

WESTERN AUSTRALIA
GENERAL RESERVE AND VEGETATION SURVEY OF

SELECTED SMALLER NATURE RESERVES OF THE CENTRAL

WHEATBELT, PINGELLY MANAGEMENT DISTRICT.

PART 1. CORRIGIN SHIRE

Prepared for:

Reserve Management Officer

Pingelly Management District

Department of Conservation and Land Management.

By:

Anne Coates

Consultant Botanist

83B Palmerston Street

Mosman Park WA 6012

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1.0 DESCRIPTION OF PROJECT

The Pingelly Management District has, at the end of 1984, 276 Nature Reserves. Many of these reserves have been surveyed by Mr B.G. Muir (1978 and 1979), Mr A.A.E. Williams (1979) and Reserve Management staff, but a number of smaller reserves have yet to be examined in detail.

These small Nature Reserves play an important role in the overall conservation requirements of the wheatbelt.

Twenty four Nature Reserves were selected for survey from the Shires of Corrigin (3), Kulin (7), Narrogin (2), Quairading (8) and Wickelpin (4). Only two exceed 100 ha, these being the granite rock areas of Tutskin Hill (A11039) and Mt. Stirling (A11048) in the Shire of Quairading.

This report is the first in a series of five and covers the three reserves in the Corrigin Shire.

2.0 PROJECT REQUIREMENT

The project requirement as set out in the consultancy offer and agreement are as follows:

The Reserves are to be surveyed under the headings as per the standard Department of Fisheries and Wildlife Reserve Inspection Report, with emphasis on the following aspects:

- (a) Adjoining Properties - information relevant to a Fire Access Map is to be obtained and mapped. In particular fencelines, gates, dams, houses, roads, tracks/firebreaks, adjoining bushland etc are to be noted.
- (b) Human Usage and Damage or Degradation - present activity and past activity to be noted.
- (c) Weeds - occurrence and quantity. Note that Afghan Thistle has been declared a "Pest Plant" in the Quairading Shire. Any occurrences on Nature Reserves in this Shire should be noted.
- (d) Vegetation - to be described floristically and structurally using the Muir system, and the major vegetation types indicated on the map.
- (e) Recommendations - any comments relative to such questions as purchase of adjoining areas, changes in purpose or vesting, management requirements etc.
- (f) Photographs - to be taken of major vegetation types and any significant details.

3.0 INTRODUCTION: THE SHIRE OF CORRIGIN

3.1 PHYSICAL DESCRIPTION

The Corrigin Shire is in the central wheatbelt and has an area of approximately 3,095 square km.

a) CLIMATE

The Shire has a typical wheatbelt climate with hot dry summers and mild wet winters. Meteorological data from the Corrigin Post Office is given in Table 1. The area is characterised by an average yearly rainfall of 379mm. Most of the rain is received in winter from May to August with occasional thunderstorms in late summer and early autumn.

Beard (1980) classes the Corrigin regime with it's seven dry months as Dry Warm Mediterranean.

TABLE 1 SUMMARY OF METEOROLOGICAL DATA RECORDED AT CORRIGIN
(BUREAU OF METEOROLOGY 1985)

	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC	MEAN OR TOTAL
Mean Rain- fall (mm)	11	17	23	23	49	65	62	49	30	24	14	12	379
No. Rainy Days	2	3	3	5	10	13	15	12	9	7	4	2	85
Mean Max. Temp. °C.	32.5	31.4	28.6	23.6	19.5	16.3	15.2	16.1	18.6	22.8	27.0	30.8	23.5
Mean Min. Temp. °C.	16.0	16.1	14.3	10.9	7.3	6.4	5.1	4.5	5.6	8.2	11.3	14.2	10.0
Rel. Hum- idity % 3pm.	25	28	31	41	49	61	61	55	47	34	27	24	40.0

b) GEOLOGY AND SOILS.

Beard (1980) describes the geology of the Corrigin area which 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 Corrigin Shire is underlain by granite rocks, covered by alluvia in the major valleys. The landscape is gently undulating and of low relief except for occasional granite outcrops.

The soils of this area have been mapped in Sheet 5 of the Atlas of Australian Soils (Northcote et. al., 1967). The sandplain soils on depositional slopes are made up of sandy yellow earths containing some ironstone gravels and on erosional ridges and slopes there are ironstone gravels and sands containing ironstone gravels. Granite outcrops are surrounded by shallow stony and gritty sandy soils. Below the sandplain chief soils are hard alkaline yellow mottled soils and hard alkaline red soils. The major valleys contain chains of salt lakes with associated saline loams.

3.2 NATURE RESERVES

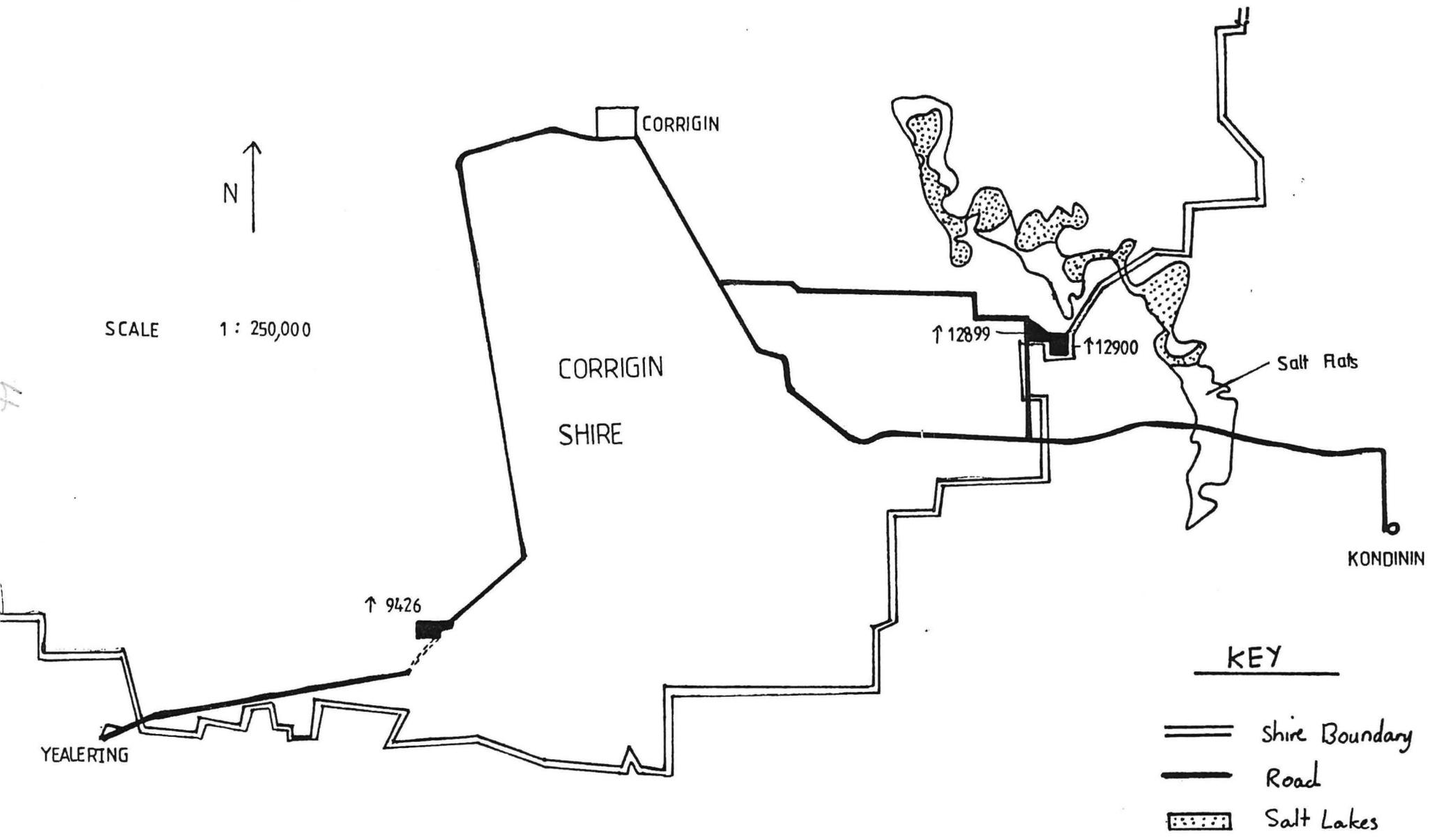
There are eight Nature Reserves within the shire. Noonalling and Whitewater Reserve (24428) the Paper Bark Reserves (12899 and 12900), Reserve A16714 and 25546 are vested in the National Parks and Nature Conservation Authority. Sewell Rock (9426) is vested in the Minister for Water Supply and Wogerlin Hill (34000) is vested in the Minister of Works. Reserve 30324 is unvested (Table 2).

