be summarised as follows:

Reserve 3345 - ca 259 ha; mostly heath with Banksia or Eucalyptus todtiana; confluence of N and E branches of Moore River with marginal woodlands; rich in plant species and wildlife; represents transition between coastal plain, forest block and wheatbelt; recommend "A" classification.

Reserve 7615 - ca 36 ha; Wandoo and she-oak woodlands; rich in fauna and plant species which show affinities to forest block and wheatbelt; important bird nesting area.

Reserve 23201- ca 81 ha; Wandoo and York Gum woodlands; salt creek and Samphires; dam nearby; important bird breeding area.

Reserve 26841- ca 53 ha; Wandoo woodland; long, thin Reserve, serves little purpose as a reserve in itself but is important connecting corridor between uncleared land to N and S.

Reserve A27595-ca 124 ha; Wandoo woodland with patches Marri; rich in flora; represents transition from forest block to wheatbelt; important bird nesting area.

Of the 5 Reserves examined all had woodlands and one (3345) had additional areas of heath. All were relatively undisturbed except 23201 which had a grazed understory. There are currently extensive clearing programmes in the W side of the Shire and these Reserves will assume greater importance in the near future. A smaller proportion of the Victoria Plain Shire has been set aside as Reserves than any other shire examined to date, with the result that some vegetation types are poorly represented. It would be advantageous to establish more reserves in the area before further clearing makes this difficult.

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ACKNOWLEDGEMENTS

Mr I. Simpson assisted in the field.

The Western Australian Herbarium provided access to collections and assistance in identifying plants. The Department of Fisheries and Wildlife have allowed me to use some of this data as part requirement of an Honours Thesis.

Mogumber West NR

Reserve 3345

Located at the junction of the E and N branches of the Moore River and ca 5 km NW Mogumber Siding. Shown on lithograph 31/80, C-D, 1.

Background

Originally set aside 15 May 1896 as "Resting Place for Travellers and Stock". Changed to "Preservation of Flora" on 20 January 1967.

Physical characteristics

Reserve 3345 is square, ca 1.4 km on a side and with a total perimeter of ca 5.6 km. It has an area of 258.9988. There are no contour maps available for the area.

Vegetation

The only access to the Reserve was through private property and allowed an examination of the SW corner of the area. Access to the other parts of the Reserve is only possible by fording the E branch of the Moore River just SE of its junction with the N branch. At the time of survey the River was in flood and the ford impassable. For topographic relations of the vegetation types see diagram accompanying vegetation map.

Heath

Dense Low Heath C covers most of the Reserve, and merges into woodlands along the river Margin. Scattered

trees and dense thickets of Marri are present throughout. Some areas have Banksia dominant.

Marri and Wandoo dominated margins of river

Where soils became shallower and with greater moisture retaining properties, Marri and Wandoo trees of varying heights and density are present.

River banks, levees and islands

Steep banks had Wandoo woodland, and gently sloping banks and levees Flooded Gum trees and Melaleuca (Paperbark) thickets. Islands in the river, particularly near the confluence of the N and E branches supported Paperbarks.

Plant species

Seventy-seven plant species were recorded, of which 26 are exploited by the wildflower seed trade. The species present show affinities with the northern coastal plain, the forest block and the wheatbelt.

Nest hollows

Many senescent and dead trees along the watercourse and banks. Nearby farmer informs me that many trees have been cut down to get nestling parrots for sale purposes. He has stopped all access to the Reserve through his property but suspects some bird collectors still gain access from the N side.

There are some young trees present.

Weeds

Mostly small annuals such as Arctotheca calendula and Ursinia anthemoides, mostly in damper areas and along river banks.

Fire history

The SW side of the Reserve has not been burnt for at least 15 years.

Fauna

Echidna (Tachyglossus aculeatus): burrows and scats along river banks.

Grey Kangaroo (Macropus fuliginosus): footprints in heath areas.

White-faced Heron (Ardea novaehollandiae): 2 in trees along river.

Black Duck (Anas superciliosa): 4 swimming on backwater.

Grey Teal (Anas gibberifrons): 2 flying along river, 4 seen in trees.

Wood Duck (Chenonetta jubata): 4 seen on levee banks.

Port Lincoln Parrot (Platycercus zonarius): common in woodland. Some fighting over nest hollows along river.

Galah (Cacatua roseicapilla): 5 in woodland.

Pallid Cuckoo (Cuculus pallidus): calling along river bank.

Laughing Kookaburra (Dacelo gigas): heard in woodland.

Western Strike-thrush (Colluricincla harmonica rufiventris): calling in woodland along river.

Grey Fantail (Rhipidura fuliginosa): common along river in dense vegetation.

Willie Wagtail (R. leucophrys): several seen in
heath areas, woodlands and surrounding farmland.

Western Warbler (Gerygone fusca): calling in dense
vegetation along river banks.

Singing Honeyeater (Meliphaga virescens): in Banksia
areas.

New Holland Honeyeater (Phylidonyris novaehollandiae):
in Banksia areas.

Grey Butcher bird (Cracticus torquatus): 2 in woodland.

Little Crow (Corvus bennetti): flock of 10 flying
over heath.

Australian Raven (C. coronoides): several in woodlands
along creek.

Exotic fauna

Occasional rabbit scats throughout Reserve, but not
common. Farmer on adjacent land has seen fox on the
Reserve. Occasionally sheep gain access from nearby
farmland.

Firebreaks and fences

Fenced on all sides. Firebreaks along all boundaries
and parallel to river banks (see map).

Human usage

Timber removed from woodlands. Bird collectors and
duck shooters have been exploiting the Reserve for many
years.

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Adjacent uncleared land

None other than small areas in paddocks and along the river banks.

Remarks

Thanks are extended to Mr F. Fisher, the farmer whose property adjoins the S boundary of the Reserve. His cooperation and hospitality in allowing access to the Reserve, and a place to camp, made this survey possible.

Opinion and recommendations

Reserve 3345 is in excellent condition and has quite diverse habitats and vegetation types. Although the N and E portions of the Reserve were not examined, they appear from airphotos to be undisturbed and similar in nature to the portion examined. Mr Fisher informs me that Wandoo woodland is more extensively developed on the E side of the Reserve. There is little doubt that this Reserve is one of the most picturesque and flora and fauna rich reserves in the region. I feel that some action should be taken to ensure a greater protection for the fauna, particularly from shooters and bird collectors. Perhaps regular visits from a warden during the parrot breeding season might be in order, as might approaching the farmers to the N, E and W of the Reserve and informing them about the consequences and legal situation of such activities. The S side is well protected while the adjacent farmland is owned by Mr Fisher. I recommend that Reserve 3345 be classified "A" and vested in the Western Australian Wildlife Authority.

