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

**PART 10: COOROW
SHIRE**

B.G. MUIR

1978



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WHEATBELT

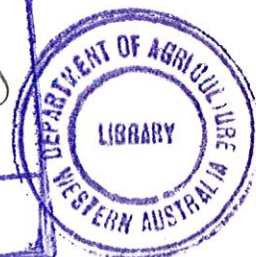
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WESTERN AUSTRALIAN MUSEUM

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SOME NATURE RESERVES OF THE COOROW SHIRE

B.G. MUIR

Introduction

Coorow Shire lies in the western-northern wheatbelt and has an area of 4137 square km. There are 12 Nature Reserves within (or part within) the Shire, totalling 424 square km or 10.2% of the area of the Shire. Of the land set aside as Nature Reserve 348 sq. km or 82% of it is retained within 2 Reserves, 24496 and 25210. The smallest Reserves are offshore islands (29256 and 29259) and the smallest mainland Reserve 24325 (3 ha) set aside for soil conservation.

None of the Reserves have "A" classification but all except 21175, 24325, 24496, 26125 and 28669 are vested in the Western Australian Wildlife Authority and thus enjoy some protection.

The current survey took place in July 1978 and consisted of brief examinations of 4 Reserves, 21175, 23602, 24325 and 28669.

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, and 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 the 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 bought 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 30-70% ^c	SPARSE 10-30% ⁱ	VERY SPARSE 2-10% ^r
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

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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 21175 - ca 126 ha; mosaic of Casuarina shrubland and heath; reasonable richness of flora and fauna; worth retaining.

Reserve 23602 - ca 121 ha; heath with patches of mallee and some Banksia woodland; rich plant assemblage and variable habitats.

Reserve 24325 - ca 3 ha; Banksia or Actinostrobus assemblage; heavily grazed; set aside for soil conservation but current grazing pressure has started sand shifting again.

Reserve 28669 - ca 158 ha; mostly heath and saltflat with some Banksia and Actinostrobus assemblage; isolated, probably important for soil conservation.

Of the 4 Reserves examined 3 were in sandplain country. Reserve 24325 is badly degraded and very small. Their value as "stepping-stones" for transient species warrants their retention.

REFERENCES

MUIR, B.G. (1977). Vegetation and habitat of Bendering Reserve. Biological survey of the Western Australian wheatbelt Pt 2. Rec. West. Aust. Mus. Suppl. 3.

MUNSELL COLOR COMPANY (1954). Munsell soil color charts. Baltimore, Md., Munsell Color Co.

NORTHCOTE, K.H. (1971). A factual key for the recognition of Australian soils. Glenside, S.A.: C.S.I.R.O./Rellim.

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Reserve 21175

Located ca 23 km due E Marchagee and shown on lithograph 90/80, F2.

Background

Originally set aside as a Reserve for "Water" on 9 February 1934, with an area of 263 ha. Changed to "Conservation of Flora" on 12 June 1959 and decreased to 125.4525 ha by removal of bushland to the immediate east of the present Reserve.

Physical characteristics

Reserve 21175 is approximately rectangular, ca 1.8 km long (N-S axis) by ca 0.7 km broad (E-W axis) and with a total perimeter of ca 5.3 km. It has an area of 125.4525 ha. No contour maps are available but there is a spot altitude of 277 m above sea level ca 8 km WSW of the Reserve.

Vegetation

The majority of the Reserve is covered with a mosaic of Casuarina acutivalvis shrubland on the E side and a small area of mallee. Most of the shrublands are Thickets or Dense Thickets.

Plant species

Fifty-one plant species were recorded, 12 of which are exploited by the wildflower seed trade. The eastern part of the Reserve (now Victoria location 10533) is reported to have supported good stands of Eucalyptus pyriformis. I did not see any on the Reserve during this survey.

Nest hollows

None present.

Weeds

Scattered small annuals in mallee area. Absent elsewhere except where rubbish dumped.

Fire history

A small burnt area on the W side of the Reserve is ca 8 years old and the remainder ca 18 years old.

Fauna

Echidna (Tachyglossus aculeatus): scats seen in mallee area.