Three reserves were surveyed in the Corrigin Shire. These were Sewell Rock Reserve (9426) and the Paper Bark Reserves (12899 and 12900).

TABLE 2. NATURE RESERVES IN THE CORRIGIN SHIRE.

RESERVE NO.	NAME	AREA (HA)	PURPOSE	VESTING
9426	Sewell Rock	62.7263	Water & Flora & Fauna	Min for water Resources
12899	Paper Bark	59.0841	Flora & Fauna	National Parks & Nature Conservation Authority.
12900	Paper Bark	60.7028	Water & Flora & Fauna	National Parks & Nature Conservation Authority.
24428	Noonalling & Whitewater Reserve.	496.6809	Flora & Fauna	National Parks & Nature Conservation Authority.
34000	Wogerlin Hill	94.9362	Water & Flora & Fauna	Min. of works.
'A' 16714	-	27.5378	Flora	National Parks & Nature Conservation Authority.
25546	-	16.1874	Flora	National Parks & Nature Conservation Authority.
30324	-	891.1506	Flora & Fauna	-

FIGURE 1. LOCATION OF RESERVES 12899, 12900 and 9426



3.3 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 and Roe Botanical Districts. The Corrigin Vegetation System covers most of the area of the Shire but the Hyden, Pikanng and Muntadgin Systems also occur.

Sewell Rock is one of the few granite outcrops in the Corrigin System. Beard (1980) describes the vegetation of this 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 Paper Bark Reserves (12899 and 12900) are situated in the Hyden system. Within this system the landscape is very gently undulating and soils are very variable. The highly mosaic character exhibited by the vegetation of the Wheatbelt is pronounced. Beard (1980) describes the vegetation of this system as kwongan (heath and thicket) on sandplains, mallee on the slopes, mallee with patches of woodland on upper valley soils, woodland on lower valley soils, and in saline areas a mosaic of woodland, shrubland and samphire.

4.0 METHOD

The survey was carried out in May, 1985. Because of time limitations only half a 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 scale black and white. Approximate boundaries of vegetation types were drawn onto the photographs and these areas were examined in the field.

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

Due to time limitations 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

PAPER BARK RESERVE NO. 12899 and 12900**LOCATION:**

Ca 21 Km south east of Corrigin townsite on the South Eastern border of the Corrigin Shire and shown on lithograph 344/80 E4 and Kurrenkutten 2533-111 in the 1:50,000 series (Department of Lands and Survey).

BACKGROUND:

Reserve 12899 was originally gazetted on July 8th, 1910 for the purpose of "Limestone Quarry". On April 26th, 1968 the reserve was reclassified for the Conservation of Flora and Fauna and on July 15th, 1968 it was vested in the National Parks and Nature Conservation Authority.

Reserve 12900 was originally gazetted on July 8th, 1910 for the purpose of "Water" and vested in the Minister for Water Resources. On August 16th, 1968 the reserve was reclassified for "Water and Conservation of Flora and Fauna". The final change occurred on May 27th, 1983 when the reserve was reclassified for "Conservation of Flora and Fauna" and vested in the National Parks and Nature Conservation Authority.

PHYSICAL CHARACTERISTICS

Reserve 12899 is approximately triangular in shape with an area of ca 60 ha and total perimeter of ca 3.2km. Reserve 12900 is rectangular with an area of ca 61 ha and a total perimeter of ca 3.1 km.

The reserves have a common boundary at the north west end of No. 12900 and the eastern end of No. 12899.

They are ca 270 m above sea level and have a topographic range of ca 4 m.

ADJOINING LAND

North (Adjoining 12899 and 12900). Private farm land, cleared. Fence partly 5 line ringlock plus one plain wire on steel posts (condition good), part old rabbit netting on wooden posts (condition poor).

West (Adjoining 12899). Made gravel road, Willis Road.

West (Adjoining 12900). Private farm land, cleared. Fence 5 line ringlock on mixed wooden and steel posts (condition good).

South (Adjoining 12899). Private farm land, cleared. Fence partly old rabbit netting on wooden posts (condition poor) part 6 line ringlock plus one barb wire on mixed steel and wooden posts (condition fair).

South (Adjoining 12900) Private farm land, cleared. Fence 5 line ringlock plus one plain wire (condition good).

East (Adjoining 12900). Private farm land, cleared. Fence rabbit netting plus one barb wire on steel posts (condition good).

HUMAN USAGE AND DAMAGE OR DEGRADATION

- (1) Sand quarry on Reserve 12899. It has previously been reported that this quarry has exceeded the pegged area to its northern edge by approximately 18 metres.
 - (2) The main east-west track through the reserve appears to be used regularly for farm access and the gate at the eastern end is padlocked.
 - (3) Areas along the main east-west track in Reserve 12899 have been used for dumping rubbish. There was no evidence of recent dumping.
 - (4) Old signs of tree felling, both Eucalyptus and Acacia, probably for fence posts.
 - (5) Dam on Reserve 12900. Empty at the time of survey.
 - (6) Rabbits are becoming a problem on the reserve. Extensive warrens are situated near the sand pit and at the southern end of Reserve 12900.
- 7

FIREBREAKS:

Perimeter firebreaks in adjacent farmland, none on the reserve.

WEEDS

General perimeter infestation. Wild oats have spread through much of the Reserve especially the York Gum woodland and are particularly bad in the dump areas and North-East corner. Species recorded were: Aira cupaniana, Avena fatua/sativa, Orobancha minor, Ursinia anthemoides.

FIRE HISTORY

No evidence of fire was found on the reserves. Previous reports indicate that the reserves have not been burnt in recent times.

VEGETATION

12 vegetation associations are present on the reserves. Details of these associations can be found in Appendix 1.

- 1) Paper Bark (Melaleuca preissiana) Low Woodland A over Melaleuca lateriflora and Melaleuca aff. seriata thicket.
- 2) Swamp Mallet (Eucalyptus spathulata) Open Low Woodland A over Melaleuca uncinata, Melaleuca lateriflora and Melaleuca aff. seriata thicket.
- 3) Salmon Gum (Eucalyptus salmonophloia) Woodland with scattered shrubs.
- 4) Gimlet (Eucalyptus salubris) Low Woodland A with scattered shrubs.
- 5) Swamp Mallet (Eucalyptus spathulata) Dense Tree Mallee with scattered shrubs.
- 6) York Gum (Eucalyptus loxophleba) Tree Mallee with scattered shrubs.
- 7) Eucalyptus anceps, E. transcontinentalis and E. foecunda Tree Mallee over Loxocarya ? pubescens Low Sedge.
- 8) Eucalyptus erythronema Open Tree Mallee over Melaleuca acuminata and M. adnata thicket.

- 9) Eucalyptus erythronema Dense Tree Mallee.
- 10) York Gum (Eucalyptus loxophleba) and E. anceps Tree Mallee with emergent Salmon Gums. Scattered shrubs are also present.
- 11) Melealeuca lateriflora and M. uncinata thicket.
- 12) Mixed low heath C with Mesomelaena preissii prominent and emergent Eucalyptus loxophleba and Xylomelum angustifolium.

PLANT SPECIES

44 species of plants were recorded, of which 25 are recorded by Rye et. al. (1980) as exploited by the wildflower trade.