APPENDIX I

Reserve 3345

Only the SW portion of the Reserve was examined.

Heath

The majority of the SW portion is heathy, mostly mixed shrubs, 0.5-1m tall, 70-100% canopy cover. In damper areas Eucalyptus calophylla may form dense thickets of small trees to 5 m tall. Other areas are dominated by Banksia attenuata or B. menzeissii trees to 6 m tall, sometimes with scattered Eucalyptus todtiana tree mallee to 8 m tall. Shrub dominance varies considerably with minor fluctuations in topography or drainage. Species recorded in the heath were: Actinostrobilus arenarius*, Alexgeorgia arenicola*, Calothamnus quadrifidus, Cassytha glabella, Casuarina humilis, Comesperma scoparia, Conospermum stoechadis*, Conostylis aculeata, Cryptandra polyclada, Daviesia acanthoclona*, D. nudiflora, Dianella revoluta, Dryandra nivea, Eremaea pauciflora, Hakea lissocarpa, H. obliqua*, H. varia, Harperia lateriflora, Jacksonia furcellata, J. restioides, Leptospermum erubescens, Leucopogon blepharolepis, Loxocarya fasciculata, Lysinema ciliatum, Macrozamia riedlei, Melaleuca spathulata, Mesomelaena stygia, Mirbelia spinosa, Olearia pimelioides*, Petrophile conifera, P. drummondii, P. ericifolia, Synaphaea polymorpha*. Soil mostly pinkish grey, loamy sand; excessively drained.

Footnote: species marked * are more abundant in Banksia dominated areas.

Marri and Wandoo dominated margins of river

Areas where ground begins to slope down to the river had the heath layer slightly taller and scattered Eucalyptus calophylla and E. wandoo trees of varying height according to drainage. Plant species recorded were: Acacia lasiocarpa var bracteolata, A. leptospermoides, A. pulchella, Anigozanthos humilis, Banksia attenuata, B. sphaerocarpa, Beaufortia elegans, Cassythia glabella, Casuarina humilis, C. thuyoides, Conostephium preissii, Dryandra nivea, Eremaea pauciflora, Goodenia scapigera, Hakea costata, H. lissocarpha, H. ruscifolia, H. varia, Hypocalymma angustifolium, Jacksonia floribunda, J. furcellata, Loxocarya fasciculata, Lyginia tenax, Mesomelaena stygia, Nuytsia floribunda, Oxylobium affin. lanceolata, Petrophile conifera, Spyridium denticuliferum, Stirlingia latifolia, Stylobasium australe, Verticordia acerosa, Xanthorrhoea preissii. Soil grey, sandy loam; moderately drained.

River banks, levees and islands

Steep sloping sides of the river banks had E. wandoo trees to 12 m tall over scattered shrubs growing wherever a foothold could be gained. Species present on such slopes were: Acacia cyanophylla, A. leptospermoides, Acanthocarpus preissii, Arctotheca calendula, Astroloma pallidus, Dianella revoluta, Eremophila brevifolia, Grevillea intricata, Hakea lissocarpha, Hibbertia affin. glomerosa, Hypocalymma angustifolium, Kennedia prostrata, Labichea lanceolata, Lepidosperma drummondii, Leptocarpus scariosus, Lobelia alata, Macrozamia riedlei, Ursinia anthemoides, Xanthorrhoea preissii and Xanthosia affin. candida. Soil was yellow sandy loam, grey sandy clay loam or sandstone rubble, depending on site. Levee

banks and islands supported stands of Eucalyptus rudis trees of variable height and thickets of Melaleuca pauciflora and M. raphiophylla to 6 m tall. Also recorded were Acacia cyanophylla, Arctotheca calendula, Arthrocnemum lepidosperma, Dianella revoluta, Hypocalymma angustifolium, Labichea lanceolata, Lepidosperma drummondii, Stylobasium australe, and Ursinia anthemoides. Soil highly variable, mostly brown or grey silty clay. Poorly drained, seasonally flooded, salt prone.

Examination of the air-photographs indicates the vegetation on the remainder of the Reserve is similar to that described above. Suggestions on the distribution of associations on the N and E sides of the Reserve are illustrated on the vegetation map.