Grey Kangaroo (Macropus fuliginosus): scats seen and nearby farmer indicates they are common.

Black Duck (Anas superciliosa): 3 flying over Reserve.

Grey Teal (Anas gibberifrons): 2 on dam on N side Reserve.

Little Eagle (Aquila morphanoides): 1 over Reserve.

Mallee fowl (Leipoa ocellata): farmer reports seen occasionally on Reserve.

Australian Bustard (Otis australis): farmer reports seen occasionally on Reserve; 1 seen ca 1 km W of Reserve in paddock.

Port Lincoln Parrot (Platycercus zonarius): 2 in mallee.

Mulga Parrot (Platycercus varius): 2 flying S along W boundary.

Galah (Cacatua roseicapilla): 5 on fence S boundary.

Pipit (Anthus novaeseelandiae): common on boundaries and in adjacent paddocks.

Crested Bellbird (Oreoica gutturalis): 1 calling E side.

Grey Fantail (Rhipidura fuliginosa): common in heaths.

Willie Wagtail (R. leucophrys): in heath and mallee.

Southern Scrub-robin (Drymodes brunneopygius): seen and heard in Casuarina campestris shrubland type 2.

Western Warbler (Gerygone fusca): calling in mallee.

Singing Honeyeater (Meliphaga virescens): in mallee area.

White-fronted Chat (Epthianura albifrons): in heaths.

Australian Raven (Corvus coronoides): several flying over Reserve.

Exotic fauna

Fox tracks and rabbits were seen.

Firebreaks and fences

Firebreak only on the W side. The N side has an adjacent roadway. Fenced with fairly new wire in good condition on the W, S and E sides.

Human usage

Gravel pit on NW corner. Some rubbish dumped on NE corner and S side.

Adjacent uncleared land

None present.

Opinion and recommendations

Reserve 21175 is in fairly good condition and contains a good representative of Casuarina shrublands. It appears to support a fairly rich fauna and a reasonable diversity of plants. The Reserve is totally isolated and would be an important resting and feeding site for transient species. I recommend that fire breaks be placed on the E and S boundaries and that the Reserve be vested in the Western Australian Wildlife Authority.

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APPENDIX 1
Reserve 21175

Mallee area

Eucalyptus redunca and E. transcontinentalis shrub mallee, mature, stratum 2-6 m tall, 10-30% canopy cover over Melaleuca undulata shrubs, mature, stratum 0.5-1.5 m tall, 70-100% cover. Also recorded were Acacia graffiana, A. mackayana, Baeckea muricata, Melaleuca adnata, M. uncinata, Olearia axillaris, Rhagodia preissii. Soil pinkish grey, light clay; poorly drained.

Casuarina acutivalvis shrubland

C. acutivalvis shrubs, mature, stratum 2-4 m tall, 70-100% canopy cover over mixed shrubs, 0.5-1.5 m tall, 2-10% cover. Also present were Acacia assimilis, Baeckea heteranthera, Casuarina campestris, Dianella revoluta, Ecdeiocolea monostachya, Eucalyptus ?albida, Gahnia polyphylla, Grevillea petrophiloides, Hakea scoparia, Melaleuca oldfieldii, M. uncinata, Petrophile shuttleworthiana. Soil yellowish brown, sandy clay with ca 80% laterite pebbles; moderately drained.

Casuarina campestris shrubland type 1

C. campestris shrubs, mature, stratum 1.5-3 m tall, 30-70% canopy cover over Ecdeiocolea monostachya sedge, stratum 0.5 m tall, 30-70% canopy cover. Other species recorded were Acacia dielsii, Borya nitida, Darwinia purpurea, Eucalyptus foecunda, Hakea subsulcata, Isopogon divergens, Melaleuca cordata, M. oldfieldii, M. platycalyx, M. scabra, M. uncinata, Petrophile shuttleworthiana, Phebalium tuberculosum, Pileanthus peduncularis, Platysace effusa. Soil brownish yellow, fine sandy clay loam, ca 30% laterite pebbles. Well drained.

