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DEPARTMENT OF CONSERVATION
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WESTERN AUSTRALIA

GENERAL RESERVE AND VEGETATION SURVEY
OF SELECTED SMALLER NATURE RESERVES
OF THE CENTRAL WHEATBELT, PINGELLY MANAGEMENT DISTRICT

PART 4

WICKEPIN SHIRE

Prepared for:

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1.0 INTRODUCTION : THE SHIRE OF WICKEPIN

1.1 Physical Description

The Shire of Wickepin lies in the central wheatbelt and has an area of ca 1,952 square km.

a) Climate

The Shire has a typical wheatbelt climate with hot dry summers and mild wet winters. Wickepin townsite has an average yearly rainfall of 421 mm (Bureau of Meteorology 1985). Most of the rain is received in winter from May to August with occasional thunderstorms in late summer and early autumn. The closest meteorological recording station with information on average temperatures, rainfall and relative humidity for the region is the Narrogin Post Office. Meteorological data from this station is summarized in Table 1. Winters are mild with the mean temperature of the coldest month exceeding 10 °C and summers are hot with the mean temperature of the hottest month exceeding 25 ° and absolute maxima above 40 ° occurring.

The townsite of Wickepin is situated below the 450 mm isohyet where the dry season exceeds 6½ months. Beard (1980) classes this regime as Dry Warm Mediterranean.

Table 1. Summary of Meteorological Data Recorded at the Narrogin
Post Office. (Bureau of Meteorology 1985)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.	or Mar	Total
Mean Rain- fall (mm)	9	17	21	30	66	92	90	69	47	35	16	13		505
No. Rainy Days	2	3	4	6	11	14	15	14	11	9	5	3		97
Mean Max Temp. oC	30.9	30.1	27.2	22.2	18.2	15.2	14.7	15.0	17.0	21.0	25.0	29.3		22.2
Mean Min Temp. oC	14.7	15.0	13.6	10.8	7.9	6.9	5.7	5.3	6.0	8.0	10.5	12.9		9
Pel. Humidity % 3 pm	32	36	41	53	60	72	66	63	61	47	38	32		50

b) Geology and Soils

Beard (1980) describes the geology of the Corrigin area which includes the region in which the Wickepin Shire is situated. The area is part of the Yilgarn Block a very ancient rigid "Shield" area composed mainly of Archaean granite and gneiss with some altered volcanics and sediments.

The Wickepin Shire is underlain by granite rock, covered by alluvia in the major valleys. The landscape is gently undulating and of low relief.

The soils of the area have been mapped in Sheet 5 of the Atlas of Australian Soils (Northcote et al. 1967).

In the areas of the Shire covered by the Pingelly and Narrogin Vegetation Systems the terrain is undulating with ridges, spurs and lateritic mesas and buttes. The main soils on the broad undulating ridges and spurs are both hard and sandy yellow mottled soils containing ironstone gravels. Alkaline yellow soils and hard neutral and acidic red soils occur in certain areas. Domes of granite and gneiss are a common feature.

In the area of the Shire covered by the Corrigin Vegetation System the lateritic mesas and buttes are replaced by broad expanses of sandplain. The sandplain soils on depositional slopes are made up of sandy yellow earths containing some ironstone gravels, and yellow earthy sands over ironstone gravels. On erosional ridges and slopes there are ironstone gravels and sands containing ironstone gravels. Granite rocks are surrounded by shallow stony and gritty sandy soils.

Below the sandplains the main soils on the slopes are hard alkaline yellow mottled soils and hard alkaline red soils, either can be dominant locally.

In broad valleys where small clay pans and salt-lake remnants may occur the chief soils are usually hard alkaline yellow soils over lateritic clays. The major valleys contain chains of salt lakes with associated saline loams.

1.2 Nature Reserves

There are 21 Nature Reserves within the Wickepin Shire. Of these reserves 8 are less than 100 ha in area and two of the largest reserves, 19084 (315.9 ha) and A19089 (464.58 ha) have only part of their area within the Shire boundary, 105.3 ha and 232.3 ha respectively. Of the remaining reserves the largest is Birdwhistle Rock Reserve 19120 which is 373.35 ha.

Eight of the Nature Reserves have an 'A' classification, 14 are vested in the National Parks and Nature Conservation Authority, 6 are unvested and Reserve 22967 is vested in the local authority.

Four reserves were surveyed in the Wickepin Shire. Their purpose and vesting are listed in Table 2.

Table 2. Nature Reserves Surveyed In The Wickepin Shire

Reserve No.	Name	Area (ha)	Purpose	Vesting
2175	Mungerungcutting Nature Reserve	20.2697	Flora	Nil
14694	-	40.5040	Flora	Nil
19119	-	40.4686	Timber Mallet and Flora and Fauna	Nil
22967	-	54.1899	Flora	Local Authority

1.3 Vegetation

The vegetation of the Shire has been mapped at a scale of 1:250,000 by Beard (1980). The Shire is situated in the Avon Botanical District. Reserves 14694 and 22967 are situated within the Corrigin Vegetation System near the border of this system and the Pingelly system. Reserves 2175 and 19119 are situated within the Narrogin Vegetation System.

Beard (1980) describes the vegetation of the Corrigin System as Kwongan (thickets and heath) on sandplain, woodland on slopes and flats, patches of Mallee intermediately, and in the bottom lands tea tree thickets or tea tree and samphire.

The Pingelly system is characterised by the appearance of Allocasuarina obesa along saline drainage channels. This species is present in both reserves 14694 and 22967.

In the Narrogin System substantial areas of laterite-crusting plateau remain. These plateaux are covered by woodlands of Eucalyptus astringens and E. accedens with heath occurring only in local patches. Woodland of E. loxophleba and E. wandoo covers the dissected country below the breakaways. E. rudis lines major drainage channels and some tea tree and samphire can be found around salt lakes in the south-east of the system. There are few prominent granite outcrops.

2.0 Method

The survey was carried out at the end of May and the beginning of June, 1985. Because of time limitations only half to one full day was spent on each reserve. The reserves were examined by vehicle where tracks were available or on foot.

Physical characteristics of the reserves were obtained from lithographs (Department of Lands and Survey) and observations made in the field.

The vegetation survey was based on the use of aerial photographs. Lands and Survey Department 1:40,000 and 1:50,000 scale black and white. Approximate boundaries of vegetation types were drawn onto the photographs and these areas examined in the field.

Vegetation was classified using Muirs (1977) system which was designed specifically for describing wheatbelt vegetation.

Due to time limitation only the most common plant species were recorded. Where the identity of a species was doubtful a specimen was collected and taken to the W.A. Herbarium for identification. Because of the time of year in which the survey had to be conducted many of the plants were not in flower and therefore identifications were made from foliage alone.

MUNGERUNCUTTING NATURE RESERVE 2175

Location

Ca 7.5 km north west of Wickepin townsite and shown on lithographs 378 C/40 E4 and 1:50,000 sheet, Yilliminning 2332-11.

Background

Mungerungcutting Nature Reserve was originally gazetted on March 2nd, 1893 for the purpose of "Watering Place" with an area of ca 156 ha. On July 5th, 1907 the reserve was vested in the Cuballing Road Board. This vesting was revoked on May 5th, 1961 when the reserve was reclassified for "Public Utility". The area of the reserve was amended on February 12th, 1926 to ca 20.3 ha. On May 3rd, 1968 the reserve was reclassified for the "Conservation of Flora" and was officially named Mungerungcutting Nature Reserve on August 1st, 1980.

Physical Characteristics

Reserve 2175 is irregular in shape (see Fig. 1) with a total perimeter of ca 2.84 km and an area of 20.2697 ha. The majority of the reserve is ca 360 m Above Sea Level grading to ca 365 m Above Sea Level along the western boundary.

Adjoining Land

North : Private farm land, cleared. Fence sheep netting plus one barb wire on wooden posts (condition fair-poor)

South : Private farm land, cleared. Fence 7 line ring lock on wooden posts (condition good)

East : Gravel Road, Rose Road.

West : Private farm land, cleared. Fence 5 line ring lock plus one barbwire on wooden posts (condition fair).

Human Usage and Damage or Degradation

1. Rabbit warrens are situated in the north west corner of the reserve.
2. Salt has affected part of the reserve, mainly the York Gum woodland.

Weeds

Severe infestation of weeds, mainly wild oats (Avena fatua/sativa) throughout the reserve especially in peripheral areas.

Firebreaks

Perimeter firebreaks on adjacent farm land. None on the reserve. Rose Road borders onto the reserve along the eastern boundary.

Fire History

No evidence of fire within the last 20-30 years.

Vegetation

5 vegetation associations are present on the reserve. Details of these associations and species recorded can be found in Appendix 1.