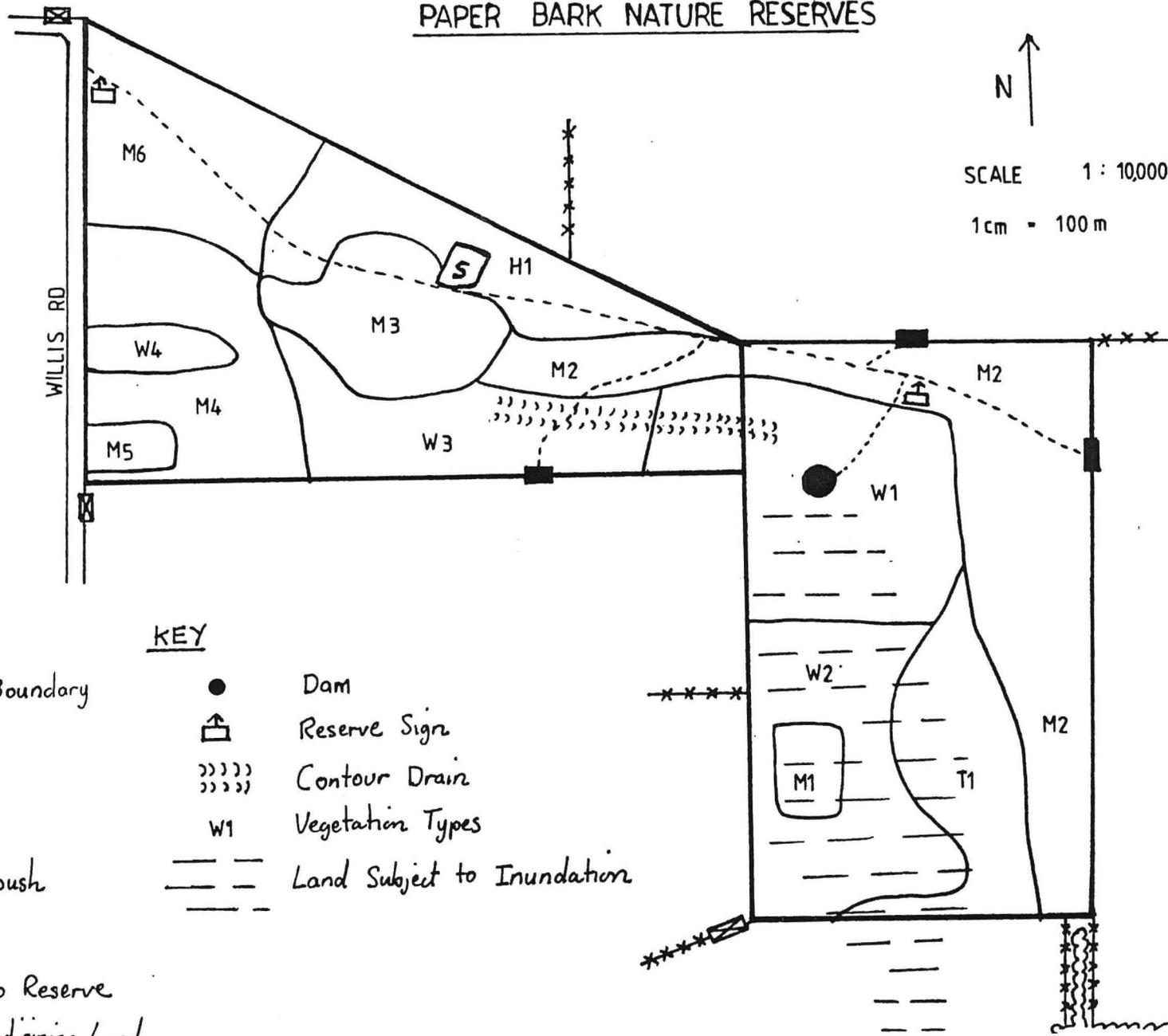
COMMENTS AND RECOMMENDATIONS

Reserves 12899 and 12900 are of great value. The vegetation is very diverse and provides numerous habitats for fauna. The reserves support a large number of resident and migratory bird species.

The reserves are also important for soil conservation and help to prevent further salt encroachment in the area.

The sand pit on Reserve 12899 should be closed and the area rehabilitated.

FIGURE 2 RESERVES 12899 and 12900
PAPER BARK NATURE RESERVES



KEY

- | | | | |
|--|------------------------|--|----------------------------|
| | Reserve Boundary | | Dam |
| | Road | | Reserve Sign |
| | Track | | Contour Drain |
| | Fence | | Vegetation Types |
| | Adjoining bush | | Land Subject to Inundation |
| | Sand pit | | |
| | Gate onto Reserve | | |
| | Gate on Adjoining Land | | |

**VEGETATION OF PAPER BARK RESERVES (12899 AND 12900)
KEY TO VEGETATION TYPES.**

WOODLAND FORMATIONS

MUIR (1977) VEGETATION CODE

W1 <u>Melaleuca preissiana</u> woodland	LAi.Sc
W2 <u>Eucalyptus spathulata</u> woodland	LAr.Sc
W3 <u>Eucalyptus salmonophloia</u> woodland	Mi
W4 <u>Eucalyptus salubris</u> woodland	LAi

MALLEE FORMATIONS

M1 <u>Eucalyptus spatulata</u> Tree Mallee	KTd
M2 <u>Eucalyptus loxophleba</u> Tree Mallee	KTc
M3 <u>Eucalyptus anceps</u> , <u>E. transcontinentalis</u> , <u>E. foecunda</u> Tree Mallee	KTc.VLc
M4 <u>Eucalyptus erythronema</u> Tree Mallee	KTi.Sc
M5 <u>Eucalyptus erythronema</u> Tree Mallee	KTd
M6 <u>Eucalyptus anceps</u> , <u>Eucalyptus loxophleba</u> Tree Mallee	KTc

THICKET FORMATION

T1 <u>Melaleuca lateriflora</u> and <u>M. uncinata</u>	Sc
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HEATH FORMATION

H1 Mixed Low Heath C	SCc
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APPENDIX 1

VEGETATION DETAILS RESERVES 12899 AND 12900.

1) Paper Bark Woodland (12900)

Melaleuca preissiana, mature, 5-10m, 10-30% cover. Understorey is Melaleuca lateriflora and Melaleuca aff. seriata shrubs 4-5m, mature, 30-70% cover. Enchylaena tomentosa was also recorded. Soil greyish brown sandy clay, seasonally water logged.

2) Swamp Mallet Woodland (12900)

Eucalyptus spathulata var. spathulata trees, mature, 8-10m, 2-10% cover. Understorey is Melaleuca lateriflora, Melaleuca uncinata and Melaleuca aff. seriata shrubs mature, 4m, 30-70% cover. Soil pinkish brown sandy clay loam, 10% laterite in places. Subject to periodic flooding.

Towards the South-West corner of reserve 12900 Eucalyptus spathulata becomes more dense. A number of trees in this area have died possibly due to salt encroachment. (Photograph 4). Eucalyptus loxophleba, Acacia merrallii and Holosarcia pergranulata were also recorded for this area.

3) Salmon Gum Woodland (12899).

Eucalyptus salmonophloia trees to 25m, mature to senescent 10-30% cover. Scattered shrubs. Species recorded were: Acacia erinacea, Acacia hemiteles, A. merrallii, Grevillea patentiloba, Melaleuca adnata, Olearia muelleri and Templetonia sulcata. Soil brown clay loam.

4) Gimlet Woodland (12899).

Eucalyptus salubris trees, 10-15m, 10-30% canopy cover. Scattered shrubs. Species recorded were: Daviesia sp., Olearia muelleri and Santalum acuminatum. Soil dark brown silty clay.

5) Swamp Mallet Dense Tree Mallee (12900).

Eucalyptus spathulata var. spathulata Mallee and trees, 6-10m, canopy cover 70-100%. Scattered shrubs. Species recorded were: Melaleuca lateriflora, M. preissiana and Melaleuca aff. seriata. Soil light brown sandy clay loam, subject to periodic flooding.

6) York Gum Tree Mallee (12899 and 12900).

Eucalyptus loxophleba Mallee and trees 8-12m, 30-70% canopy cover. Scattered shrubs. Towards the northern boundary of the reserves Acacia acuminata is present, 2-3m, canopy cover 2-10%. Species recorded were: Acacia acuminata, Acacia chrysella, Allocasuarina campestris, Alyxia buxifolia, *Avena fatua, Cassia nemophila var. nemophila, Exocarpus aphyllus, Grevillea paniculata, Grevillea aff. trachythea, Leptospermum erubescens, Loxocarya pubescens, *Orobanche minor, Santalum acuminatum, *Ursinia anthemoides, Waitzia ? acuminata. Soil reddish brown loamy sand.

7) Tree Mallee (12899).

Eucalyptus anceps, Eucalyptus foecunda and E. transcontinentalis tree mallee, 4-6m, 30-70% canopy cover. Understorey is Loxocarya pubescens, 20cm, 30-70% cover. Also recorded were: Allocasuarina campestris, Dianella revoluta, Melaleuca adnata, Olearia muelleri, Santalum acuminata. In some areas Melaleuca adnata, 1.5m forms a canopy of 70-100%. Soil yellow brown sandy clay loam.

8) Eucalyptus erythronema Open Tree Mallee (12899).

Eucalyptus erythronema tree mallee 5-8m, 10-30% canopy cover (patchy) with emergent Eucalyptus salubris 10-15m, canopy cover < 2%. The understorey is Melaleuca acuminata and Melaleuca adnata shrubs, 2-3m, 30-70% canopy cover. In some areas Melaleuca acuminata and Melaleuca adnata form a dense thicket with a canopy cover of 70-100% with scattered Eucalyptus erythronema. Soil dark brown, sandy clay loam.