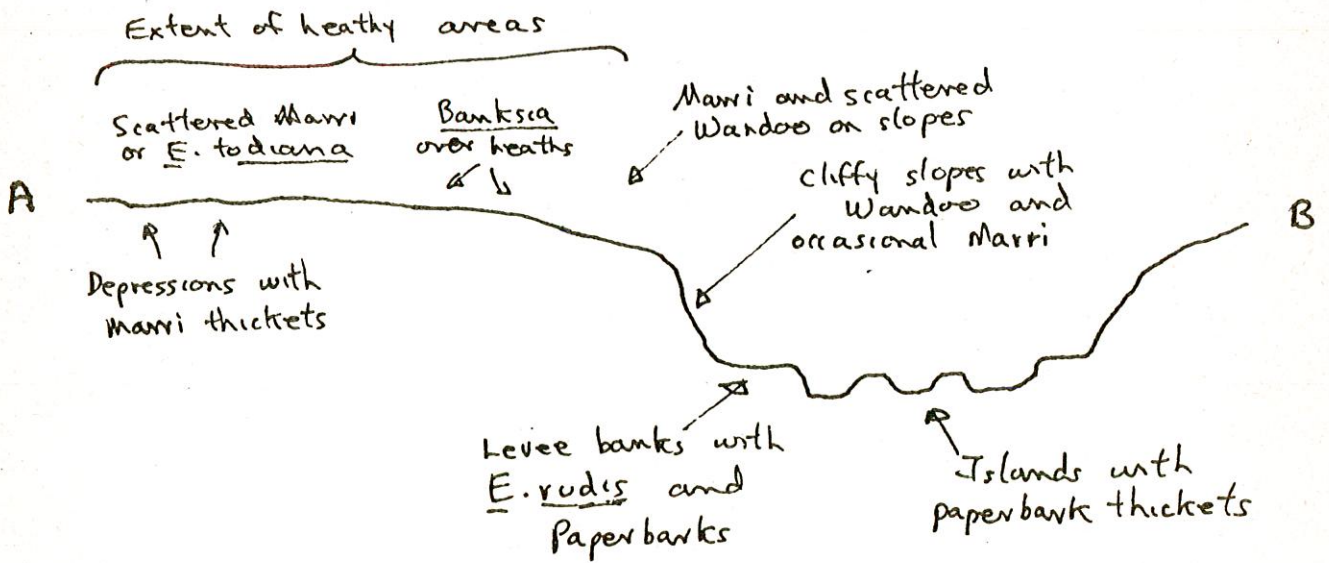
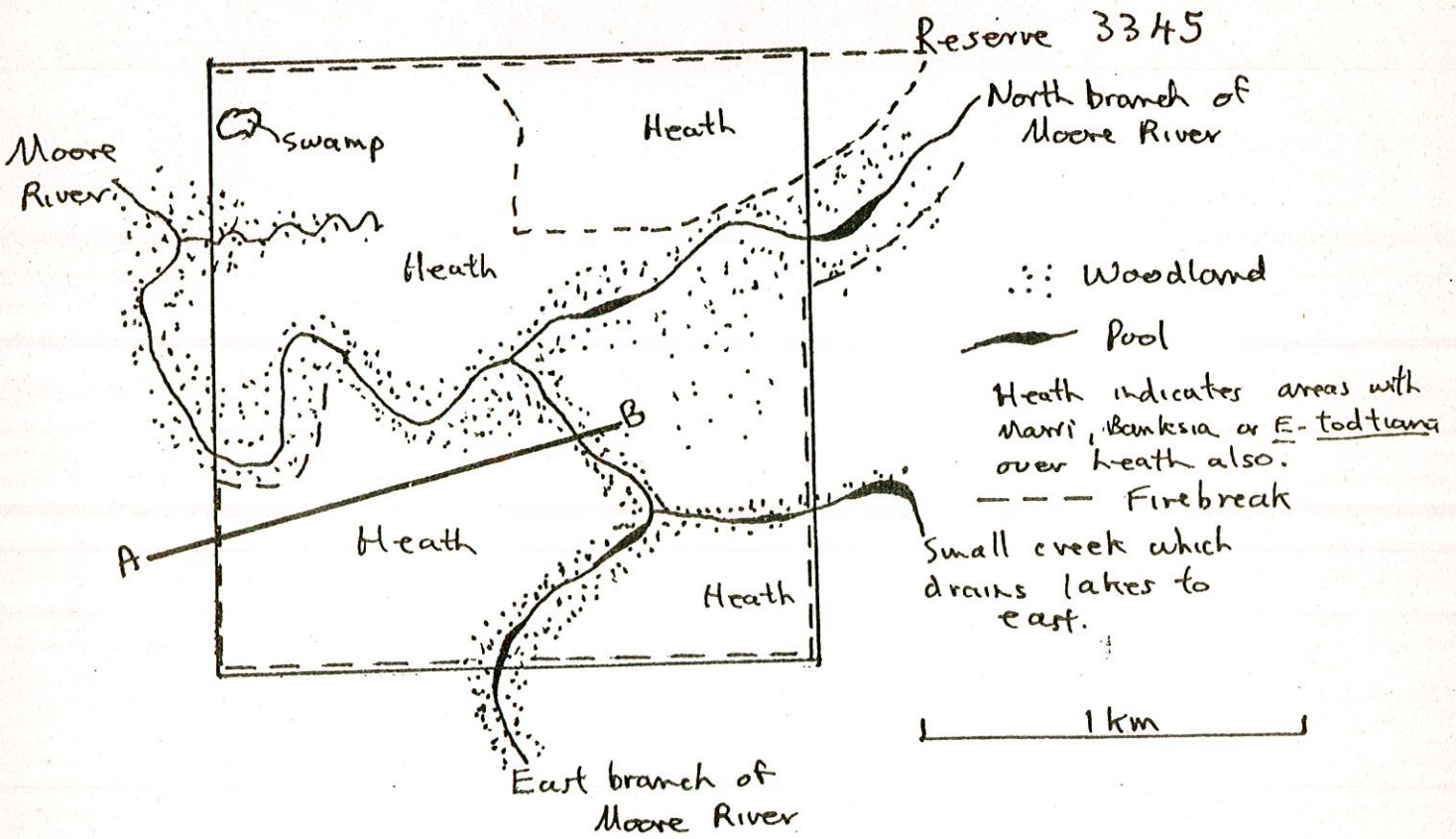




Plate 1 View W on Reserve 3345 showing heath area with occasional trees and thickets of Marri.



Plate 2 Eucalyptus tottiana trees over heath on W side Reserve 3345.



Plate 3 View SE along E branch of Moore River. This area has gently sloping banks and broad levees supporting Flooded Gum and Melaleuca thickets.



Plate 4 View NW on W side Reserve. In this area the combined flow of the Moore Rivers' two branches has precluded levee development. As the area is sandy, Marri woodlands penetrate right up to the rivers edge.



Plate 5 Near junction of N and E branches there are steep banks and numerous islands. Wandoo reaches right to the waters edge.

Reserve 7615

Located ca 17.5 km NE of Wannamal Townsite and shown on lithograph 31/80, EF, 1-2.

Background

Originally 36.44 ha and set aside as a reserve for "Water" on 25 January 1901. This was changed to "Government Requirements and Conservation of Flora" on 18 June 1965. The area of the Reserve was decreased to 36.3805 on 28 July 1967.

Physical characteristics

Reserve 7615 is almost square, minus the SE corner. It has a perimeter of ca 1.6 km and an area of 36.3805 ha. There are no detailed contour maps available but the 1:250000 series shows it to have an altitude of ca 305 m above sea level.

Vegetation

Basically only 2 associations are present on the Reserve, Wandoo and she-oak woodlands. The former is on granite derived soil and is variable according to drainage and gravel content. The she-oak woodland is on dolerite derived soil and forms a belt across the E side of the Reserve. The highest altitude portions of the Reserve have sufficient laterite residue to support some heathy species and mallee.

Plant Species

Thirty-nine species of plants were recorded, 8 of which are exploited by the wildflower seed trade. Many of the plant species present are associated more with the forest block than with the wheatbelt.

Nest hollows

Many standing senescent trees and some completely dead. Young trees are also common. There is abundant logs in the unburnt areas. Most ~~litter~~ and logs in the burnt areas has been destroyed.

Weeds

Small annual species common in wetter areas and abundant on rabbit droppings. Scarce in undisturbed bush. The she-oak woodland has an almost continuous cover of Guildford Grass, Romulea rosea.

Fire history

About half the Reserve has not been burnt for at least 10-15 years. The rest has been burnt within the last year and there is virtually no regrowth.

Fauna

Fauna was scarce because of heavy rain and strong winds.

Echidna (Tachyglossus aculeatus): scats common in woodland.

Grey Kangaroo (Macropus fuliginosus): scats common throughout woodland, 2 seen in burnt area.

Port Lincoln Parrot (Platycercus zonarius): in
Wandoo woodland.

Broad-tailed Thornbill (Acanthiza apicalis): common
in burnt She-oak stands.

Singing Honeyeater (Meliphaga virescens): heard
calling in Wandoo woodland.

Australian Raven (Corvus coronoides): in woodlands
and burnt areas.