1. York Gum Woodland : Eucalyptus loxophleba Low Forest A.
2. Wandoo Woodland -Type 1 : Eucalyptus wandoo Low Woodland A over Acacia acuminata Open Low Woodland B.
3. Wandoo Woodland - Type 2 : Eucalyptus wandoo Low Woodland A over Allocasuarina huegeliana Low Forest B.
4. Sheoak Woodland : Allocasuarina huegeliana Low Forest A.
5. Sheoak and Banksia Woodland : Allocasuarina huegeliana Low Forest A over Banksia prionotes Low Woodland A.

Plant Species

15 native plant species were recorded for the reserve, 13 of which are reported by Rye et al. (1980) as exploited by the wildflower trade.

Comments and Recommendations

Although partly salt affected and weed infested, Mungerungcutting Nature Reserve is still of value. It contains nest hollows and is of importance as a resting site for transient birds.

Vegetation of the Mungerungcutting Nature Reserve 2175

key to Vegetation Types.

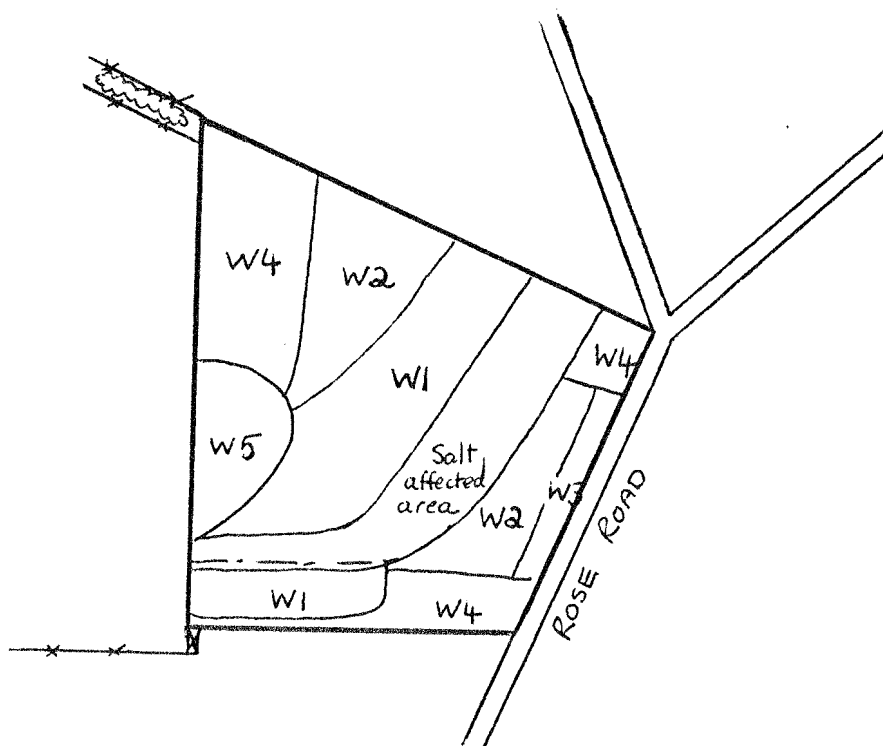
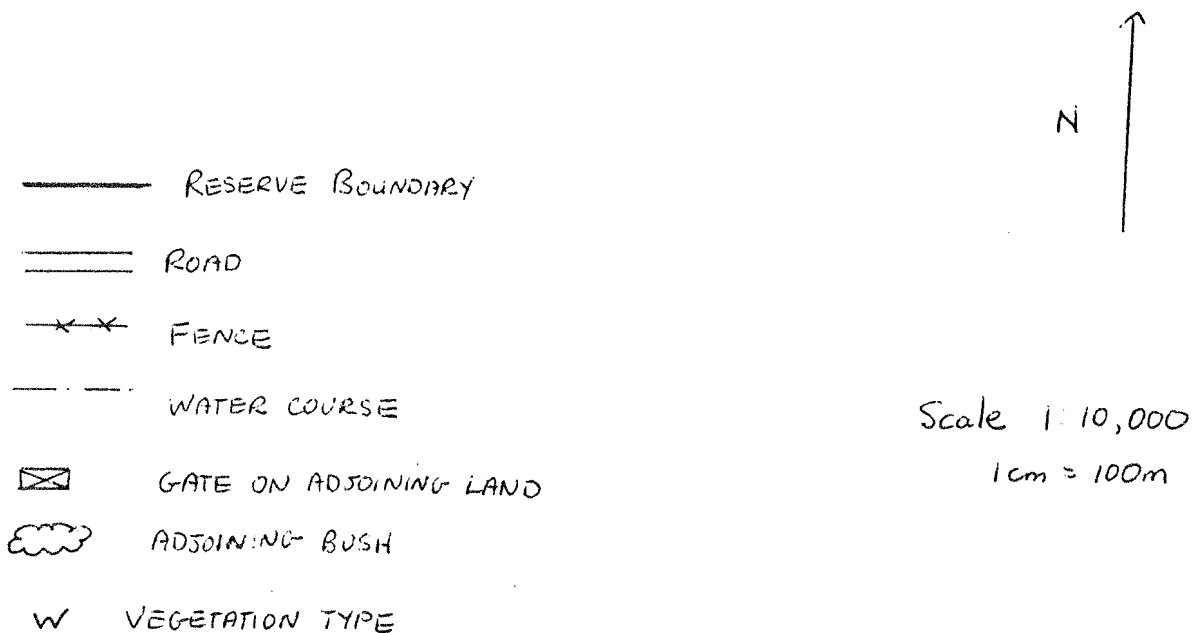
Muir (1977)

Vegetation Code

W1	York Gum (<u>Eucalyptus</u> <u>loxophleba</u>) woodland	LAc
W2	Wandoo (<u>Eucalyptus</u> <u>wandoo</u>) woodland - type 1	LAI . LBr
W3	Wandoo (<u>Eucalyptus</u> <u>wandoo</u>) woodland - type 2	LAI . LBc
W4	Sheoak (<u>Allocasuarina</u> <u>huegeliana</u>) woodland	LAc
W5	Sheoak (<u>Allocasuarina</u> <u>huegeliana</u>) and <u>Banksia</u> <u>prionotes</u> woodland	LAc . LAI

FIGURE 1

NATURE RESERVE 2175



Appendix 1

1. York Gum Woodland

Eucalyptus loxophleba trees, mature to senescent due to salt encroachment, 8-10 m, 30-70% canopy cover with scattered trees of Allocasuarina huegeliana (6-8 m), Acacia acuminata (3-5 m) and Eucalyptus wandoo (8-10m).

*Juncus acutus was also recorded along the watercourse in the south west corner of this association.

Soil dark brown sandy clay loam.

2. Wandoo Woodland - Type 1

Eucalyptus wandoo trees, mature to senescent, 8-10 m, 10-30% canopy cover with an understorey of Acacia acuminata trees, 3-4 m, 2-10% canopy cover.

Other species recorded were :

Allocasuarina huegeliana, *Avena fatua/sativa, *Briza maxima, Jacksonia sternbergiana.

Soil dark brown sandy loam.

3. Wandoo Woodland - Type 2

Eucalyptus wandoo trees, mature to senescent, 7-10 m, 10-30% canopy cover with an understorey of Allocasuarina huegeliana trees, 4-5 m, 30-70% canopy cover. Other species recorded were :

Acacia acuminata, *Avena fatua/sativa, *Briza maxima, Borya nitida.

Soil dark brown sandy loam.

4. Sheoak Woodland

Allocasuarina huegeliana trees, 6-10 m, 30-70% canopy cover with scattered trees of Acacia acuminata and Eucalyptus wandoo. Other species recorded were : *Avena fatua/sativa, Jacksonia furcellata.

Soil dark brown sandy loam.

5. Sheoak and Banksia Woodland

Allocasuarina huegeliana trees, 8-10 m, 30-70% canopy cover with an understorey of Banksia prionotes trees, immature and mature, 5-7 m, 10-30% canopy cover (patchy), Eremaea pauciflora shrubs, 1.0-1.5 m, forms a canopy of 30-70% in places. Other species recorded were :

Banksia attenuata, Baeckea sp, Dryandra sessilis, Dianella revoluta, Hakea prostrata, Santalum sp, Stypandra imbricata.

Soil light brown sandy loam.

* Introduced species.