9) Eucalyptus erythronema Dense Tree Mallee (12899).

Eucalyptus erythronema tree mallee, 4-5m, 70-100% canopy cover. Understorey is absent. Soil dark brown, sandy clay loam.

10) Mallee with emergent Salmon Gums (12899).

Eucalyptus anceps (mallee) and Eucalyptus loxophleba (mallee and trees) 8-12m, canopy cover 30-70% with Eucalyptus salmonophloia emergent to 20m, < 2% cover. Many of the species recorded for the Eucalyptus loxophleba Tree Mallee association are present as scattered shrubs. *Aira cupaniana and *Avena fatua were also recorded. Soil dark brown clay loam.

11) Melaleuca thicket (12900).

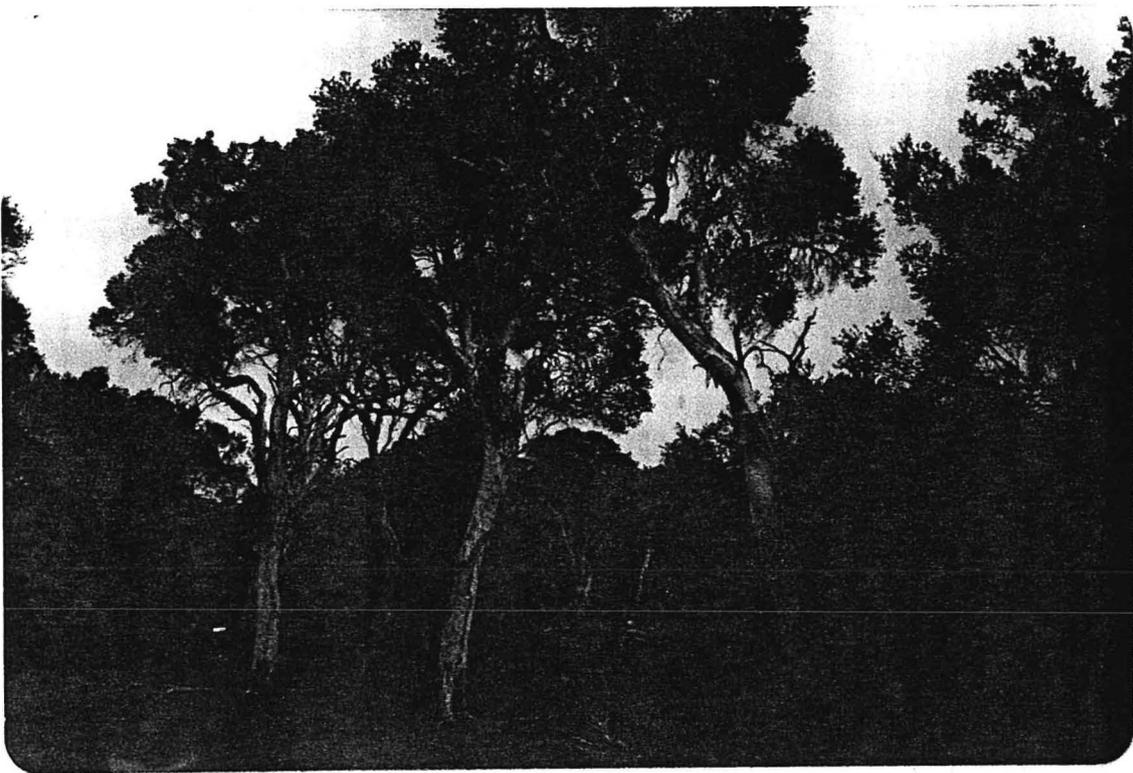
Melaleuca lateriflora and Melaleuca uncinata shrubs, 4m, 30-70% cover with scattered Eucalyptus spathulata to 8 metre, cover < 2%. Soil silty clay.

12) Mixed Heath (12899).

Mixed shrubs with Mesomelaena preissii prominent 0.5-1.0m, 30-70% canopy cover with Eucalyptus loxophleba (6-8m) and Xylomelum angustifolium (4m) emergent, cover < 2%. The distribution of E. loxophleba is patchy in this association and reaches 2-10% canopy cover in places. Other species recorded were: *Aira cupaniana, *Avena fatua, Borya nitida, Dianella revoluta, Eremaea pauciflora, Grevillea eriostachya, Grevillea aff. trachythea, Hakea falcata, H. lissocarpa, Verticordia brownii, *Ursinia anthemoides, Waitzia acuminata. Soil yellow-brown loamy sand.

* Introduced species.

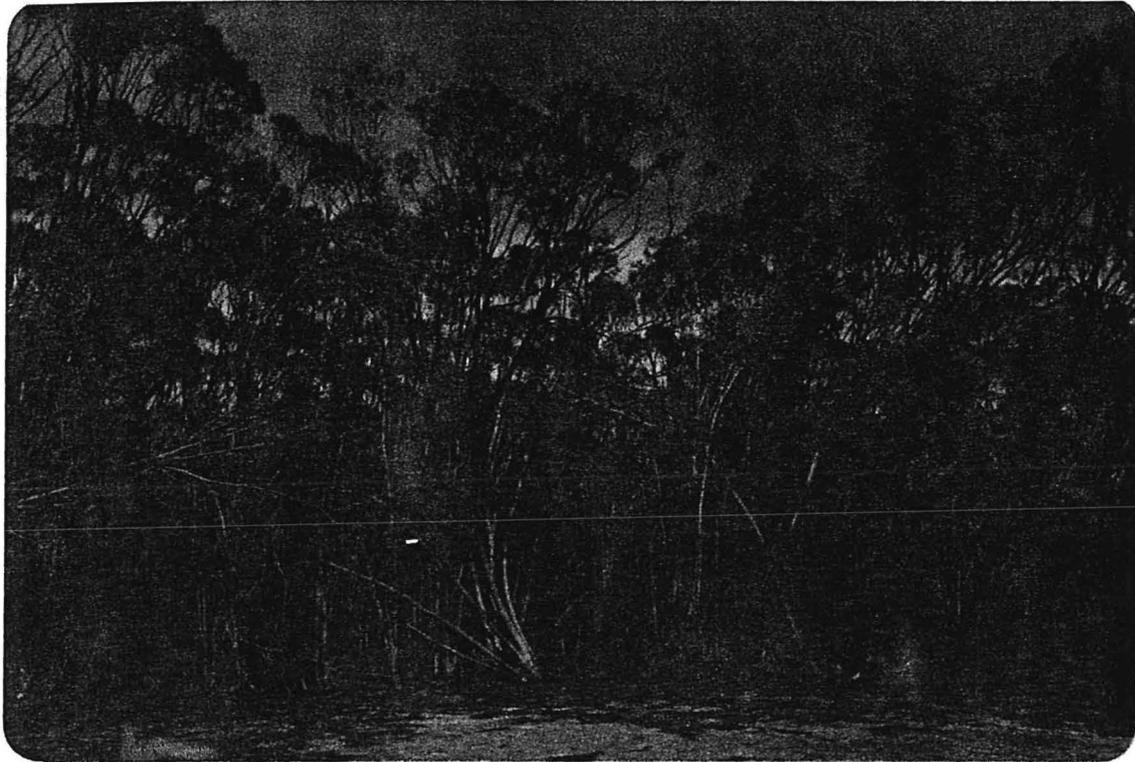
PHOTOGRAPH 1. Paper Bark (Melaleuca preissiana) Woodland (12900).



PHOTOGRAPH 2. Swamp Mallet (Eucalyptus spathulata) with Melaleuca thicket (12900).



PHOTOGRAPH 3. Swamp Mallet (Eucalyptus spathulata) Dense Tree Mallee (12900).



PHOTOGRAPH 4. Swamp Mallet (Eucalyptus spathulata) and York Gum (Eucalyptus loxophleba) in the S-W corner of Reserve 12900. Dead trees indicate possible salt encroachment (12900).



PHOTOGRAPH 5. York Gum (*Eucalyptus loxophleba*) Tree Mallee (12900 & 12899).



PHOTOGRAPH 6. Salmon Gum (*Eucalyptus salmonophloia*) woodland (12899).