Exotic fauna

Rabbit scats common. Footprints, possibly a fox
were noted in mud on the W side of the Reserve.

Firebreaks and fences

Marginal firebreaks within the Reserve boundary and
a central track which protects part of the Reserve.
Fenced on the S, W and N boundaries.

Human usage

Timber removed, tracks present. There is a
picnic area near the Highway, on the E side of the Reserve.

Adjacent uncleared land

Extensive uncleared land E of the Reserve until
about 2 years before this survey.

Remarks

Permission was granted to allow use of the Reserve
by apiarists in 1966.

Opinion and recommendations

Reserve 7615 supports good stands of woodland of 2 types and in the near future will support early *seral* stages of Wandoo and She-oak. It appears to have a fairly rich flora including an assemblage intermediate between that of the Darling Range and the wheatbelt. The senescent woodlands probably support a rich bird fauna in the breeding season. I recommend the Reserve be vested in the Western Australian Wildlife Authority.

APPENDIX 2

Reserve 7615

Wandoo woodland

Eucalyptus wandoo trees, senescent, stratum 18-23 m tall, ca 10% canopy cover over Hakea undulata and Xanthorrhoea preissii shrubs, immature to mature, stratum 1 m tall, 30-70% canopy cover over mixed shrubs, no particular dominant, 20 cm tall, 2-10% canopy cover.

Other species recorded were: Acacia acuaria, Astroloma pallidus, Bossiaea preissii, Calothamnus quadrifidus, Dryandra nivea, Gastrolobium spinosum, Glischrocaryon flavescens, Haemodorum sp., Hakea affin. lasiantha, H. lissocarpa, Halgania sp.2, Hibbertia glomerosa, Leucopogon blepharolepis, Mirbelia floribunda, Patersonia occidentalis and Xanthosia fruticosa. Soil pinkish grey, fine sandy loam. Moderately drained.

Near the tops of hills where the ground is steeper and pallid-zone clays more exposed there were also shrubs of Acacia shuttleworthii, Gastrolobium ilicifolium, Isopogon dubius, Melaleuca undulata and Petrophile affin. divaricata.

Hill tops were pallid clays with various amounts of laterite. Clumps of Eucalyptus oleosa var. borealis and E. redunca were present and heathy areas dominated by Dryandra hewardiana, or where clay content was higher, Hypocalymma angustifolium, Melaleuca affin. cuticularis and M. uncinata. Also present were Acacia ericifolia, Eremaea fimbriata, M. scabra and M. spathulata.

In gullies with excessive runoff the E. wandoo was only 8-12 m tall but 30-70% cover. Understory was Gahnia affin. ancistrophylla clumps to 30 cm tall and ca 2% canopy cover.

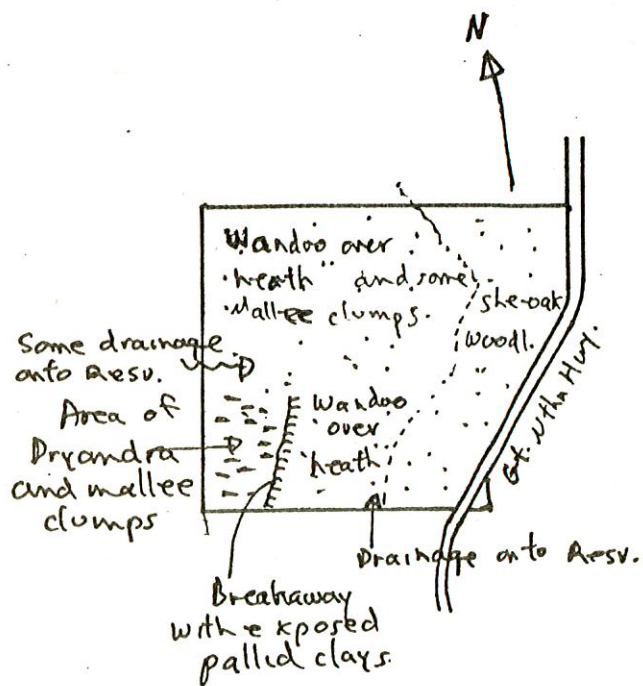
Acacia acuarina Astroloma pallidus, Conostylis androstemma,
Dryandra bipinnatifida, Glischrocaryon flavescens, Hakea
lissocarpa, Leucopogon blepharolepis, Mirbelia floribunda
and Monotoca leucantha were also represented. Soil in
gully floor was pinkish grey, gritty, fine sandy loam.
Poorly drained.

She-oak woodland

Casuarina huegeliana trees, immature, stratum
2-5 m tall, 70-100% canopy cover over Xanthorrhoea preissii
to 1 m tall, ca 10% canopy cover. Almost all of this
association was burnt and recovery is slow. Soil is
dolerite derived and mostly red medium clay with various
amounts of rubble, grit and gravel. Poorly drained.

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Reserve 7615



∴ Woodland

--- Shrubland

~ Watercourse

||||| Breakaway

0.5 km



Plate 6 Reserve 7615 showing typical area of Wandoo woodland on S side Reserve.



Plate 7 Gully in Wandoo woodland where heath is replaced by sedges and scattered low shrubs.



Plate 8 Burnt area of She-oak woodland showing
Blackboy understory.

Reserve 23201
Wyening Nature Reserve

Located ca 9.5 km NNE Bolgart Townsite and shown on lithograph 32/80, BC, 2-3.

Background

Originally ca 61 ha. Set aside for "Protection of Flora and Fauna" and increased to ca 81 ha on 9 February 1951.

Physical characteristics

The Reserve is approximately square, 1 km long (NW-SE axis) and ca 0.8 km broad (NE-SW Axis). The total perimeter is thus ca 2.7 km long. The area of the Reserve is 80.7727 ha. No contour maps or spot altitudes are available, but there is a single spot altitude of 274 m above sea level ca 5 km S of the Reserve. A visual estimate of altitudinal variation on the Reserve is ca 15 m, being higher on the W corner and sloping down to the NE side where a creek is located.

Vegetation

The majority of the Reserve is covered by woodland, mostly E. wandoo (Wandoo) Forest on the E side and E. loxophleba (York Gum) Low Forest A on the W side. There is also a small Casuarina campestris (Tamma) Dense Thicket and a salt creek with samphires. Extensive grazing by sheep has destroyed much of the understory.

Plant species

Forty plant species were recorded, of which 12 are exploited by the wildflower seed trade. Grazing damage to the understory makes it difficult to say if the Reserve has greatest association with the wheatbelt or forest block.

Nest hollows

Many standing trees senescent with many hollows, young trees also common. Hollow logs on ground scarce.

Weeds

Abundant, mostly Hypochaeris glabra, Ursinia anthemoides, Arctotheca calendula and Erodium cygnorum.