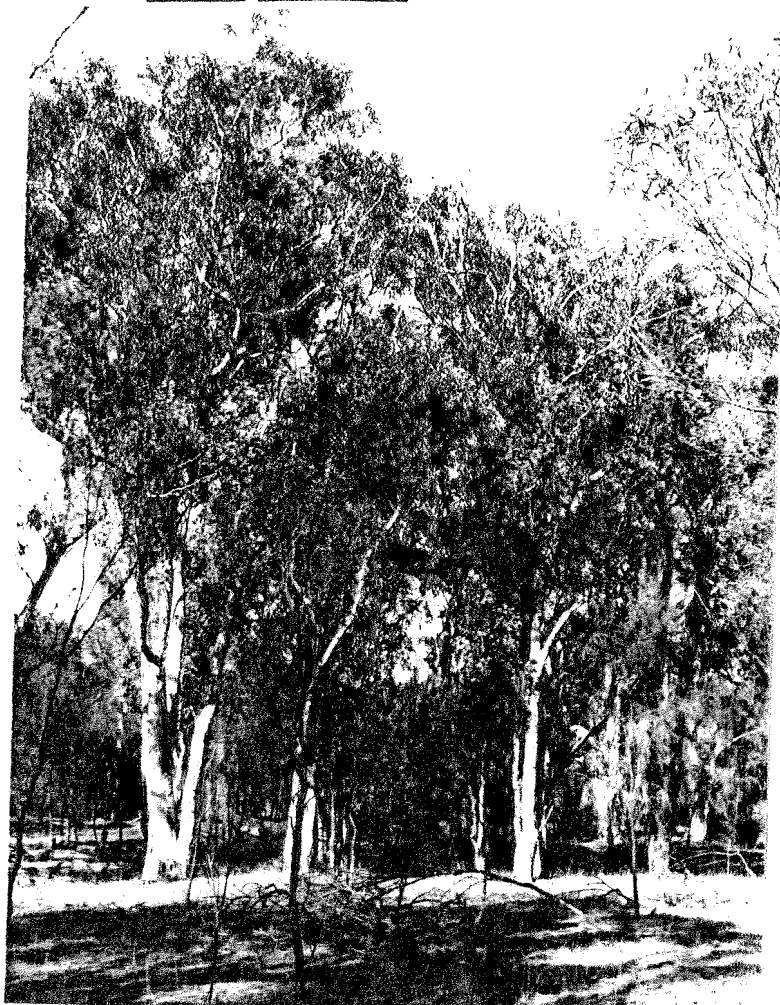
PHOTOGRAPH 1. Salt affect area on Reserve 2175



PHOTOGRAPH 2. York Gum (Eucalyptus loxophleba) Woodland



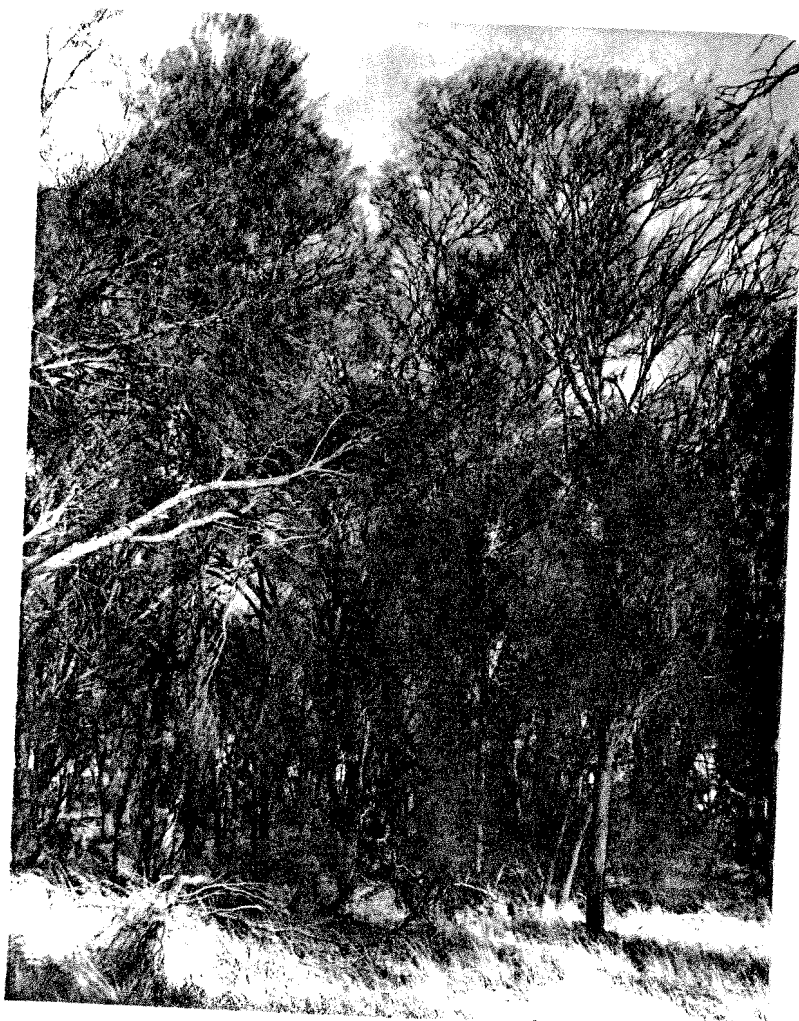
PHOTOGRAPH 3. Wandoo Woodland - Type 1 with an understorey of
Jam (Acacia acuminata)



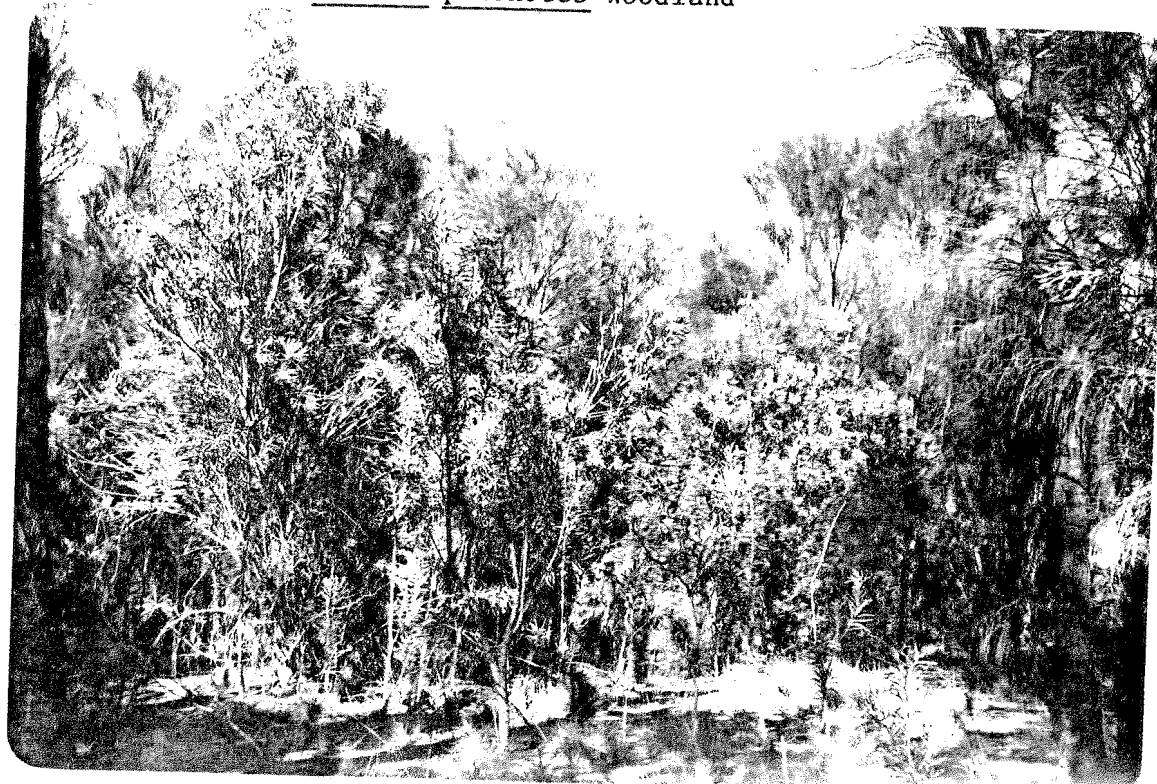
PHOTOGRAPH 4. Wandoo Woodland - Type 2 with an understorey
of Sheoak (Allocasuarina huegeliana)



PHOTOGRAPH 5. Sheoak (Allocasuarina huegeliana) Woodland



PHOTOGRAPH 6. Sheoak (Allocasuarina huegeliana) and Banksia prionotes Woodland



NATURE RESERVE 14694

Location

Situated within the Yealering townsite, on the eastern boundary, ca 25 km north east of Wickepin townsite and shown on lithographs of Yealening townsite, 377A/40 A2 and 1:50,000 sheet Malyalling 2432-IV.

Background

Reserve 14694 was originally gazetted on November 21st, 1913 for "Recreation Showground and Racecourse" with an area of ca 12.2 ha. On May 7th, 1920 the area of the reserve was amended to 40.504 ha and on May 31st, 1968 the reserve was reclassified for the Conservation of Flora. The Reserve remains unvested.