Casuarina campestris shrubland type 2

C. campestris shrubs, mature, 1.5-2.5 m tall, 70-100% canopy cover with Acacia stereophylla emergent to 2-3 m tall, over Melaleuca cordata shrubs, mature, 0.5-1 m tall, 2-10% canopy cover. Other species recorded were Baeckea heteranthera, Brachysema daviesioides, Cassytha glabella, Darwinia purpurea, Dianella revoluta, Ecdeiocolea monostachya, Gahnia polyphylla, Hakea scoparia, H. subsulcata, Lepidosperma gracile, Melaleuca oldfieldii, M. platycalyx, M. uncinata, Platysace effusa, Schoenus globifer, Verticordia chrysantha. Soil yellowish brown, fine sandy clay loam with ca 60% laterite; well drained.

Heath

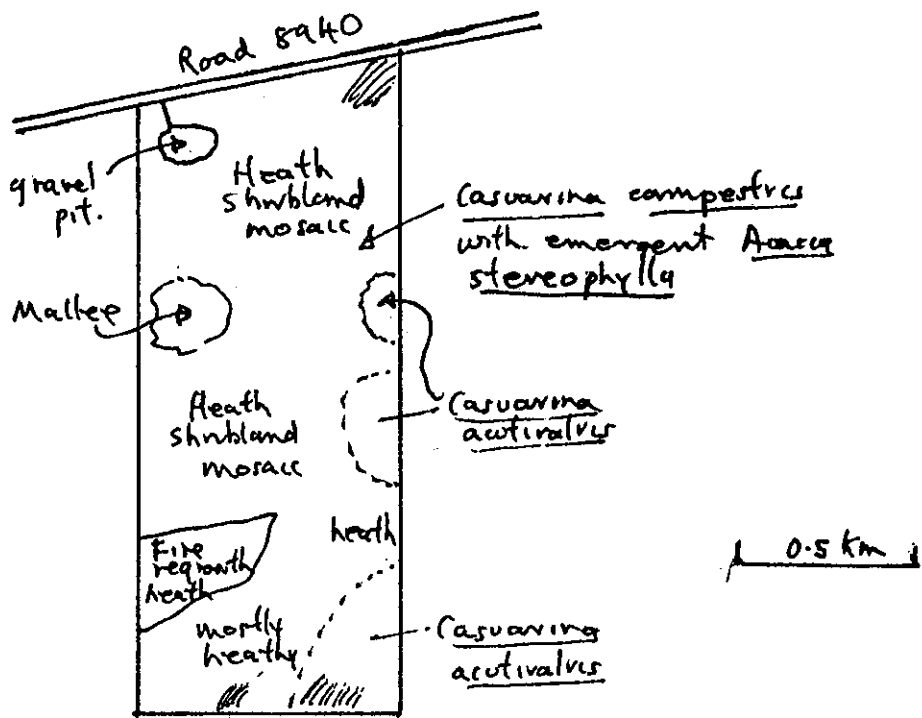
Intermittent with the Casuarina campestris shrubland are areas of Melaleuca scabra and Ecdeiocolea monostachya to 0.5 m tall. These areas are transitional and contain components of all the other associations including mallee.

Species recorded were Acacia acuminata, A. ligulata, Cassytha pubescens, Dodonaea bursariifolia, Eucalyptus drummondii, Grevillea paradoxa, Melaleuca laxiflora, M. subtrigona, Santalum acuminatum. Soil pinkish grey or yellowish fine sandy clay loam with ca 60% laterite pebbles. Moderately drained.

Fire regrowth heath

Casuarina campestris and Melaleuca uncinata shrubs, immature, 1 m tall, 30-70% cover. Also present were: Acacia multispicata, Baeckea heterantha, Borya nitida, Darwinia purpurea, Ecdeiocolea monostachya, Hakea subsulcata, Melaleuca scabra, M. uncinata, Petrophile conifera, Platysace effusa. Soil yellowish brown sandy clay. Well drained.

Reserve 21175






-  rubbish dumped.
-  distinct boundaries
-  indistinct boundaries



Plate 1. Reserve 21175. View W into Casuarina acutivalvis shrubland.