Fire history

No evidence of fire within last 30 years.

Fauna

Echidna (Tachyglossus aculeatus): probably common.

Grey Kangaroo (Macropus fuliginosus): scats seen.

Mountain Duck (Tadorna tadornoides): 2 seen in
Wandoo woodland.

Port Lincoln Parrot (Platycercus zonarius): several in
Wandoo and York Gum woodland.

Galah (Cacatua roseicapilla): several in York Gum
woodland.

Willie Wagtail (Rhipidura leucophrys): several in
both woodlands.

Red Wattlebird (Anthochaera carunculata): 2 in York
Gum woodland.

There are some additional faunal notes taken by various observers prior to this survey.

<u>Date</u>	<u>Observer</u>	<u>Species</u>
1959	unknown	Port Lincoln Parrot
		Yellow-rumped Thornbill (<u>Acanthiza chrysorrhoea</u>)
		Yellow-throated Miner (<u>Manorina flavigula</u>)
15 Aug. 1960	Shugg & Bowler	Black Duck (<u>Anas superciliosa</u>)
		Port Lincoln Parrot
		Pallid Cuckoo (<u>Cuculus pallidus</u>)
		Black-faced Cuckoo-shrike (<u>Coracina novae-hollandiae</u>)
		Brown Flycatcher (<u>Microeca leucophaea</u>)
		Golden whistler (<u>Pachycephala caledonica</u>)
		Western Shrike-Thrush (<u>Colluricincla harmonica rufiventris</u>)
		Grey Fantail (<u>Rhipidura fuliginosa</u>)
		Willie Wagtail
		Western Thornbill (<u>Acanthiza inornata</u>): requires confirmation
		Yellow-rumped Thornbill
		Australian Sittella (<u>Neositta chrysoptera</u>)
		Western Silvereye (<u>Zosterops lateralis goldii</u>)
		Yellow-throated Miner
		Red Wattlebird
		Magpie-lark (<u>Grallina cyanoleuca</u>)
		Western Magpie (<u>Cracticus tibicen dorsalis</u>)
		Australian Raven (<u>Corvus coronoides</u>)

<u>Date</u>	<u>Observer</u>	<u>Species</u>
4 Jul. 1962	Bowler	Purple-crowned Lorikeet (<u>Glossopsitta porphyrocephala</u>)
		Grey Fantail
		Australian Sittella
		Spotted Pardalote (<u>Pardalotus punctatus</u>)

Exotic Fauna

Rabbit scats were common throughout the Reserve. Shugg and Bowler recorded fox in August 1960. Sheep have grazed much of the understory.

Firebreaks and fences

Firebreaks in adjacent paddocks and along roadway. Fenced on all sides except roadway where the fence is in disrepair.

Human usage

Timber has been removed; the area was being grazed in 1959, but it appears to be some time since grazing at the 1978 inspection.

Several ha. of York Gum (Eucalyptus loxophleba) woodland are contiguous with the Reserve.

Opinion and recommendations

Reserve 23201 is in excellent condition apart from the heavily grazed understory. The woodland provides important refuge for birds, particularly those requiring hollow trees for nesting. The creek and nearby dam provide water well into summer. The Reserve is probably

fairly representative of the transition between the forest block and the wheatbelt. I recommend that Reserve 23201 be vested in the Western Australian Wildlife Authority.

APPENDIX 3

Reserve 23201

Wandoo woodland

Eucalyptus wandoo trees, 10-16 m tall (some emergent to 24 m), 30-70% canopy cover, mature, over Acacia erinacea shrubs, mature, 0.2 m tall, 10-30% canopy cover. Also recorded were: Acacia microbotrya, A. sedifolia var. sedifolia, Bassia diacantha, Conostylis prolifera, Daviesia acanthoclona, Dianella revoluta, Dodonaea divaricata, Enchylaena tomentosa, Eremophila brevifolia, Exocarpus aphyllus, Hakea lissocarpa, Lepidosperma gracile, Lomandra effusa, Opercularia vaginata, Pittosporum phylliraeioides, Podolepis capillaris, Rhagodia preissii, Spyridium complicatum, Stipa elegantissima. Soil grey, sandy clay; poorly drained.

York Gum woodland

Eucalyptus loxophleba trees and tree mallee, senescent, 10-14 m tall, some emergent to 20m, 30-70% canopy cover over Borya nitida 10 cm tall, 30-70% canopy cover. Scattered Acacia acuminata trees 2.5-4 m tall, 1% canopy cover are present. Also recorded were: Amphipogon debilis, Cheilanthes tenuifolia, Conostylis prolifera, Dianella revoluta, Enchylaena tomentosa, Opercularia vaginata, Romulea rosea. Soil red, light sandy clay loam; poorly drained.

Granite area

Scattered shrubs but no particular dominant. Some E. wandoo is present. Species recorded were: Acacia bidentata, Borya nitida, Casuarina campestris, Cheilanthes

tenuifolia, Cryptandra arbutiflora, Dianella revoluta,
Gastrolobium hookeri, Hibiscus huegellii, Lepidosperma gracile,
Loxocarya pubescens, Melaleuca radula, M. uncinata, Stypandra
imbricata.

Tamma thicket

Casuarina campestris shrubs, senescent, 4 m tall, 70-100% canopy cover. No understory. Scattered Acacia acuminata and E. loxophleba present, the latter locally reaching up to 2% cover. The only other perennial recorded at this site was Cheiranthra parviflora. Soil strong brown, clayey sand with ca 20% laterite pebbles. Poorly drained.

Creek

The upstream portion of the creek is on the Reserve and bordered by York Gum woodland. There are no plants specifically associated with the creek except scattered Atriplex paludosa shrubs. On the downstream parts of the creek, near the E corner there is dense growths of Arthrocnemum bidens and A. pergranulatum. In July, following heavy rains, the creek was flowing rapidly, and the water was slightly saline to the taste. Some of the creek bed is exposures of granitic gneiss. Pegmatite and quartz veins and a dolerite dyke are exposed amongst the gneiss.