Physical Characteristics

Reserve 14694 is roughly rectangular in shape (see Fig. 2) with a total perimeter of 2.82 km and an area of 40.504 ha. The majority of the reserve is 280 m Above Sea Level.

Adjoining Land

North : Private farmland, cleared. Fence 7 line ringlock (condition good).
South : Uncleared land - Part of Yealering townsite.
East : Gravel road, Shipley Road.
West : Track and railway line and reserve.

Human Use and Damage or Degradation

- 1) Salt has affected areas along the southern boundary of the reserve.
- 2) Rabbit warrens are situated in the north east corner of the reserve.

Weeds

General infestation of grasses in woodland areas. Avena fatua/sativa and Ursinia anthemoides were recorded.

Firebreaks

Perimeter firebreak on adjacent farmland, none on the reserve. There is a track and railway line to the west and gravel road to the east of the reserve.

Fire History

No evidence of fire in the last 20-30 years.

Vegetation

7 vegetation associations are present on the reserve. Details of these associations and species recorded can be found in Appendix 2.

- 1) Wandoo woodland - Type 1 : Eucalyptus wandoo Open Low Woodland A over Acacia acuminata Low Woodland B.
- 2) Wandoo woodland - Type 2 : Eucalyptus wandoo Low Woodland A over Allocasuarina campestris Dense Heath A.
- 3) Mallee Area : Eucalyptus calycogona Tree Mallee.
- 4) Tamma thicket : Allocasuarina campestris Dense Thicket.
- 5) Melaleuca thicket : Melaleuca acuminata, M. uncinata Thicket.
- 6) Heath : Mixed shrubs Low Heath D.
- 7) Salt Marsh with Halosarcia lepidosperma.

Plant Species

30 native plant species were recorded for the reserve, 22 of which have been reported by Rye et al. (1980) as exploited by the wildflower trade.

Comments and Recommendations

Reserve 14694 is fairly varied in vegetation associations and habitat types. It contains nest hollows and is of value as a resting place for transient birds. The reserve is also of value in slowing further salt encroachment onto adjacent land.

Vegetation of Nature Reserve 14694

Key to Vegetation Types.

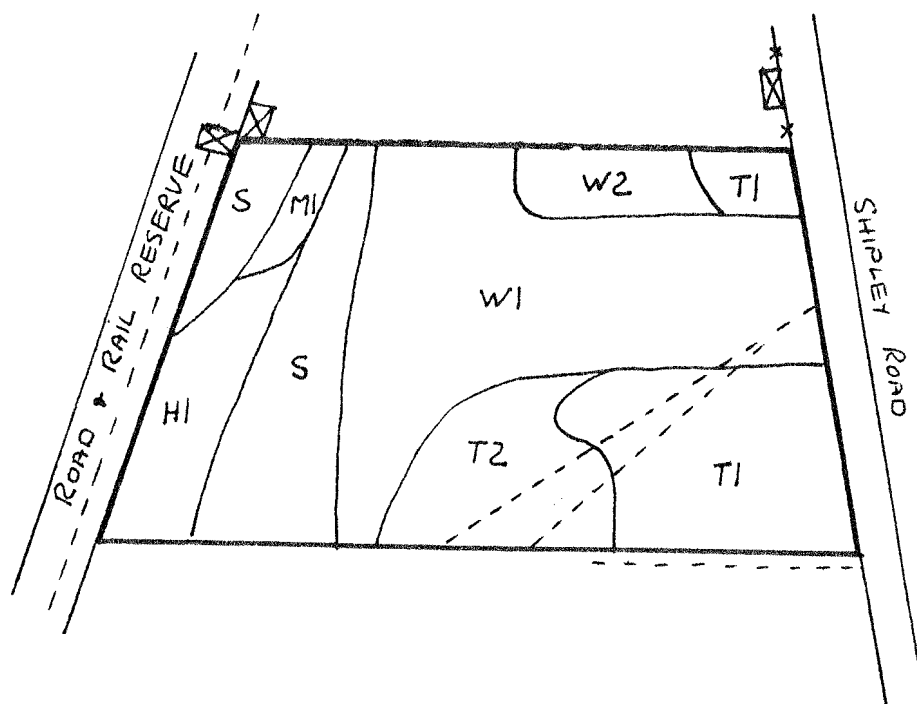
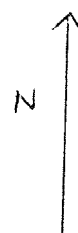
Muir (1977)

Vegetation Code

W1	Wandoo (<u>Eucalyptus wandoo</u>) woodland - Type 1	LAr . LBi
W2	Wandoo (<u>Eucalyptus wandoo</u>) woodland - Type 2	LAI . SAd
M1	Mallee Area (<u>Eucalyptus calycogona</u>)	KTc
T1	Tamma (<u>Allocasuarina campestris</u>) Thicket	Sd
T2	<u>Melaleuca</u> (<u>M. acuminata</u> , <u>M. uncinata</u>) Thicket	Sc
H1	Low mixed shrubs	SDc
S	Salt Marsh	SDi

FIGURE 2 NATURE RESERVE 14694

- RESERVE BOUNDARY
- == ROAD
- xx FENCE
- ⊠ GATE ON ADJOINING LAND
- TRACK
- W VEGETATION TYPE



SCALE 1: 10,000
1 cm = 100 m

APPENDIX 2

1. Wandoo Woodland - Type 1

Eucalyptus wandoo trees, 8-10 m, 2-10% canopy cover with an understorey of Acacia acuminata trees, 3-4 m, 10-30% canopy cover. Other species recorded were:

Allocasuarina campestris, *Avena fatua/sativa, Borya nitida, Chrysocoryne pusilla, Carpobrotus sp, Dianella revoluta, Enchylaena tomentosa, Eucalyptus loxophleba, Eucalyptus salmonophloia, Loxocarya ? pubescens, Hakea preissii, Podolepis capillaris, *Ursinia anthemoides.

Soil light brown sandy loam.

2. Wandoo Woodland - Type 2

Eucalyptus wandoo trees, 8-10 m, 10-30% canopy cover with an understorey of Allocasuarina campestris shrubs, 1.5-2 m, 70-100% canopy cover. On the edge of this association Stypandra imbricata and *Avena fatua/sativa were recorded.

Soil light brown sandy loam.

3. Mallee Area

Eucalyptus calycogona tree and tree mallee, 5-8 m, 30-70% canopy cover. No understorey is present but introduced grasses were recorded. Acacia erinacea, Dianella revoluta, Eucalyptus loxophleba and Santalum acuminatum were also recorded.

Soil orange brown sandy loam.

4. Tamma Thicket

Allocasuarina campestris shrubs, 2-3 m, 70-100% canopy cover with scattered Eucalyptus wandoo and E. loxophleba emergent to 8 m. Towards the eastern boundary of this association the trees become more dense reaching a canopy cover of 2-10%. Other species recorded were :

Acacia acuminata, Borya nitida, Eucalyptus longicornis, Leptospermum erubescens, Melaleuca acuminata, Melaleuca pentagona.

Soil light brown sandy clay loam.

5. Melaleuca Thicket

Melaleuca acuminata, M. uncinata shrubs, 2-2.5 m, 30-70% canopy cover with scattered E. wandoo and E. loxophleba to 8 m. Other species recorded were:

Acacia acuminata, Allocasuarina campestris, Carpobrotus sp, Melaleuca adnata.

Soil grey brown clay loam.

Part of this association is salt affected.

6. Heath

Mixed shrubs, 0.0-0.5 m, 30-70% canopy cover. Scattered shrubs of Santalum acuminatum and Melaleuca pentagona emergent to 2 m are also present and Allocasuarina obesa trees to 5 m. Melaleuca pentagona also forms a thicket 70-100% canopy cover in small areas. Also recorded were : *Avena fatua/sativa, Conospermum triplinervium, Eremaea pauciflora, Hopkinsia ? anaectocolea, Verticordia densiflora.

Soil light brown sandy loam.

7. Salt Marsh

Halosarcia lepidosperma shrubs, 0.0-0.5 m, 10-30% canopy cover with scattered Allocasuarina obesa trees emergent to 7 m. Other species recorded were : Enchylaena teментosa, Eucalyptus spathulata, *Avena fatua/sativa.

Many dead trees are present in this association. Soil dark brown silty clay.

In the north west section of the reserve the Allocasuarina obesa is more dense reaching a canopy cover of 10-30% in places.

* Introduced species.

PHOTOGRAPH 1

Wandoo Woodland - Type 1 with an understory of
Jam (Acacia acuminata).



PHOTOGRAPH 2

Wandoo Woodland - Type 2 with an understorey
of Allocasuarina campestris.