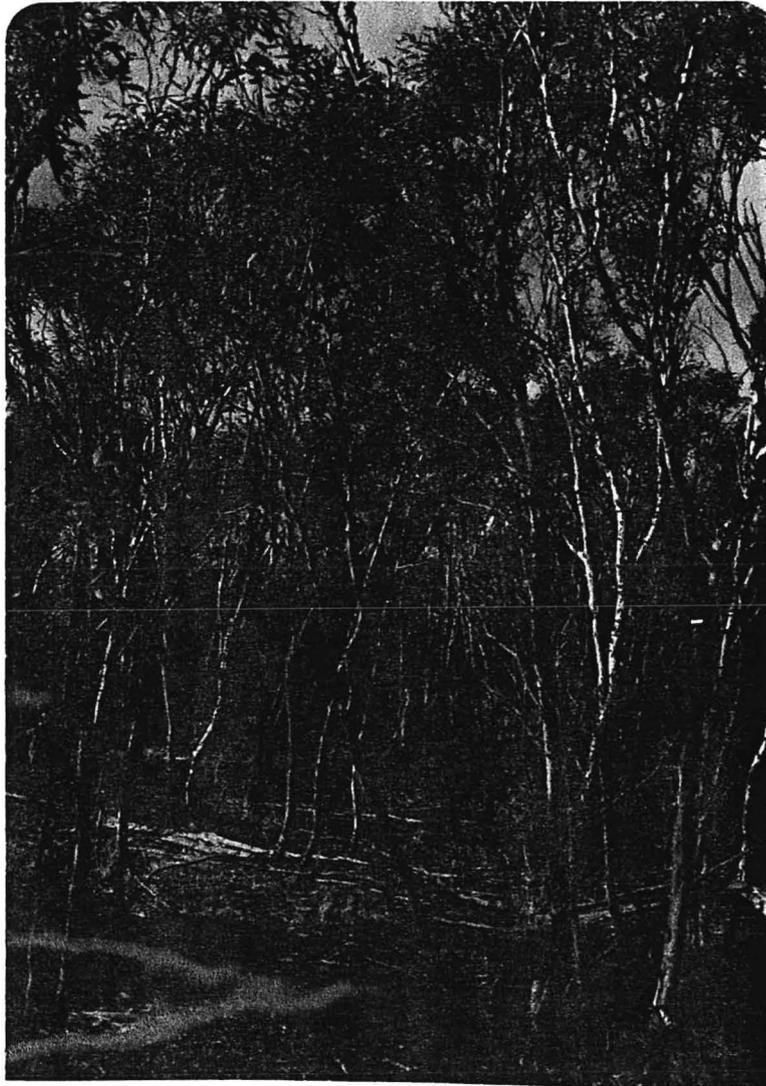
PHOTOGRAPH 7. Mixed Heath with Mesomelaena preissii prominent (foreground).
York Gum (Eucalyptus loxophleba) and woody pear (Xylomelum
angustifolium) in the background (12899).



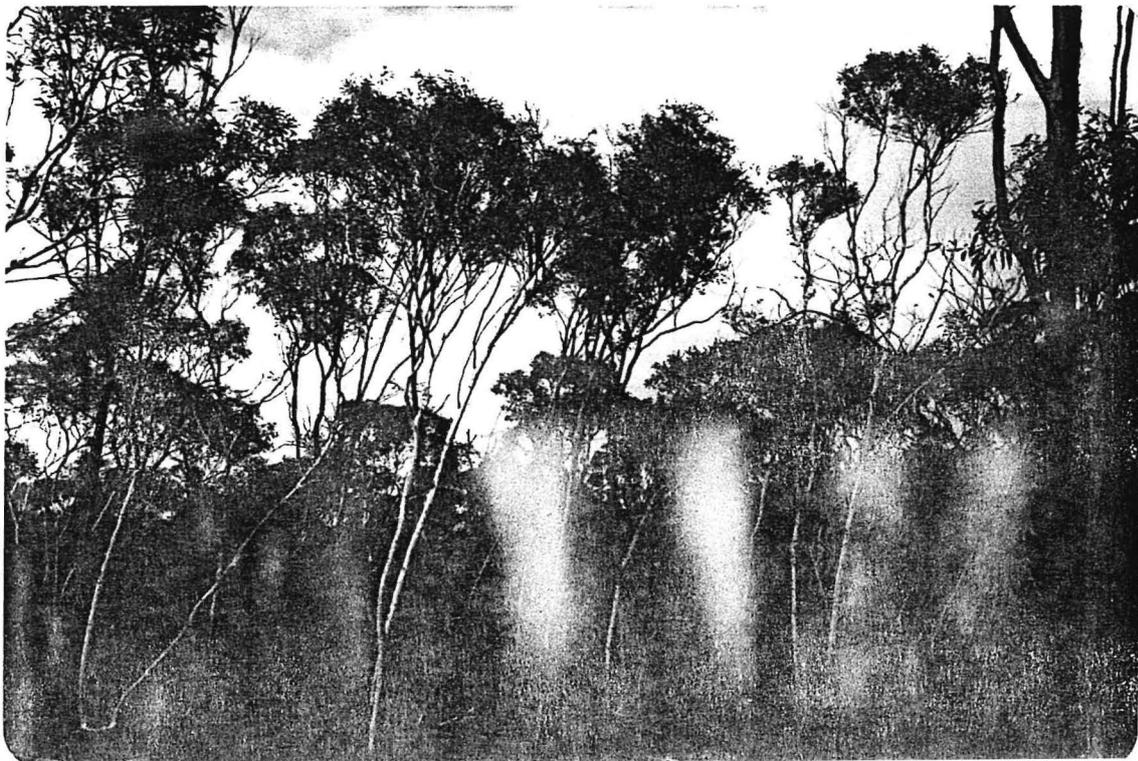
PHOTOGRAPH 8. Tree Mallee (Eucalyptus anceps, Eucalyptus foecunda and Eucalyptus
transcontinentalis). (12899).



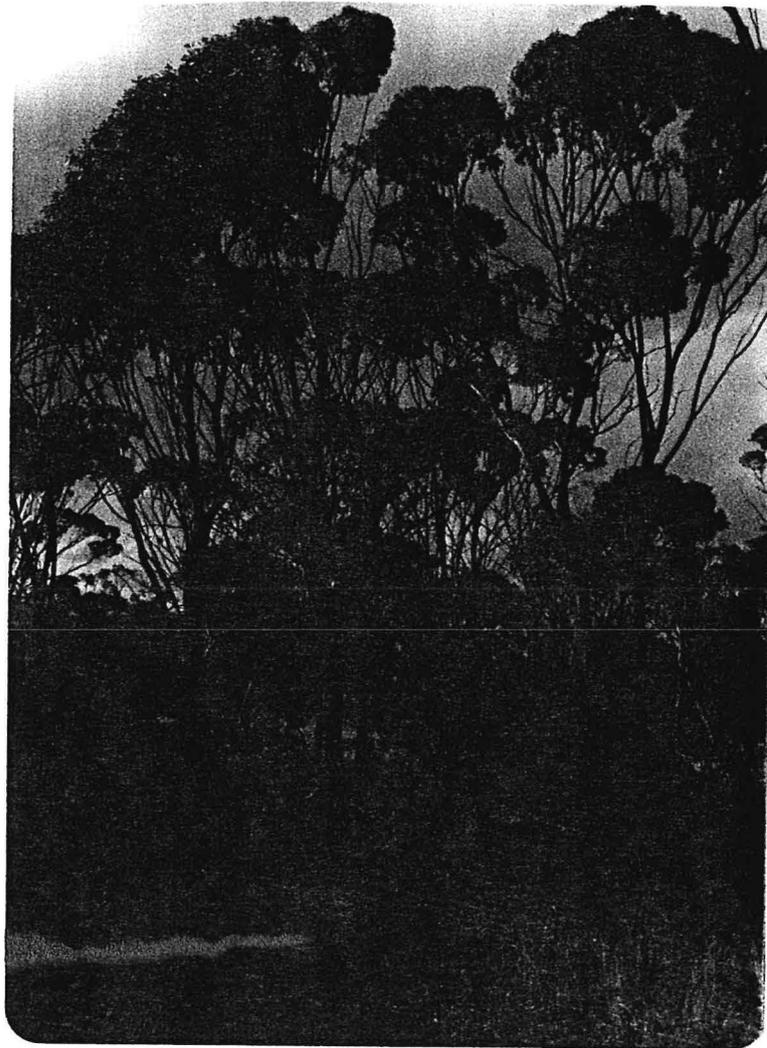
PHOTOGRAPH 9. Eucalyptus erythronema Dense Tree Mallee.