Plate 2. View E over heathy area with scattered mallee.

Reserve 23602

Located ca 10 km due S of Marchagee Townsite and 6.5 km SW of Gunyidi Siding. Shown on lithograph 90/80, C-4.

Background

Originally set aside on 19 September 1952 for "Protection of Native Flora". Vested in the Western Australian Wildlife Authority 17 October 1975 for "Conservation of Flora and Fauna".

Physical

Reserve 23602 is approximately triangular and with a total perimeter of ca 5.6 km and an area of 121.4057 ha. No contour maps are available but there is a spot altitude of ca 284 m above sea level on the NE corner of the Reserve. There is a difference of ca 50 m between the highest and lowest parts of the Reserve.

Vegetation

The vegetation is mostly heathy with development of Banksia woodlands at the N and S ends and patches of mallee and a quartz ridge.

Mallee area: Sand plain Mallee Open Shrub Mallee over Thryptomene sp. Dwarf Scrub C over Ecdeiocolea Very Open Low Sedges.

Banksia area (south end): Acorn Banksia and Woody Pear Dense Low Forest A over mixed Dense Sedges.

Heath mixed Low Heath D with Blackboys.

Quartz ridge: Tamma, Broombush or Hakea scoparia Dense Thickets, patchily distributed.

Plant species

Fifty-four plant species were recorded, 19 of which are exploited by the wildflower seed trade. One species, Grevillea thyrsoidea has not been collected in the wheatbelt by me prior to this survey, although it is common to the W of this Reserve.

Nest hollows

None present.

Weeds

Small annual species are present where water collects in the gravel pit and along roadside ditches.

Fire history

The portion of the Reserve N of the track to the gravel pit has been burnt about 13 years prior to this survey. The fire was highly variable and left a mosaic of burnt and unburnt vegetation. South of the track has not been burnt for at least 30 years.

Fauna

Grey Kangaroo (Macropus fuliginosus): scats seen.

Galah (Cacatua roseicapilla): 3 flying over Reserve.

Corella (C. tenuirostris): 2 flying over Reserve.

Pallid Cuckoo (Cuculus pallidus): 1 calling S end.

Black-faced Cuckoo-shrike (Coracina novaehollandiae): 1 seen mallee area.

Willie Wagtail (Rhipidura leucophrys): 1 seen in gravel pit.

Singing Honeyeater (Meliphaga virescens): 1 in Banksia woodland.

Western Magpie (Cracticus tibicen dorsalis): 2 feeding in gravel pit.

Australian Raven (Corvus coronoides): several in Banksia woodland, N end.

Diplodactylus granariensis: 1 collected under laterite slab in gravel pit.

Exotic fauna

Rabbit scats noted.

Firebreaks and fences

Marginal firebreaks are present on the W and N sides and roadways on the S and E sides. The W and N sides are fenced.

Human usage

Gravel pit and small amounts of rubbish dumped.

Adjacent uncleared land

Almost none. Scattered small clumps and road verges only.

Opinion and recommendations

Reserve 23602 is in good condition and little disturbed. It carries a rich assemblage of plants, particularly in the Banksia areas and heath. The Reserve probably forms a useful "stepping stone" of vegetation for transient bird species and a valuable satellite area for the Watheroo National Park to the west. I recommend that the Reserve be retained in its present condition and be vested in the Western Australian Wildlife Authority.

APPENDIX 2

Reserve 23602

Mallee area

Eucalyptus ebbanoensis and some E. pyriformis shrub mallee, mature to senescent, 2-4 m tall, 10-30% canopy cover over Thryptomene affin. baeckeacea and mixed shrubs, 1 m tall, 10-30% canopy cover over Ecdeiocolea monostachya and mixed shrubs, 0.5 m tall, 2-10% canopy cover. Other species recorded were: Acacia erioclada, A. spathulifolia, Calothamnus quadrifidus, Casuarina campestris, Conostylis breviscapa, Cryptandra glabriflora, Daviesia brevifolia, D. juncea, Dianella revoluta, Dicrastylis parviflora, Dryandra fraseri, Gastrolobium bidens, Grevillea thyrsoides, Hakea circumalata, H. scoparia, Leptospermum erubescens, Melaleuca affin. ciliata, M. scabra, Mesomelaena uncinata, Muhlenbeckia adpressa, Schoenus globifer, Synaphaea polymorpha.