PHOTOGRAPH 3

Mallee Area (Eucalyptus calycogona)



PHOTOGRAPH 4

Tamma (Allocasuarina campestris) Thicket.



PHOTOGRAPH 5

Melaleuca acuminata and M. uncinata Thicket.



PHOTOGRAPH 6

Part of the Melaleuca Thicket which
has been salt affected.



PHOTOGRAPH 7

Low mixed Heath with Allocasuarina obesa in the background and Santalum acuminatum on the right hand side.



PHOTOGRAPH 8

Salt Marsh with Halosarcia lepidosperma and Allocasuarina obesa



NATURE RESERVE 19119

Location

Ca 7.5 km south west of Wickepin townsite and shown on lithographs 385 B/40 F1 and 1:50,000 sheet Yilliminning 2332-11.

Background

Nature Reserve 19119 was originally set aside for the purpose of "Timber Mallet" with an area of ca 40.5 ha. The reserve was reclassified on March 9th, 1962 for "Timber Mallet and Conservation of Flora and Fauna". There is no record of the date on which the reserve was originally gazetted and the reserve remains unvested.

Physical Features

Reserve 19119 is narrow and irregular in shape (see Fig. 3) with a total perimeter of ca 4.15 km and area of 40.4686 ha. The highest point on the reserve is the north west corner at ca 410 m Above Sea Level grading to 380 m Above Sea Level at the south west corner and 390 m Above Sea Level at the south east corner.

Adjoining Land

North : Private farm land, cleared. Fence part 6 line ring lock on wooden posts plus one plain wire (condition fair) part rabbit netting plus one plain wire (condition fair-good).

South : Private farm land, cleared. Fence 6 line ring lock plus one plain wire (condition good).

East : Private farm land, cleared. Fence rabbit netting plus one plain and one barb wire on wooden posts (condition fair).

West : Uncleared land. No fence.

Human Use and Damage or Degradation

The reserve is isolated and in good condition.

Weeds

Weeds are not a problem on the reserve. Aira cupaniana, Avena fatua/sativa and Ursinia anthemoides were recorded but are only present in relatively small numbers.

Fire History

No evidence of fire within the last 20-30 years.

Firebreaks

Perimeter firebreaks on adjacent cleared farmland, none on the reserve.

Vegetation

6 vegetation associations are present on the reserve. Details of these associations and species recorded can be found in Appendix 3.

- 1) Brown Mallet Woodland : Eucalyptus astringens Dense Low Forest A. No understorey.
- 2) Wandoo Woodland - Type 1 : Eucalyptus wandoo Low Forest A in places over Dryandra Heath B.
- 3) Wandoo Woodland - Type 2 : Eucalyptus wandoo Low Woodland A over Dryandra sessilis Scrub.
- 4) Morrel Woodland : Eucalyptus longicornis Low Forest A with scattered shrubs.
- 5) Mallee Area : Eucalyptus anceps Tree Mallee.
- 6) Heath : Mixed shrubs with Eremaea pauciflora dominant Low Heath C.

Plant Species

33 native plant species were recorded for the reserve 26 of which are recorded by Rye et al. (1980) as exploited by the wild flower trade.

Comments and Recommendations

Reserve 19119 is isolated and in good condition. The only access is through neighbouring farm land. The reserve has a varied vegetation for its size and is rich in plant species.

Nest Hollows are present in woodland areas and the reserve is of value as a resting and breeding site for transient and migratory birds.

I recommend that the reserve be kept in its' present state and vested in the National Parks and Nature Conservation Authority.

Vegetation of Nature Reserve 19119

Key to Vegetation Types

Muir (1977)

Vegetation Code

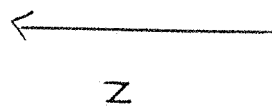
W1	Brown Mallet (<u>Eucalyptus</u> <u>astringens</u>) Woodland	LAd
W2	Wandoo (<u>Eucalyptus</u> <u>wandoo</u>) Woodland - Type 1	LAc.SBc (in places)
W3	Wandoo (<u>Eucalyptus</u> <u>wandoo</u>) Woodland - Type 2	LAi.Si
W4	Morrel (<u>Eucalyptus</u> <u>longicornis</u>) Woodland	LAc
M1	Mallee Area (<u>Eucalyptus</u> <u>anceps</u>)	KTc
H1	<u>Eremaea</u> <u>pauciflora</u> Heath	SCc

FIGURE 3

NATURE RESERVE 19119

Scale 1 10,000

1cm = 100m



RESERVE BOUNDARY

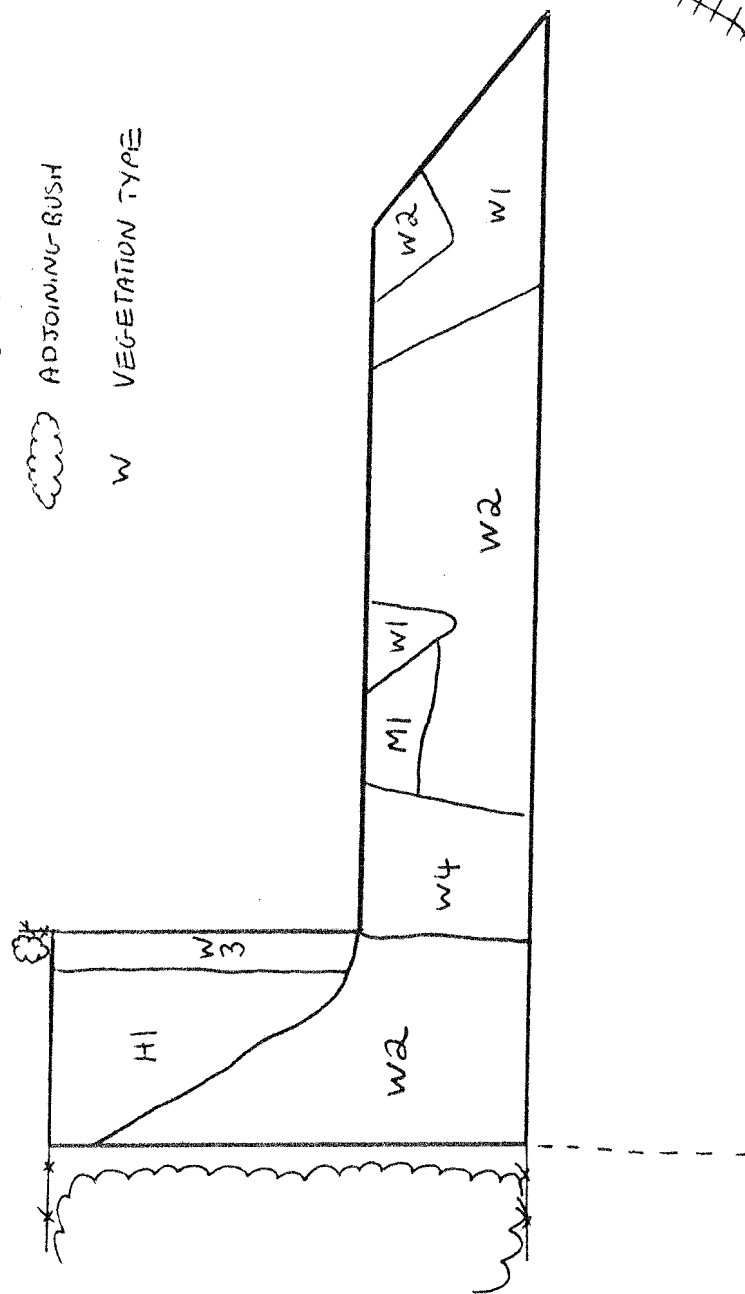
RAILWAY

TRACK

FENCE

ADJOINING BUSH

W VEGETATION TYPE



Access through farmland

Appendix 3

1) Brown Mallet Woodland

Eucalyptus astringens trees, 6-10 m, 70-100% canopy cover. No understorey is present. Soil dark brown sandy clay loam, ca 90% laterite.

2) Wandoo Woodland - Type 1

Eucalyptus wandoo trees, 6-10 m, 30-70% canopy cover. Scattered shrubs are present and Dryandra species 1.0-1.5 m, 30-70% canopy cover form an understorey in places. Other species recorded were :

Adenanthos cygnorum, Allocasuarina huegeliana, Astroloma epacridis, *Avena fatua/sativa, Banksia sphaerocarpa, Beaufortia incana, Dryandra carduacea, Dryandra nobilis, Dryandra ? cirsiioides, Dryandra sessilis, Dianella revoluta, Eucalyptus gardneri, Eucalyptus longicornis, Hakea lissocarpha, Leptospermum erubescens, Loxocarya ? pubescens, Petrophile divaricata, Oxylobium parviflorum, *Ursinia anthemoides, Xanthorrhoea reflexa.