Reserve 23201

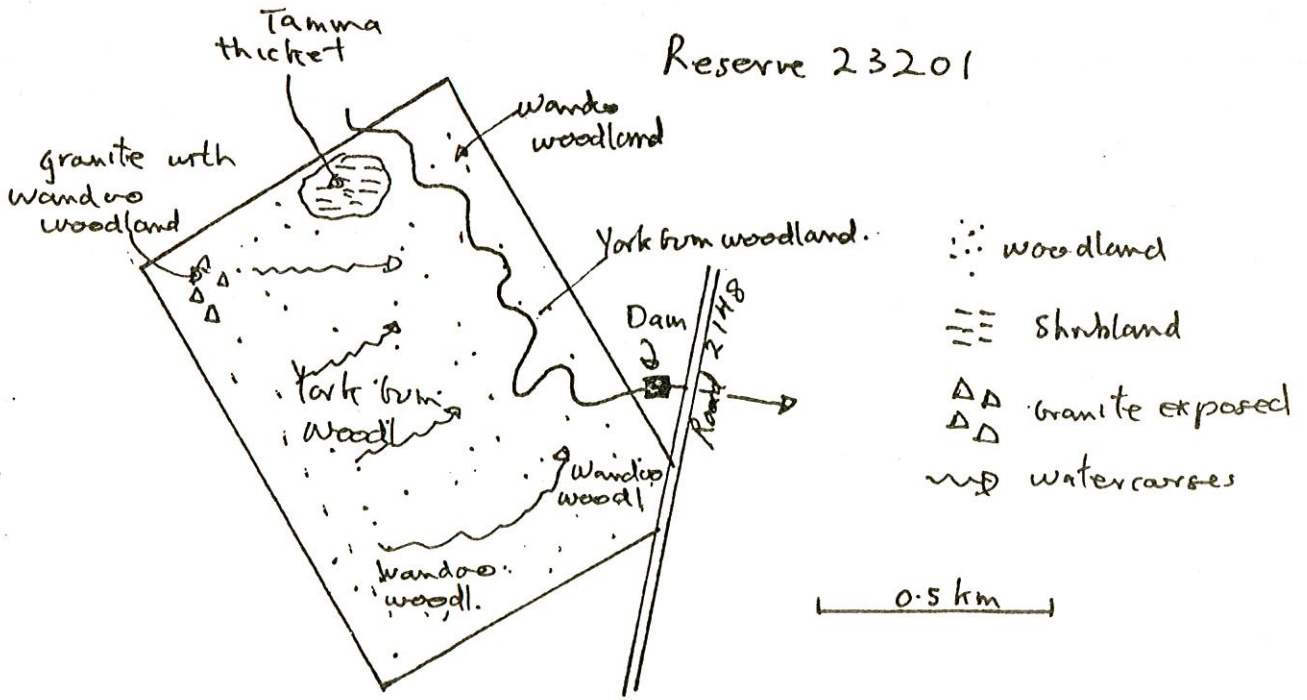




Plate 9 Wandoo woodland on Reserve 23201



Plate 10 York Gum with scattered Jam on the NW side of the Reserve.



Plate 11 View across dam on Reserve 23201 showing salt-killed York Gum woodland and Samphire heath development.

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Reserve 26841

Located ca 17.5 km NE of Wannamal Townsite and shown on lithograph 31/80, F3.

Background

Originally gazetted 14 June 1963 for "Conservation of Flora".

Physical characteristics

Reserve 26841 is linear, ca 7.5 km long and ca 80 m wide. It has an area of 53.0138 ha. It is very close to Reserve 27595 and has about the same altitude, perhaps being ca 250 m above sea level.

Vegetation

Eucalyptus wandoo (Wandoo) Low Woodland A with occasional heathy areas where the woodland is sparse.

Plant species

Most of the species listed for Reserve A27595 are present somewhere along the length of the Reserve. A copy of the species list for Reserve A27595 is appended, together with some additional comments.

Nest Hollows

Many standing senescent trees with hollows, young trees also common. Hollow logs on ground scarce to moderately abundant.

Weeds

Scattered weeds throughout, mostly small annual species.

Fire history

No evidence of fire within the last 20 years.

Fauna

Grey Kangaroo (Macropus fuliginosus): 1 seen, scats common.

Exotic fauna

Rabbit scats and warren present.

Firebreaks and fences

Adjacent farmland fenced and with firebreak. W side bounded by roadway.

Human usage

Some timber removed. Small gravel pits, disturbed areas present.

Adjacent uncleared land

Patches in adjacent farmland. All Wandoo woodland.

Opinion and recommendations

Reserve 26841 serves little purpose in the sense of a Reserve but is extremely important as a corridor for transient species moving between areas of bushland. The value will be even further enhanced as clearing continues. I recommend this Reserve be vested in the Western Australian Wildlife Authority.

APPENDIX †

Reserve 26841

In addition to the plant species recorded on A27595 and listed below, there were several species collected on Reserve 26841 and not recorded on A27595. In a heathy, disturbed area unlike any area on A27595 were numerous plants of Cryptandra affin. mutila and Gastrolobium affin. bennetsianum, and Halgania anagalloides and Stipa elegantissima were very common. Soil, grey, sandy clay. Moderately drained.

Additionally, a small lateritised granite hill ca 3 km N of the S end of the Reserve carried numerous shrubs of Astroloma compactum, Chamaescilla corymbosa, Hypocalymma angustifolium, Lepidosperma gracile, Melaleuca radula, Platysace maxwellii, Thomasia foliosa and Trymalium ledifolium var. platyphyllum. Damp areas carried dense swards of Stylidium bulbiferum ciliatum. Soil reddish brown, gritty, clay loam.

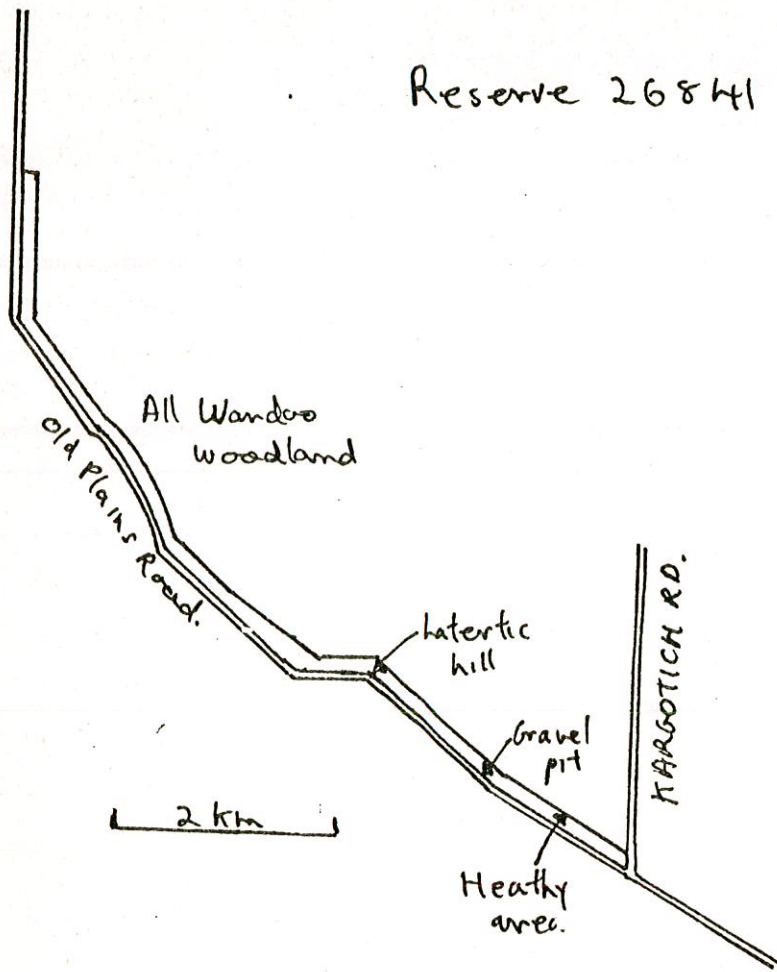
Associations and species recorded
on A 27595