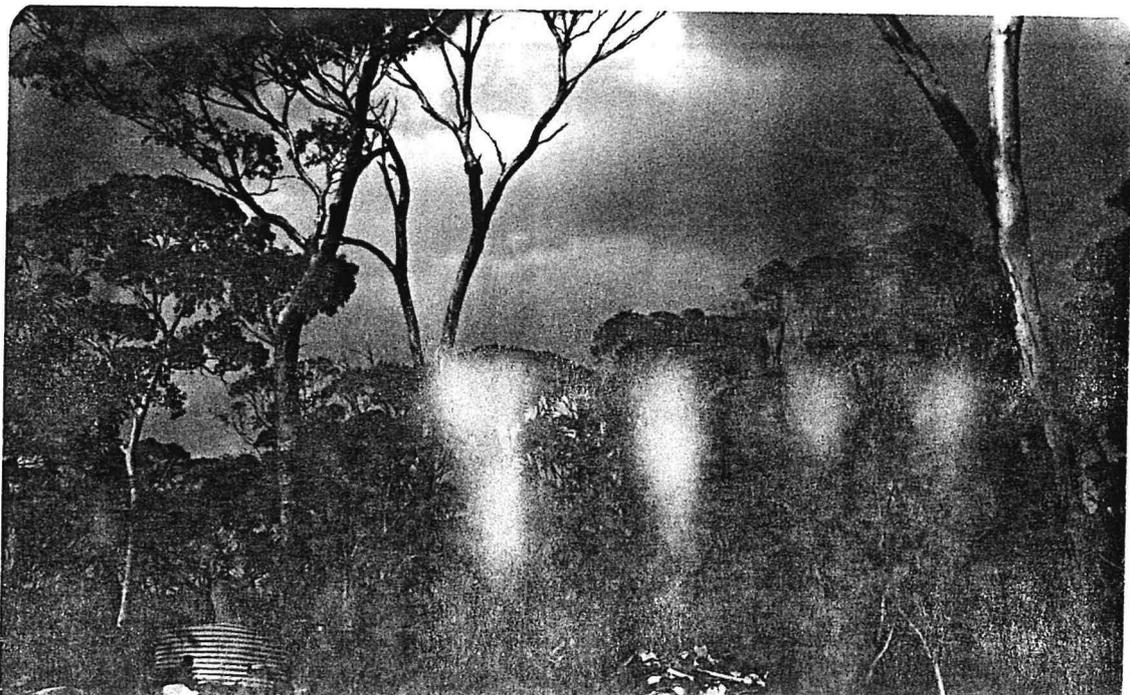
PHOTOGRAPH 10. Eucalyptus erythronema with Melaleuca thicket.



PHOTOGRAPH 11. Gimlet (Eucalyptus salubris) woodland.



PHOTOGRAPH 12. Mallee (Eucalyptus loxophleba, Eucalyptus anceps) with emergent Salmon Gums (Eucalyptus salmonophloia) showing rubbish in N-W corner of Reserve 12899. The Salmon Gums are usually more scattered in this vegetation type with shrubs present.



SEWELL ROCK RESERVE 9426**LOCATION:**

ca 25km South South West of Corrigin Townsite and shown on lithographs 377/80 B1, 2 and 1: 50,000 Sewell Sheet (2432-1). (Department of Lands and Survey).

BACKGROUND:

Sewell Rock Reserve (9426) was originally gazetted on September 30th, 1904 for the purpose of "Water and Camping" and vested in the Minister for Water Supply, Sewerage and Drainage on July 30th, 1916. The reserve was reclassified on January, 31st, 1969 for "Water and Flora and Fauna" and vested in the Minister for Water Resources.

PHYSICAL CHARACTERISTICS:

Reserve 9426 is approximately rectangular in shape but missing the South East Corner. The reserve has an area of ca 62.7 ha and a total perimeter of ca 3.6 km. The highest point on the reserve is towards the North Eastern corner and is ca 320m above sea level grading down to 300m ASL on the southern side and 310m ASL at the North West corner.

ADJOINING LAND:

North: Private land, cleared. Fence partly rabbit netting plus 1 plain wire (poor condition), part 6 line ringlock on steel posts (good condition).

West: Private land, cleared. Fence partly rabbit netting plus one plain wire (condition fair), part five line ringlock on steel posts (good condition).

South: Private land, cleared and uncleared (see figure 3). Fence rabbit netting plus one barb wire (fair condition).

East: Track, Baker Road and private land, cleared (North east). Fence on the west side of the road, rabbit netting plus one plain wire (condition very poor - falling over in places). N-E corner, fence rabbit netting plus one plain wire (fair condition).

HUMAN USAGE AND DAMAGE OR DEGRADATION

- 1) Trail bikes or other vehicles have been used on the granite outcrop and have damaged Borya nitida bound soil patches.
- 2) There is evidence of the area being used occasionally for barbecues and picnics.
- 3) A dam is situated in the S-E corner of the reserve. Little water was present at the time of survey. Some rubbish has been dumped near the dam in the past but there was no evidence of recent dumping.

FIREBREAKS:

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

WEEDS:

General infestation in woodland areas. Avena fatua/sativa, Briza maxima, Aira cupaniana, Ursinia anthemoides were recorded.

FIRE HISTORY:

There is no evidence of fire within the last 20-30 years.

VEGETATION:

8 vegetation associations were recorded for the reserve. Details of these associations and plant species recorded can be found in Appendix 2.

- 1) Granite outcrop: Mostly bare granite with patches of Borya nitida or scattered shrubs. Acacia lasiocalyx occurs in deeper soils.
- 2) Acacia lasiocalyx woodland: Acacia lasiocalyx Dense Low Forest A over Allocasuarina huegeliana Low Forest B.
- 3) Sheoak Woodland: Allocasuarina huegeliana Dense Low Forest A.
- 4) York Gum Woodland: Eucalyptus loxophleba Low Woodland A over Acacia acuminata Open Low Woodland B.

- 5) Jam Woodland: Acacia acuminata Low Forest B with scattered Eucalyptus loxophleba.
- 6) Sheoak and Jam Woodland: Allocasuarina huegeliana and Acacia acuminata Low Woodland A over Lepidosperma drummondii Very Open Tall Sedge.
- 7) Mixed Heath: mixed Low Heath C with Dryandra cirsioides prominent.
- 8) Tamma Heath: Allocasuarina campestris Dense Heath A.

PLANT SPECIES:

37 Native plant species were recorded, of which 18 are reported by Rye et. al. (1980) as exploited by the wildflower trade.

COMMENTS AND RECOMMENDATIONS

Rabbits have become a problem on the reserve and surrounding area. The Agricultural Protection Board laid 1080 bates on March 13th, 1985.

Reserve 9426 is isolated and supports diverse plant associations including woodlands and heath. Nest hollows are present in woodland areas. It is therefore of importance as a resting and breeding site for transient and migratory birds. The reserve is also rich in plant species, many of which occur in the heath areas.

I recommend that the reserve be vested in the National Parks and Nature Conservation Authority and that the fence on the west side of Baker Road be replaced to discourage trail bike riding on the granite rock. Easy access onto the rock is available in two places where the fence has fallen.

VEGETATION OF SEWELL ROCK RESERVE (9426)
KEY TO VEGETATION TYPES

MUIR (1977) VEGETATION CODE

G1 Granite Outcrop.