Soil orange brown sandy loam, ca 80% laterite.

3) Wandoo Woodland - Type 2

Eucalyptus wandoo trees, 6-10 m, 10-30% canopy cover. Understorey is Dryandra sessilis shrubs, 3-4 m, 10-30% canopy cover. Other species recorded were :

Astroloma epacridis, Hakea lissocarpha, Leptospermum erubescens, Xanthorrhoea reflexa.

Soil light brown sandy loam.

4) Morrel Woodland

Eucalyptus longicornis trees, 10-15 m, 30-70% canopy cover with scattered trees of Acacia acuminata (2-4 m). No understorey is present but scattered shrubs were recorded. Species recorded were :

*Aira cupaniana, Astroloma epacridis, pusilla, Borya nitida, Loxocarya ?
pubescens, Oxylobium parviflorum, *Ursinia anthemoides, Waitzia ?
acuminata.

Soil brown sandy loam.

5) Mallee Area

Eucalyptus anceps tree mallee, 6-8 m, 30-70% canopy cover with scattered trees of Eucalyptus styptica and Eucalyptus gardneri tree mallee. No understorey is present.

Soil dark brown sandy loam, ca 60% laterite.

6) Eremaea pauciflora Heath

Mixed shrubs with Eremaea pauciflora dominant, 0.5-1.0 m, 30-70% canopy cover. Other species recorded were :

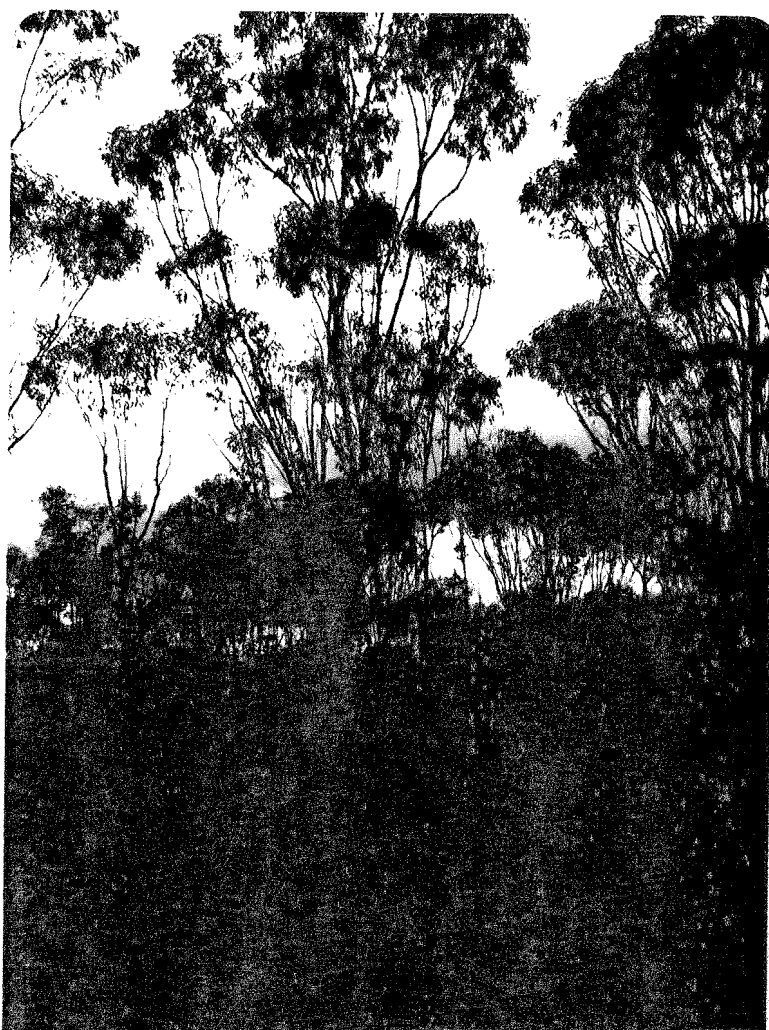
Allocasuarina huegeliana (edge), Caustis dioica, Dryandra sessilis, Hakea prostrata, Hakea lissocarpha, Leptospermum erubescens (dense in places), Nuytsia floribunda (edge), Synapheae ? petiolaris.

Soil light grey-brown sandy loam.

* Introduced species

PHOTOGRAPH 1

Brown Mallet (Eucalyptus astringens) Woodland



PHOTOGRAPH 2

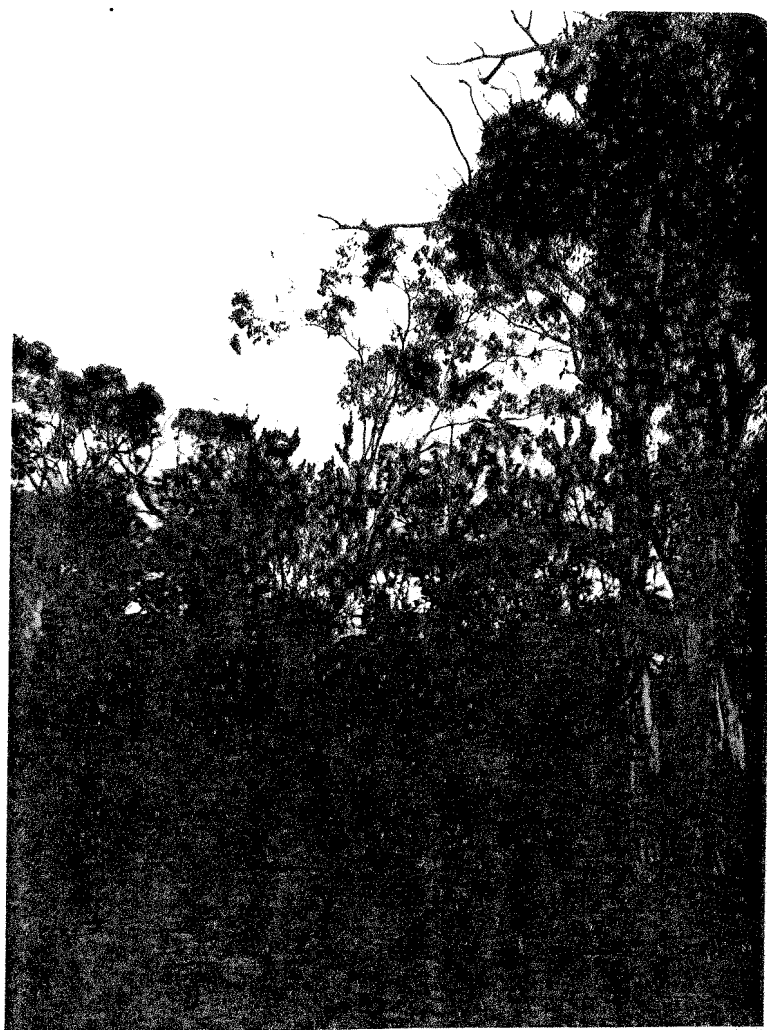
Eucalyptus wandoo Woodland - Type 1.

Dryandra species form an understorey in the foreground



PHOTOGRAPH 3

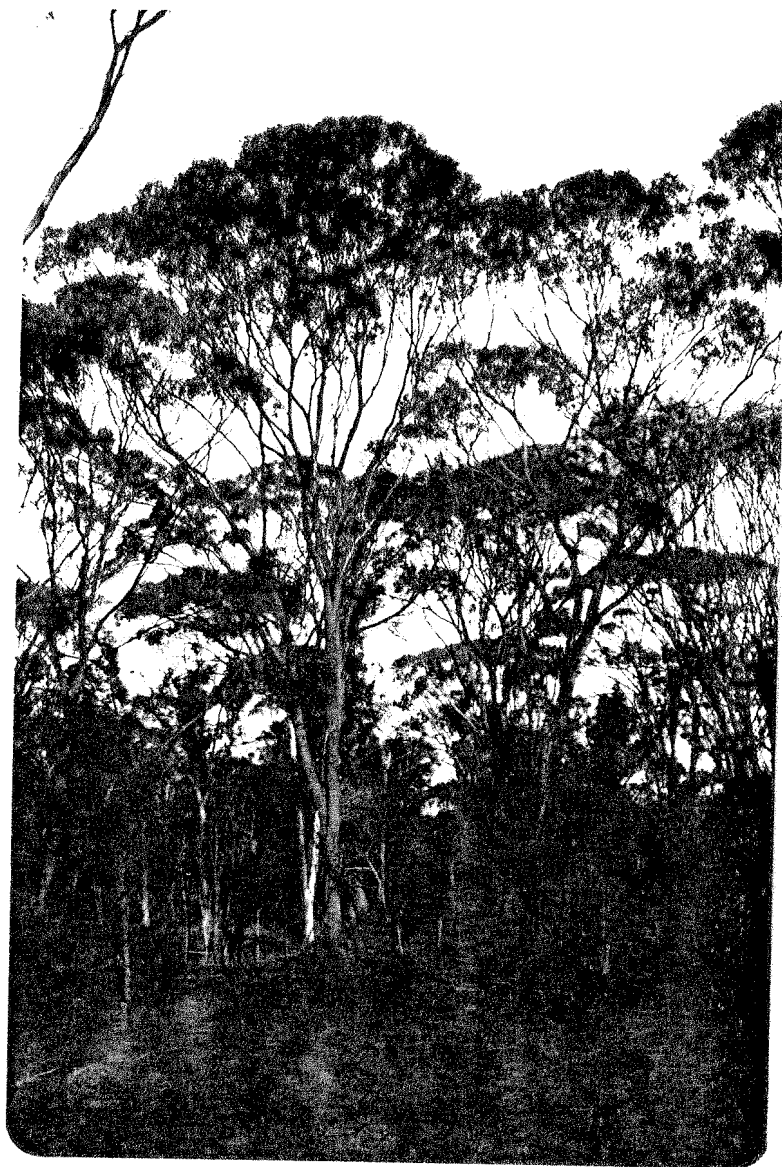
Eucalyptus wandoo Woodland - Type 2
with an understorey of Dryandra sessilis