Soil pinkish grey, sandy clay loam. Poorly drained.

Banksia area

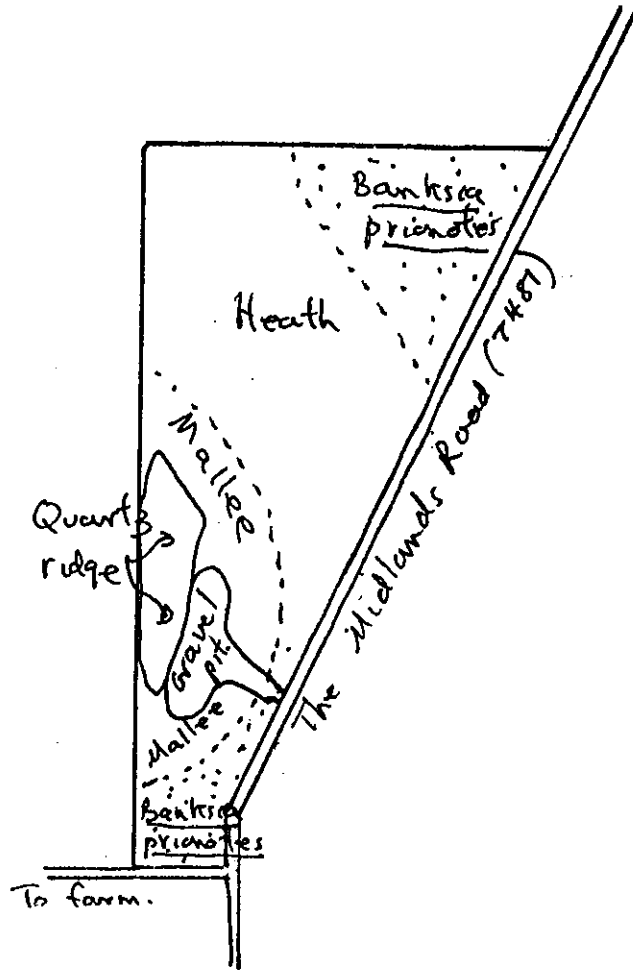
Banksia prionotes and Xylomelum angustifolium trees, mature to senescent, stratum to 8 m tall, outer branches commonly reaching to ground. Overall canopy cover 70-80%. Understory of Ecdeiocolea monostachya and Mesomelaena uncinata sedges, 0.5 m tall, 70-100% cover. Also present were: Acacia pulchella, Actinostrobos arenarius, Calytrix empetrioides, Cryptandra affin. miliaris, Dampiera juncea, Grevillea amplexans, Leptospermum erubescens, Leucopogon hamulosus, Mesomelaena stygia, Micromyrtus racemosa, Mirbelia spinosa, Muhlenbeckia adpressa, Olearia axillaris eremicola, Synaphaea polymorpha, Verticordia brownii, V. grandis. Soil is yellow, clayey sand; excessively drained.

Heath

Mesomelaena uncinata and mixed shrubs, mature, 0.5 m tall, 30-70% canopy cover. Scattered emergent Xanthorrhoea reflexa to 2 m. Also recorded were: Borya nitida, Calothamnus quadrifidus, Calytrix empetrioides, Conospermum stoechadis, Cryptandra polyclada, Ecdeiocolea monostachya, Gahnia polyphylla, Glischrocaryon flavescens, Grevillea amplexans, G. didymobotrya, Hakea circumalata, H. platysperma, Harperia lateriflora, Leucopogon hamulosus, Melaleuca affin. ciliata, M. scabra, Mesomelaena uncinata, Verticordia brownii, Xanthorrhoea reflexa. Soil yellow, fine sandy loam; well drained.