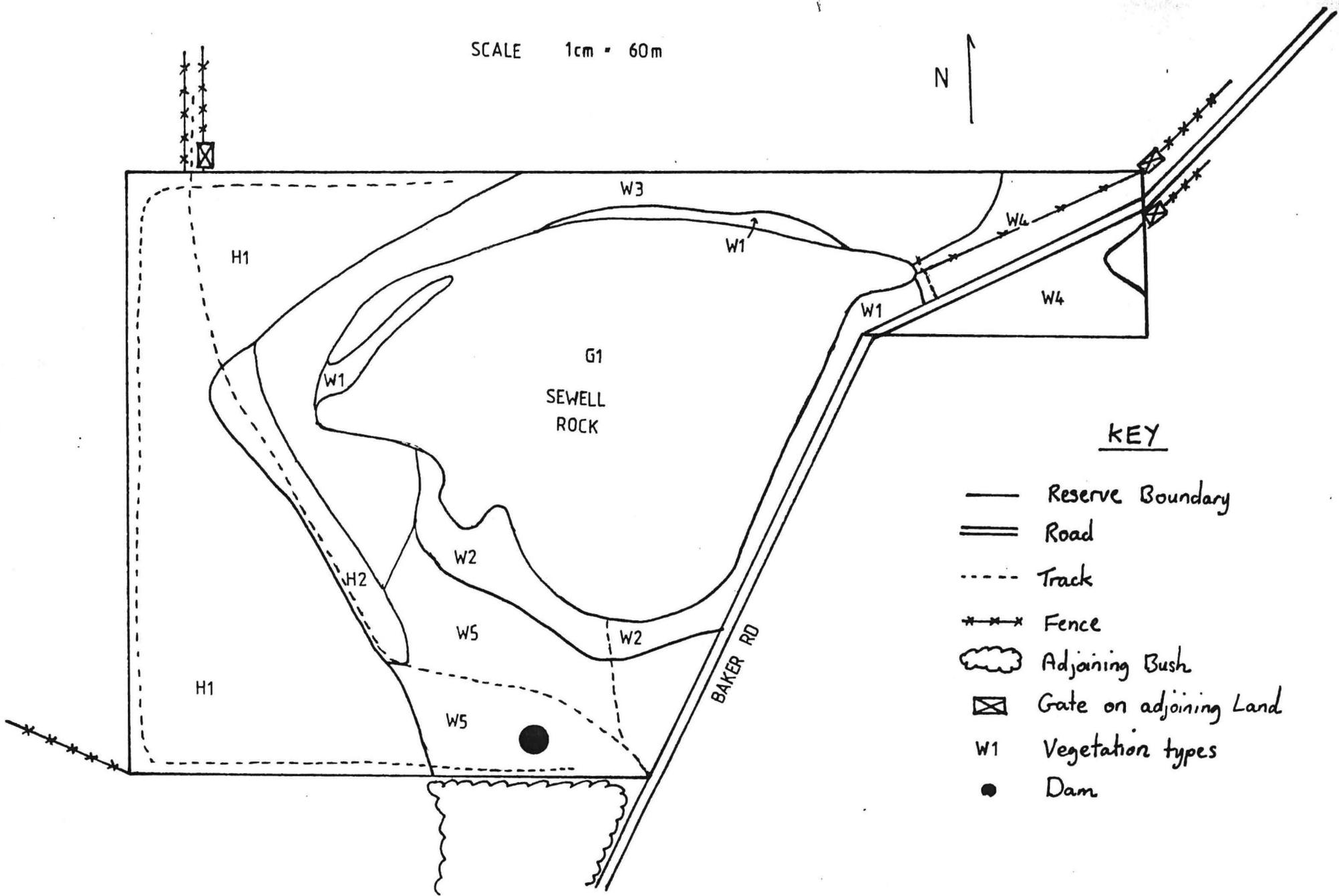
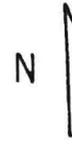
W1 <u>Acacia lasiocalyx</u> woodland	LAd. LBc
W2 <u>Allocasuarina huegeliana</u> woodland	LAd
W3 <u>Eucalyptus loxophleba</u> woodland	LAi. LBr
W4 <u>Acacia acuminata</u> woodland	LBc
W5 <u>Allocasuarina huegeliana</u> and <u>Acacia acuminata</u> woodland	LAi. VTr
H1 Mixed Low Heath C	SCc
H2 <u>Allocasuarina campestris</u> heath	SAd

FIGURE 3

SEWELL ROCK

RESERVE 9426

SCALE 1cm = 60m



KEY

- Reserve Boundary
- == Road
- - - Track
- * * * Fence
- ☁ Adjoining Bush
- ⊠ Gate on adjoining Land
- W1 Vegetation types
- Dam

25

APPENDIX 2

1) GRANITE OUTCROP

Mostly bare granite with patches of lichens and mosses and Borya nitida or scattered plants of Acacia lasiocalyx, *Avena fatua/sativa*, Briza maxima, Chrysocoryne pusilla, Cheilanthes austrotenuifolia, Dodonaea viscosa ssp. angustissima, Lepidosperma pruinatum, Stypandra imbricata.

2) ACACIA LASIOCALYX WOODLAND

Acacia lasiocalyx trees to 10m, 70-100% canopy cover with Allocasuarina huegeliana trees to 5m, generally with a canopy cover of 30-70% but as low as 2-10% in places Lepidosperma pruinatum. Canopy cover < 2%. This association occurs at the base of the granite rock where water runoff is high. Soil dark brown sandy loam.

3) SHEOAK WOODLAND

Allocasuarina huegeliana trees, 6-10m, 70-100% canopy cover. Other species recorded were: Acacia lasiocalyx, *Avena fatua/sativa*, *Briza maxima, Cheilanthes austrotenuifolia, Lepidosperma pruinatum, Stypandra umbricata. Soil dark brown sandy loam.

4) YORK GUM WOODLAND

Eucalyptus loxophleba trees, 7-8m, 10-30% canopy cover with Acacia acuminata trees, 2-4m, 2-10% canopy cover. Other species recorded were: Allocasuarina campestris, *Aira cupaniana*, *Avena fatua, Dianella revoluta, *Ursinia anthemoides, Waitzia ? acuminata. Soil dark brown sandy loam.

5) JAM WOODLAND

Acacia acuminata trees, 3-5m, 30-70% canopy cover with scattered trees of Eucalyptus loxophleba, 5-8m, canopy cover < 2%. Other species recorded were: *Avena fatua/sativa, Dianella revoluta, *Ursinia anthemoides, Waitzia ? acuminata. Soil orange brown sandy clay loam.

6) SHEOAK AND JAM WOODLAND

Acacia acuminata and Allocasuarina huegeliana trees, 5-8m, 10-30% canopy cover with scattered trees of Eucalyptus loxophleba to 8m. There is an understorey of Lepidosperma drummondii 80cm, 2-10% canopy cover. Other species recorded were: *Aira cupaniana*, *Avena fatua/sativa, Dianella revoluta, Waitzia ? acuminata. Soil dark brown sandy clay loam.

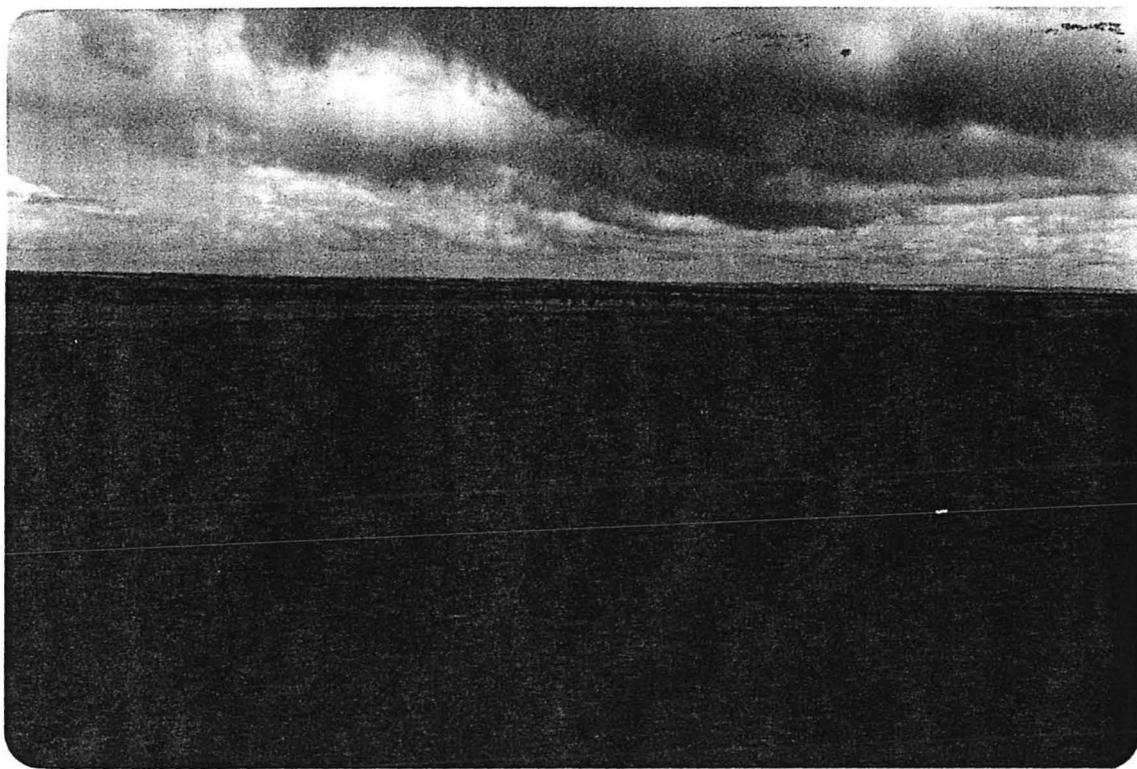
7) MIXED HEATH

Mixed shrubs 0.5 - 1.0 m, 30-70% canopy cover. No particular dominant but Dryandra circoides and Banksia sphaerocarpa prominent. Other species recorded were: Allocasuarina campestris, A. humilis, A. microstachya, A. thuyoides, Banksia sphaerocarpa var. caesia, Calothamnus quadrifidus, C. sanguineus, Caustis dioica, Dryandra cirsioides, D. conferta, D. nivea, D. vestita, Eremaea pauciflora, Gastrolobium spinosum, Grevillea eriostachya, Hakea falcata, Hakea incrassata, H. lissocarpa, Leptospermum erubescens, Mesomelaena preissii, Petrophile brevifolia, P. ericifolia, P. trifida, Persoonia ? striata. Soil light brown loamy sand 5% laterite.