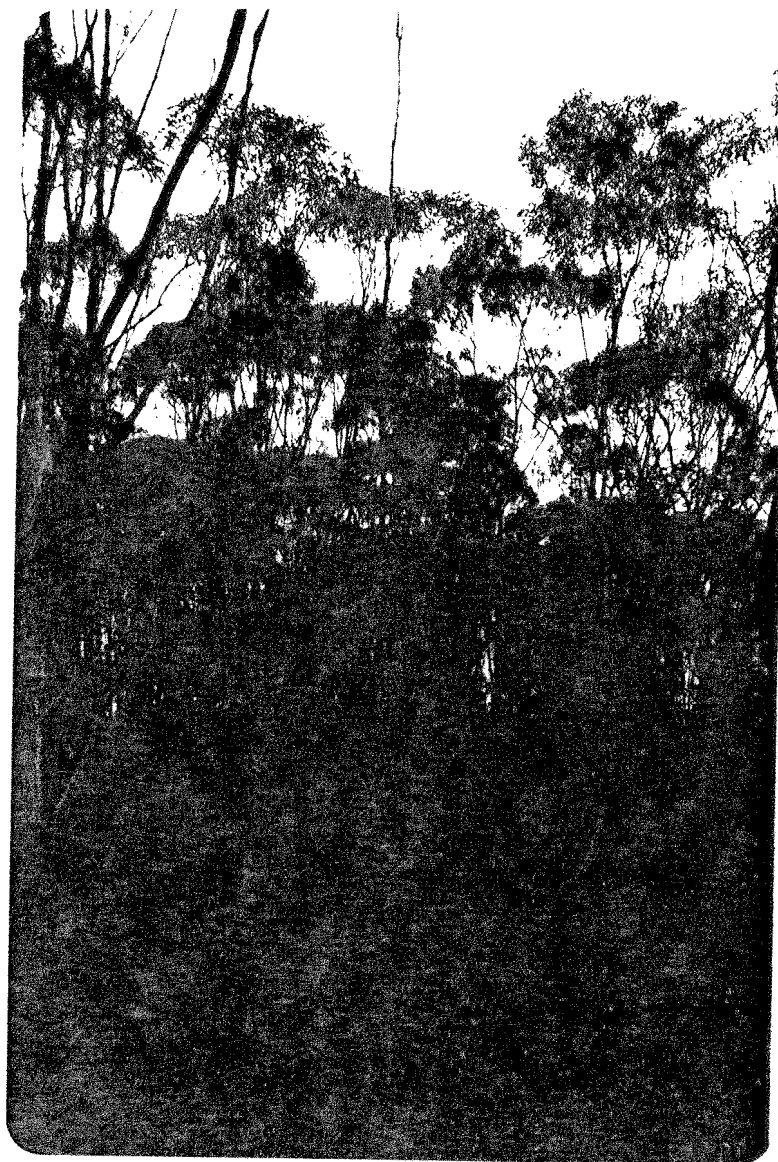
PHOTOGRAPH 4

Eremaea pauciflora Heath





PHOTOGRAPH 6 Mallee Area. Eucalyptus anceps Tree Mallee



NATURE RESERVE 22967

Location

Situated within Yealering townsite, in the south west corner, ca 25 km north east of Wickepin townsite and shown on lithographs of Yealering townsite, 377A/40A2 and 1:50,000 sheet Malyalling 2432-IV.

Background

Reserve 22967 was originally gazetted on October 14th, 1949 for the purpose of Conservation of Flora and vested in the Local Authority.

Physical Characteristics

Reserve 22967 is roughly rectangular with the south east corner missing. The total perimeter of the reserve is 3.15 km and the area 54.1899 ha. The majority of the reserve is ca 280 m Above Sea Level.

Adjoining Land

North : Uncleared land. Reserve 11000 (water).

South : Sealed Road. Pingelly-Yealering Road.

East : Gravel Road and track along boundary defining the south east corner.

West : Private farm land, cleared. Fence seven line ring lock on steel posts (condition good).

Human Usage and Damage or Degradation

- 1) Power lines run through the reserve.
- 2) The water courses have been widened near the Pingelly-Yealering road and a new channel has been constructed.
- 3) Rubbish dump in the north east corner.

Weeds

General infestation of weeds in open woodland areas. Species recorded were : Avena fatua/sativa, Aira cupaniana, Briza maxima, Ursinia anthemoides.

Firebreaks

Perimeter firebreak on adjacent cleared farm land, none on the reserve. There is a sealed road to the south and a track and gravel road to the east.

Fire History

No evidence of fire within the last 20-30 years.

Vegetation

7 vegetation associations are present on the reserve. Details of these associations and species recorded can be found in Appendix 4.

- 1) York Gum Woodland : Eucalyptus loxophleba Open Low Woodland A.
- 2) Salmon Gum Woodland : Eucalyptus salmonophloia Woodland over Acacia acuminata Open Low Woodland B.
- 3) Sheoak Woodland - Type 1 : Allocasuarina obesa Low Forest A over Halosarcia sp Dwarf Scrub C.
- 4) Sheoak Woodland - Type 2 : Allocasuarina obesa Dense Low Forest A.
- 5) Sheoak Woodland - Type 3 : Allocasuarina obesa Low Woodland A with scattered Eucalyptus wandoo with Tetraria octandra and Halosarcia sp Dwarf Scrub C.
- 6) Wandoo Woodland : Eucalyptus wandoo Open Low Woodland A over Melaleuca adnata, Melaleuca acuminata Low Scrub A over Tetraria octandra Open Tall Sedges.
- 7) Mallee Area : Eucalyptus myriadenia Tree Mallee.

Plant Species

23 native plant species were recorded for the reserve of which 14 are reported by Rye et al (1980) as exploited by the wild flower trade.

Comments and Recommendations

Reserve 22967 contains nest hollows and is of value as a resting and feeding site for bird species. The reserve is also of value for flora conservation. The effect on the reserve of the construction of the water channel should be evaluated and steps taken to ensure that the rubbish dump at the north east corner does not further encroach on reserve land.

Vegetation of Nature Reserve 22967

Key to Vegetation Types

Muir (1977)