Quartz ridge

Patchily distributed shrubland of Casuarina campestris or Melaleuca uncinata or Hakea scoparia shrubs, mature to senescent, 1.5-3 m tall 70-100% canopy cover over Melaleuca scabra, 0.5 m tall, 30-70% canopy cover. The second stratum is best developed in the open areas between shrub clumps. Also recorded were: Casuarina drummondii, Dryandra fraseri, Santalum acuminatum and Stypandra imbricata. Soil almost absent except for residuals in cracks and between boulders of quartzite. Traces of laterite present. Receives water running off boulders but dries out rapidly.



Reserve 23602

----- vegetation boundary.

..... Area of Banksia priandris woodland.

0.5 km



Plate 3. Reserve 23602 showing dense Banksia prionotes over sedges and shrubs.



Plate 4. Heath with emergent Blackboys.



Plate 5. Patchy shrubs in open area between thickets on top of quartz ridge.
Reserve 23602.

Reserve 24325

Located on the Midlands Road ca 1.5 km S of Marchagee Townsite. Shown on lithograph 90/80, D2.

Background

Originally set aside 25 November 1955 for "Conservation of Flora". The main purpose for its preservation was an attempt to stop soil erosion from wind-caused blow-outs which resulted from land clearing and over grazing.

Physical characteristics

Reserve 24325 is in two portions, that W of the Midlands Road being ca 70 m wide and ca 270 m long and that E of the road being ca 70 m wide and ca 170 m long. Total perimeter of the two areas combined is ca 1.1 km and their area 3.0908 ha. There is a spot altitude of ca 316 m above sea level near the N end of the Reserve. Altitudinal variation within the Reserve is less than 3 m.

Vegetation

Acorn Banksia, Woody Pear and Sandplain Cypress are scattered throughout the Reserve. Most of the understory is grazed and only scattered shrubs remain.

Plant species

Only 14 plant species were recorded, most of the understory having been grazed, leaving only unpalatable species. The original vegetation probably had about 15 additional species in the understory.

Nest hollows

None present.

Weeds

Abundant, including Arctotheca calendula, Anagallis arvensis, Brassica tournfortii, Chenopodium pumilio, Cucumis myriocarpus, Emex australis, Erodium cygnorum, Hypochaeris glabra, Inula graveolens, Portulaca oleracea, Sonchus oleracea and Trifolium sp. Most abundant growth is beneath bushes (so avoiding trampling) and around or on cattle pads.

Fire history

No evidence of fire for a very long period.

Fauna

None recorded.

Exotic fauna

Sheep and cattle have grazed the Reserve.

Firebreaks and fences

None except adjacent to roadway.

Human usage

The Reserve has been heavily grazed for a long period.

Adjacent uncleared land

None.

Opinion and recommendations

Reserve 24325 is in very poor condition and degraded. It serves little purpose for fauna or flora but still functions to delay soil erosion. Extensive grazing and trampling by stock is allowing sand to move through the fences and erode back into the paddocks. An attempt should be made to prohibit further grazing before the blowout becomes so large that it is not contained by the meagre vegetation present.

APPENDIX 3

Reserve 24325

Banksia prionotes, Xylomelum angustifolium and Actinostrobus arenarius trees, stratum 2-5 m tall, 2-10% canopy cover. Understory absent except for clumps of Daviesia nudiflora to 1 m tall. Other species recorded were: Acacia pulchella, A. chrysella, Daviesia brevifolia, Hakea scoparia, H. varia, Jacksonia eremodendron, Lyginea tenax, Mirbelia spinosa, Muhlenbeckia adpressa and Ptilotus polystachys. Soil yellow, loamy sand; excessively drained.