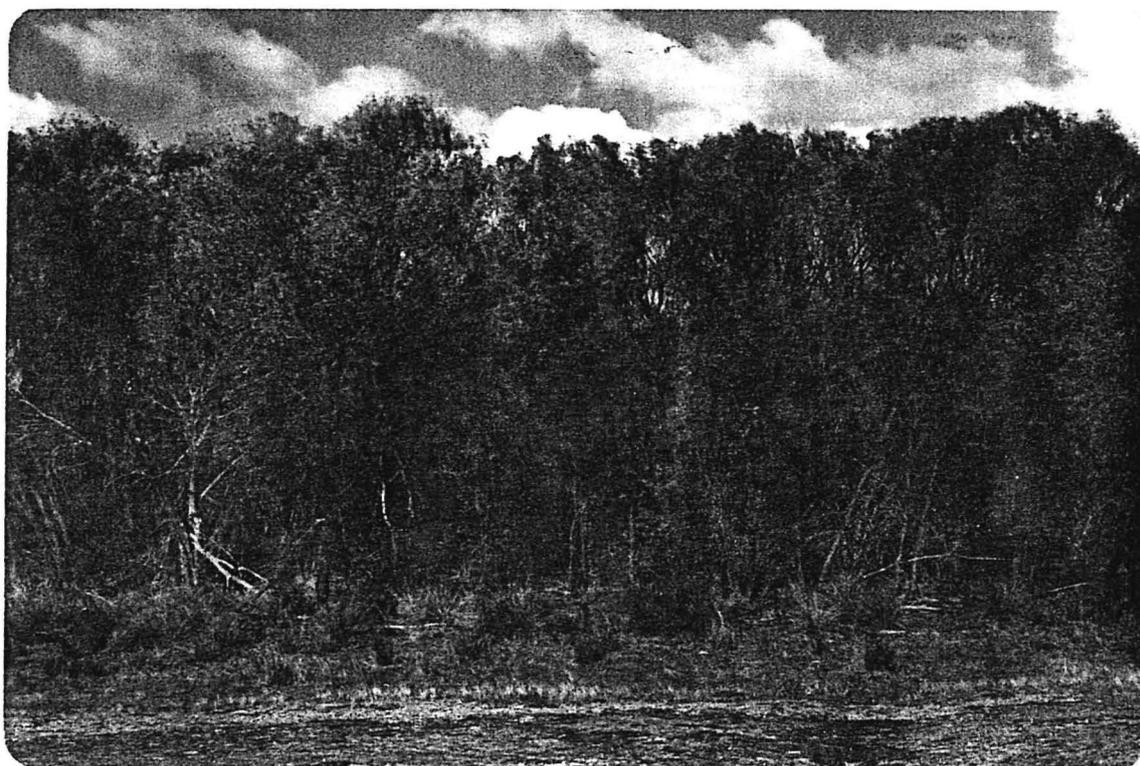
8) TAMMA HEATH

Allocasuarina campestris shrubs, 1-2m, 70-100% canopy cover. Other species recorded were: Borya nitida, Mesomelaena preissii. Soil light brown loamy sand, 10% laterite.

PHOTOGRAPH 1. Taken from the top of Sewell Rock facing south west. Sheoak woodland and patches of Acacia lasiocalyx can be seen at the base of the granite rock.



PHOTOGRAPH 2. Acacia lasiocalyx woodland with Sheoak (Allocasuarina huegeliana) understorey Lepidosperma pruinatum can be seen in the foreground.



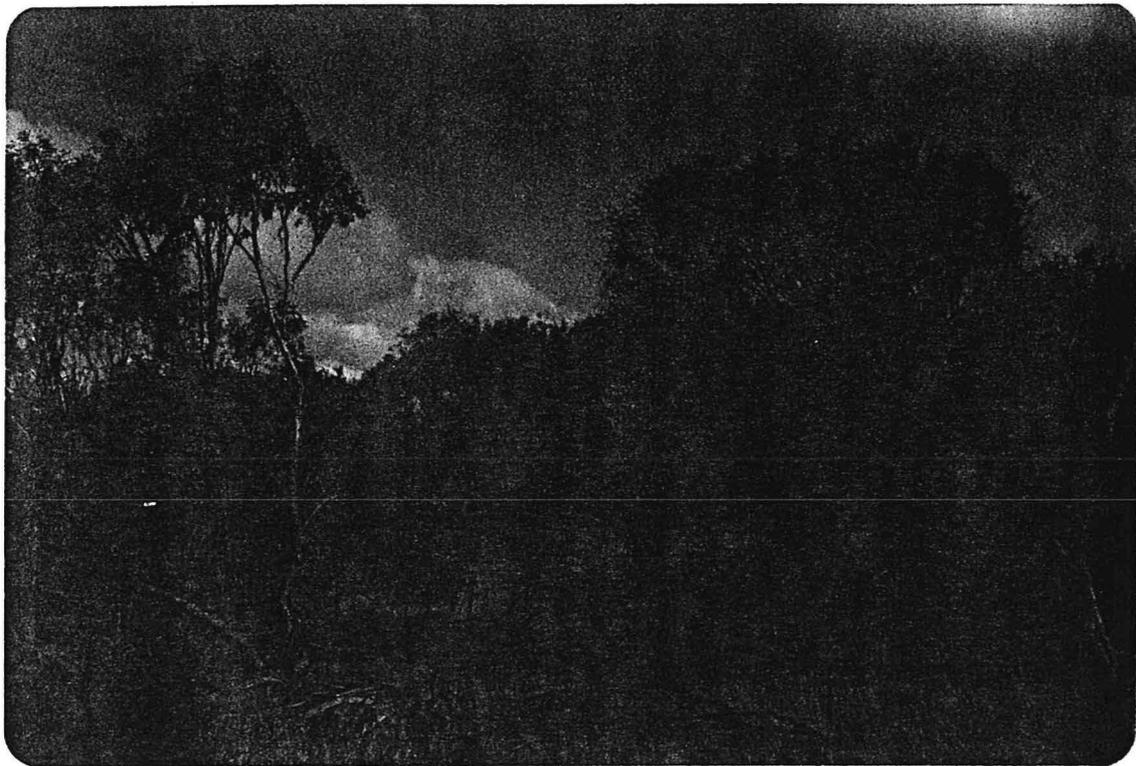
PHOTOGRAPH 3. Sheoak (Allocasuarina huegeliana) woodland Acacia lasiocalyx can be seen at the edge of the association.



PHOTOGRAPH 4. York Gum (Eucalyptus loxophleba) woodland.



PHOTOGRAPH 5. Jam (Acacia acuminata) woodland with scattered York Gums (Eucalyptus loxophleba).



PHOTOGRAPH 6. Sheoak (Allocasuarina huegeliana) and Jam (Acacia acuminata) woodland with Lepidosperma drummondii understorey.



PHOTOGRAPH 7. Mixed heath.



REFERENCES

- Beard, J.S. (1980) "The Vegetation of the Corrigin Area", W.A. Vegmap Publications, Perth.
- Muir, B.G. (1977) "Vegetation and Habitat of the Bendering Reserve" Part 2 of Biological Survey of West. Aust. Wheatbelt. Rec. West. Aust. Mus. Suppl. No. 3.
- Northcote, K.H., Bettenay, E. McArthur, W.M. and Churchward, J.M. (1967). Dominant Soils of the Perth-Albany-Esperance Area. Atlas of Australian Soils, Sheet 5. C.S.I.R.O. Melbourne.
- Rye, B.L. Hopper, S.D. and Watson L.E. (1980) "Commercially Exploited Vascular Plants Native in W.A.: Census, Atlas and Preliminary Assessment of Conservation Status. Report number 40. Dept. Fisheries and Wildlife, Perth.

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