Wandoo woodland

Eucalyptus wandoo trees, immature - mature, stratum 8-14 m tall, 10-30% cover over mixed shrubs, mature, 0.5m tall, 70-100% canopy cover. In localised areas there was an understory of Hakea varia 1-1.5 m tall, 70-100% cover. In areas where laterite is more abundant the understory is dominated by Dryandra polcephala 1-2m

tall, 30-70% cover. In localised areas E. calophylla trees 8-16 m tall ca 10% canopy cover dominate the woodland. Understory in both areas is more or less the same but with minor variations in dominance. Plant species recorded were: Acacia colletioides, A. leptospermoides var. leptospermoides, A. pulchella, Adenanthos cygnorum, Anigozanthos humilis, Astroloma compactum, A. pallidus, Baekkea affin. camphorosmae, Banksia sphaerocarpa, Bossiaea eriocarpa, Calothamnus sanguineus, Casuarina humilis, C. thuyoides, Cheiranthera preissiana, Cryptandra dielsii, C. leucophracta, Daviesia brevifolia, Dianella revoluta, Drosera menzeissii, Dryandra bipinnatifida, D. carduacea, D. fraseri, D. nivea, D. sessilis, Gahnia affin. lanigera, G. polyphylla, Gastrolobium calycinum, Grevillea synaphioides, G. uncinulata, Hakea incrassata, H. lissocarpa, H. prostrata, H. stenocarpa, H. undulata, Halgania anagalloides, H. sp.2 Harperia lateriflora, Hemigenia canescens, Hibbertia enervia, H. hypericoides, Hovea trisperma, Isopogon dubius, I. formosus, Lepidosperma gracile, L. tenue, Leptospermum roei, Leucopogon blepharolepis, Lomandra affin. sericea, Loxocarya pubescens, Macrozamia reidleyi, Melaleuca scabra, Mesomelaema uncinata, Mirbelia spinosa, Nuytsia floribunda, Olax benthamiana, Olearia rudis, Patersonia occidentalis, Persoonia sulcata, Petrophile serruriae, P. striata, Phyllanthus calycinus, Pimelia sylvestris, Santalum acuminatum, Stylidium brunonianum, Trymalium angustifolium. Soil in Wandoo dominated areas varies from reddish yellow, fine sandy loam with ca 80% laterite to pinkish grey sandy loam without laterite. The marri areas are on reddish brown fine sandy loam with no laterite. Soils ~~are~~ moderately drained in all associations.

Reserve 26841



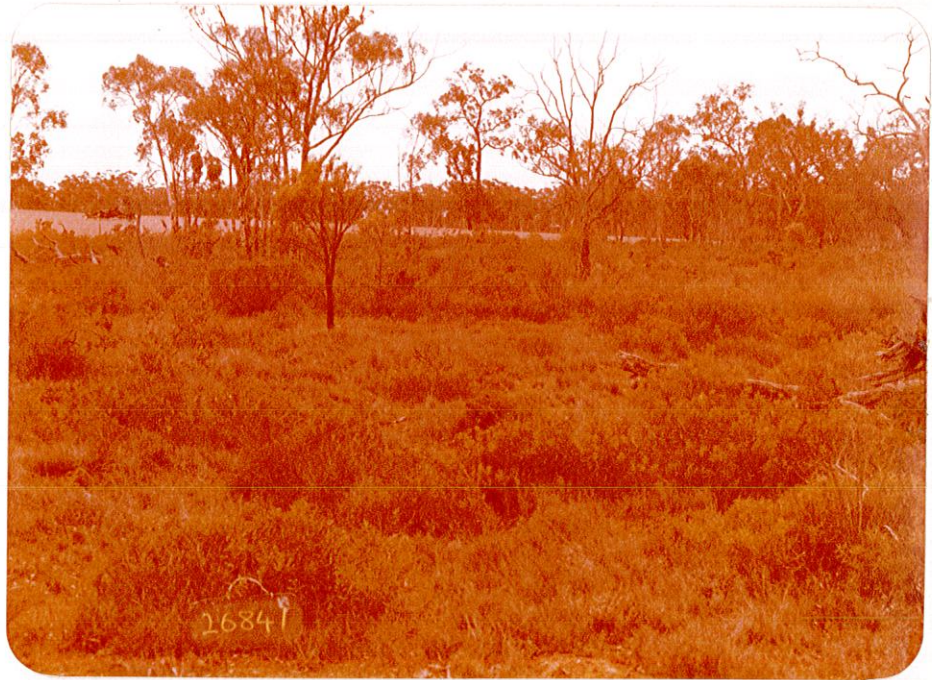


Plate 12 Reserve 26841 showing partly disturbed heathy area.

Reserve A27595

Located ca 24 km E of Wannamal and shown on lithograph 31/80, F3.

Background

Originally set aside for "Ecological Purposes and Flora" and classified 'A' class on 4 June 1965.

Physical characteristics

Reserve A27595 is triangular, ca 3.6 km in perimeter and with an area of 124.4333 ha. No detailed contour maps are available but 1:250,000 series maps give an altitude of approximately 229 m above sea level. There is altitudinal variation of ca 10-30 m over the area of the Reserve.

Vegetation

Virtually all the Reserve is covered with Eucalyptus wandoo (Wandoo) Low Woodland A with varying abundance of E.calophylla (Marri). Understory is mostly mixed Dense Low Heath D but with localised areas of Hakea or Dryandra shrubs. The majority of understory species are present throughout the Reserve.

Plant species

Seventy species of plants were recorded, of which I feel a little less than half are generally associated with the forest block. About a fifth of the species are typical wheatbelt plants, the remainder being found

in both regions.

On this basis I feel that Reserve A27595 is transitional between the forest block and wheatbelt, but slightly biased towards the forest. Of the plant species recorded, 24 are exploited by the wildflower seed trade.

Nest hollows

Many standing senescent trees with hollows; young trees also common. Hollow logs on ground moderately abundant.