Vegetation Code

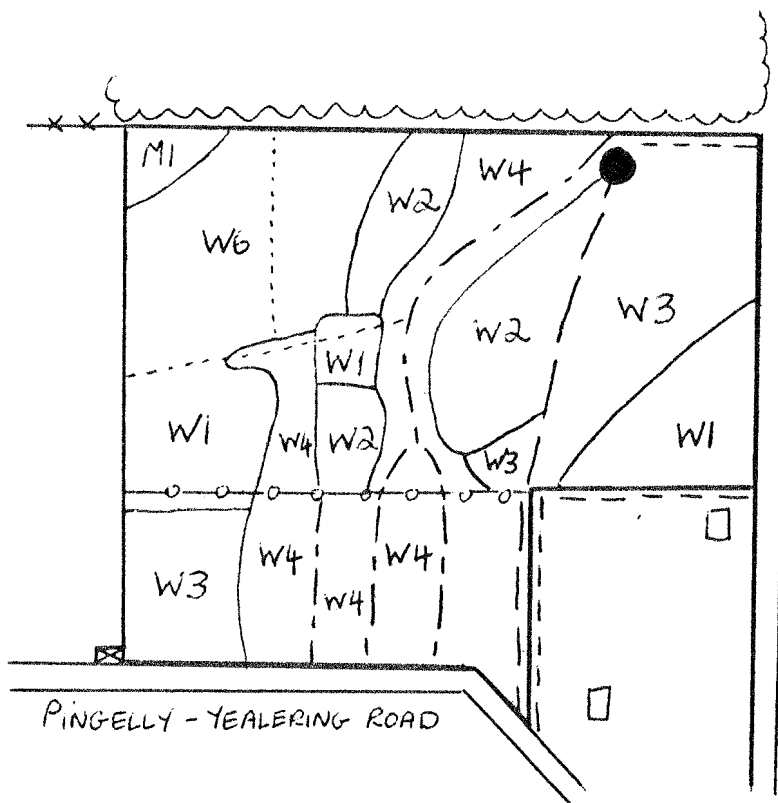
W1	York Gum (<u>Eucalyptus loxophleba</u>) Woodland	LAr
W2	Salmon Gum (<u>Eucalyptus salmonophloia</u>) Woodland	Mi.LBr
W3	Sheoak (<u>Allocasuarina obesa</u>) Woodland - Type 1	Lac.SC1
W4	Sheoak (<u>Allocasuarina obesa</u>) Woodland - Type 2	LAd
W5	Sheoak (<u>Allocasuarina obesa</u>) Woodland - Type 3	LAi.SC1
W6	Wandoo (<u>Eucalyptus wandoo</u>) Woodland	LAr.SAi.VTi
M1	Mallee Area (<u>Eucalyptus myriadena</u>)	KTc

FIGURE 4 NATURE RESERVE 22967

Scale 1 : 10,000

1cm = 100 m

N



- RESERVE BOUNDARY
- DAM
- x— FENCE
- == ROAD
- - - - - WIDENED WATER COURSE
- SMALL WATER COURSE
- — — CONSTRUCTED CHANNEL
- - - - - TRACK
- o-o-o- POWER LINE
- ⊠ GATE ON ADJOINING LAND
- ☁ ADJOINING BUSH
- HOUSE
- W VEGETATION TYPE

APPENDIX 4

1) York Gum Woodland

Eucalyptus loxophleba trees, 5-10 m, 2-10% canopy cover (10-30% in places). No understorey is present but scattered shrubs and introduced grasses were recorded. Species recorded were : Acacia acuminata, Acacia microbotrya, *Aira cupaniana, Allocasuarina obesa, *Avena sativa/fatua, Carpobrotus sp., Dianella revoluta, Eucalyptus salmonophloia, Eremophila glabra, Hakea preissii, Melaleuca lateriflora, Podolepis capillaris, Templetonia sulcata, Tetraria octandra, *Ursinia anthemoides.

Soil dark brown sandy clay loam.

In the area of York Gum woodland situated between the areas of salmon gum woodland in the centre of the reserve the canopy cover reaches 30-70% with Eucalyptus wandoo and Eucalyptus salmonophloia scattered throughout.

2) Salmon Gum Woodland

Eucalyptus salmonophloia trees, 15-20 m, 10-30% canopy cover (patchy) with scattered Eucalyptus loxophleba and E. wandoo to 15 m. The understorey is Acacia acuminata trees, 2-3 m, 2-10% canopy cover. Other species recorded were :

Acacia erinacea, *Avena fatua/sativa, Borya nitida, *Briza maxima, Carpobrotus sp., Melaleuca preissiana, Podolepis capillaris, *Ursinia anthemoides.

Soil brown clay loam.

3) Sheoak Woodland - Type 1

Allocasuarina obesa trees, 6-8 m, 30-70% canopy cover with an understorey of Halosarcia sp shrubs, 0.5-1.0 m, 10-30% canopy cover. Other species recorded were :

Acacia acuminata and Eucalyptus loxophleba in more open areas, Borya nitida, Melaleuca ? viminea.

4) Sheoak Woodland - Type 2

Allocasuarina obesa trees, 5-8 m, 70-100% canopy cover. No understorey is present but scattered shrubs of Halosarcia sp and Melaleuca preissiana trees were recorded.

This association is found along the water courses in brown clay loam.

5) Sheoak Woodland - Type 3

Allocasuarina obesa trees, 4-8 m, 10-30% canopy cover with scattered Eucalyptus wandoo emergent to 15 m. The understorey is Tetraria octandra and Halosarcia sp, 0.5-1.0 m, 10-30% canopy cover. Introduced grasses were also recorded.

6) Wandoo Woodland

With scattered Eucalyptus salmonophloia trees emergent to 15 m. Eucalyptus wandoo trees, 5-8 m, 2-10% canopy cover. The understorey is Melaleuca adnata, Melaleuca acuminata shrubs, 1.5-2.5 m, 10-30% canopy cover over Tetraria octandra sedges, 0.5-1 m, 10-30% canopy cover. Other species recorded were :

Acacia acuminata, Allocasuarina obesa, Eucalyptus loxophleba, Hakea preissii, Hopkinsia ? anaetocolea.

Soil grey silty clay.

7) Mallee Area

Eucalyptus myriadena trees and tree mallee, 4-5 m, 30-70% canopy cover. No understorey is present but introduced grasses were recorded.

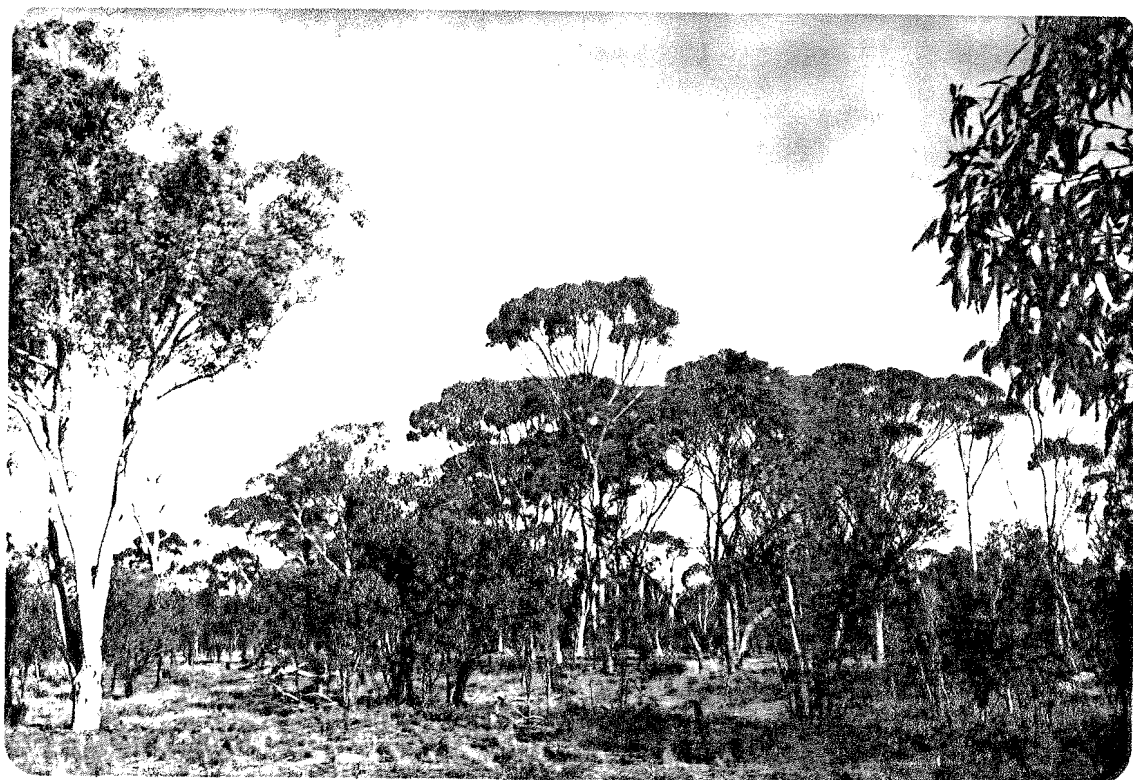
Soil brown clay loam.

* Introduced species.

PHOTOGRAPH 1 York Gum Woodland in the eastern section of the reserve.



PHOTOGRAPH 2 Salmon Gum Woodland. Eucalyptus wandoo and Jam (Acacia acuminata) can be seen in the foreground.



PHOTOGRAPH 3 Sheoak (Allocasuarina obesa) Woodland - Type 1
with Halosarcia sp understorey.



PHOTOGRAPH 4 Sheoak (Allocasuarina obesa) Woodland - Type 2
along the water course.



PHOTOGRAPH 5 Sheoak (Allocasuarina obesa) Woodland
with scattered Eucalyptus wandoo.



PHOTOGRAPH 6 Rubbish Dump in the north east corner of the reserve.



PHOTOGRAPH 7 Channel constructed through the reserve.



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