Weeds

None recorded.

Fire history

No evidence of fire for at least 20 years.

Fauna

Short-nosed Bandicoot (Isoodon obesulus): diggings believed to be this species were found in several parts of the woodland.

Wedge-tailed Eagle (Aquila audax): 2 over Reserve.

Port Lincoln Parrot (Platycercus zonarius): common

White-tailed Black Cockatoo (Calyptorhynchus baudinii): 6 in Marri woodland.

Pallid Cuckoo (Cuculus pallidus): 1 calling

Laughing Kookaburra (Dacelo gigas): 3 calling.

Western Shrike-thrush (Colluricincla harmonica rufiventris): common

Crested Bellbird (Oreoica gutturalis): 1 calling

Willie Wagtail (Rhipidura leucophrys): common

Weebill (Smicrornis brevirostris): common

Magpie-lark (Grallina cyanoleuca): common

Exotic fauna

None recorded.

Firebreaks and fences

No fences; firebreak on E side and roads on the other 2 sides.

Human usage

Timber has been removed. Gravel pit on NW corner.
School bus turn-around on SW corner.

Adjacent uncleared land

There is uncleared land to the E and S of the Reserve and an area of 17175 ha of Wandoo woodland to the SW. This latter area is Commonwealth land and unlikely to be cleared.

Remarks

Permission granted in 1966 to allow beehives on the Reserve.

Opinion and recommendations

Reserve A27595 is an excellent representative of the woodlands transitional between those of the Darling Range and the Wandoo woodlands of the western wheatbelt. There is a floristic component from both regions and the presence of Bandicoot and Kookaburra also suggests some overlap in

faunal components. The Reserve is well worth retaining in its present form and should be vested in the Western Australian Wildlife Authority.

APPENDIX 5
Reserve A27595

Wandoo woodland

Eucalyptus wandoo trees, immature - mature, stratum 8-14 m tall, 10-30% cover over mixed shrubs, mature, 0.5m tall, 70-100% canopy cover. In localised areas there was an understory of Hakea varia 1-1.5 m tall, 70-100% cover. In areas where laterite is more abundant the understory is dominated by Dryandra polycephala 1-2m tall, 30-70% cover. In localised areas E. calophylla trees 8-16 m tall ca 10% canopy cover dominate the woodland. Understory in both areas is more or less the same but with minor variations in dominance. Plant species recorded were: Acacia colletioides, A. leptospermoides var. leptospermoides, A. pulchella, Adenanthos cygnorum, Anigozanthos humilis, Astroloma compactum, A. pallidus, Baekkea affin. camphorosmae, Banksia sphaerocarpa, Bossiaea eriocarpa, Calothamnus sanguineus, Casuarina humilis, C. thuyoides, Cheiranthra preissiana, Cryptandra dielsii, C. leucophracta, Daviesia brevifolia, Dianella revoluta, Drosera menzeissii, Dryandra bipinnatifida, D. carduacea, D. fraseri, D. nivea, D. sessilis, Gahnia affin. lanigera, G. polyphylla, Gastrolobium calycinum, Grevillea synaphioides, G. uncinulata, Hakea incrassata, H. lissocarpa, H. prostrata, H. stenocarpa, H. undulata, Halgania anagalloides, H. sp.2 Harperia lateriflora, Hemigenia canescens, Hibbertia enervia, H. hypericoides, Hovea trisperma, Isopogon dubius, I. formosus, Lepidosperma gracile, L. tenue, Leptospermum roei, Leucopogon blepharolepis, Lomandra affin. sericea, Loxocarya pubescens, Macrozamia reidleyi, Melaleuca scabra, Mesomelaema uncinata,

Mirbelia spinosa, Nuytsia floribunda, Olax benthamiana,
Olearia rudis, Patersonia occidentalis, Persoonia
sulcata, Petrophile serruriae, P. striata, Phyllanthus
calycinus, Pimelia sylvestris, Santalum acuminatum,
Stylidium brunonianum, Trymalium angustifolium. Soil
in Wandoo dominated areas varies from reddish yellow,
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drained in all associations.

Reserve A27595

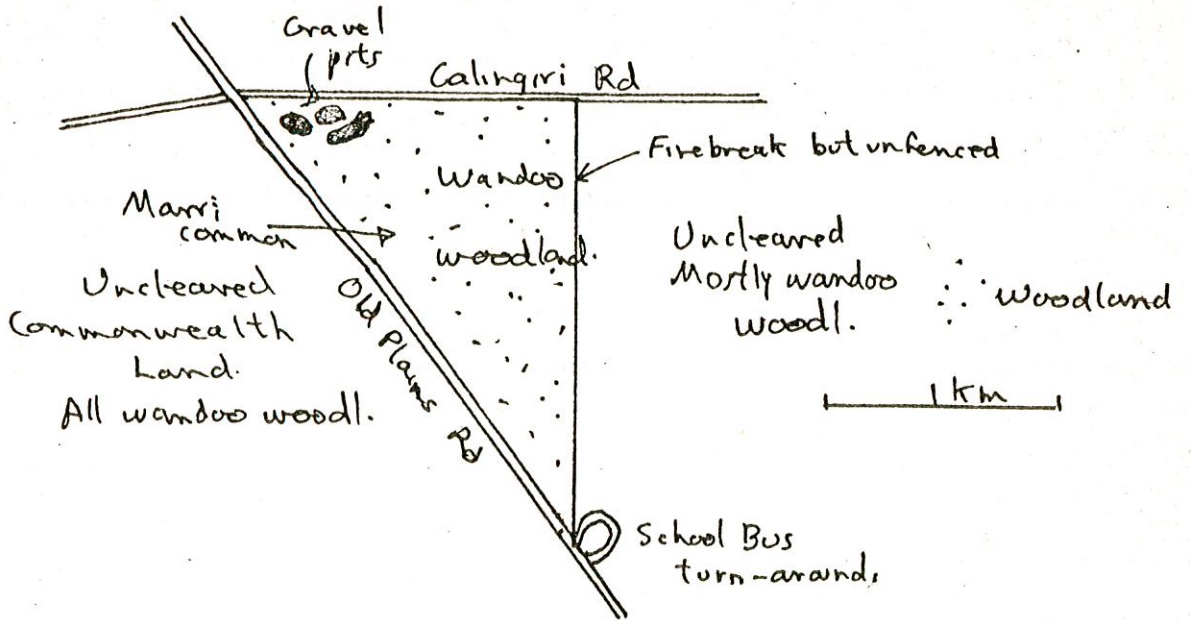




Plate 13 Reserve A27595 showing Wandoo woodlands over low heath. This association covers the majority of the Reserve.



Plate 14 Area where Marri is dominant and the understory is taller and dominated by Hakea varia.