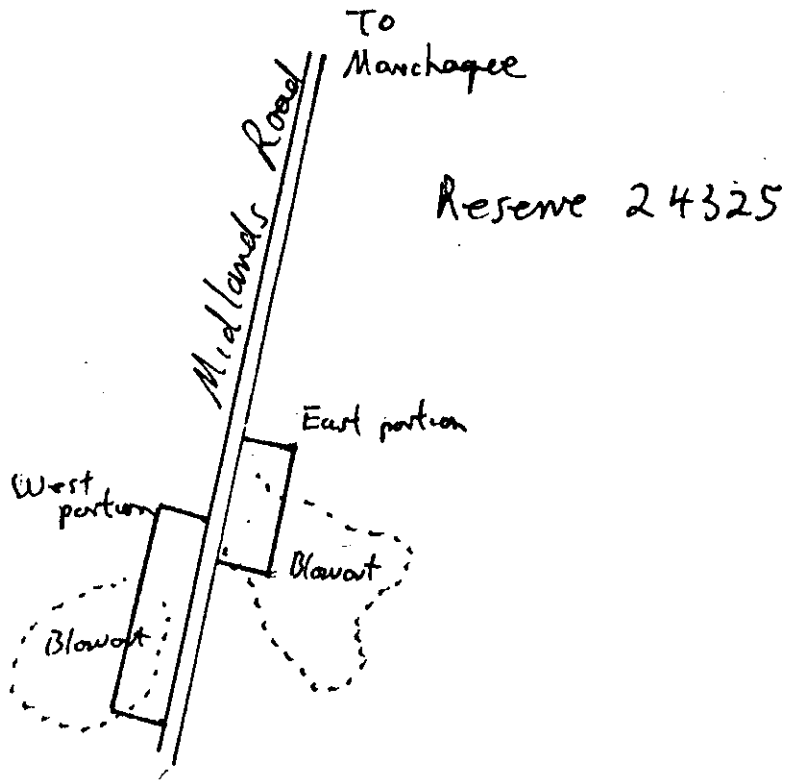




Plate 6. Reserve 24325 (portion W of Midlands Road) showing lack of understory and sand blowout. The present condition of the blowout follows several weeks of heavy rains. No herbaceous layer has developed.



Plate 7. Reserve 24325 (E portion) grazing has trimmed shrubs to about 1.5 m above the ground. Some herbaceous cover has developed in this portion.

Reserve 28669

Located ca 10.5 km due E of Marchagee Townsite and shown on lithograph 90/80, E2.

Background

Originally set aside on 7 July 1967 for "Protection of flora".

Physical characteristics

Reserve 28669 is irregular triangular in shape, being ca 2 km long (N-S axis) by ca 1.6 km broad at its N end and tapering to the S. It has a total perimeter of ca 6.8 km and an area of 157.8274 ha. No contour maps are available but there is a spot altitude of ca 277 m above sea level ca 2.7 km E of the Reserve. Altitudinal variation within the salt effected areas is 1-2 m, with an overall difference of ca 20 m between the highest portions of the Reserve and the salt flat.

Vegetation

Four associations are present, being dependent on altitude in relation to the salt flats (and consequently drainage).

Banksia areas: Acorn Banksia and Adenanthos stictus Low Woodland B/Scrub over Dwarf Scrub C.

Actinostrobos areas: Sandplain Cypress Open Scrub over Low Heath D.

Heath: Eremaea beaufortioides Low Heath C over Ecdeiocolea Very Open Low Sedges,

Salt margins and lakes: Sapphire Dwarf Scrub D on the salt flats with marginal bands of Melaleuca spp. Dwarf Scrub C.

Plant species

Forty plant species were recorded, 7 of which are exploited by the wildflower seed trade.

Nest hollows

Absent.

Weeds

Absent except for small ephemerals on road verge.

Fire history

No evidence of fires for at least 30 years.

Fauna

Mountain Duck (Tadorna tadornoides): 2 on salt flat.

Black-shouldered Kite (Elanus notatus): 1 flying over Reserve.

Welcome Swallow (Hirundo neoxena): several feeding over Reserve.

Singing Honeyeater (Meliphaga virescens): feeding in flowering

Adenanthos stictus.

White-fronted Chat (Epthianura albifrons): nest with 4 eggs in Rhagodia drummondii shrub.

Magpie-lark (Grallina cyanoleuca): 2 on mudflats.

Western Magpie (Cracticus tibicen dorsalis): 2 feeding along road verge.

Australian Raven (Corvus coronoides): several flying over Reserve.

Bobtail Lizard (Trachydosaurus rugosus): 1 in Banksia area.

Exotic fauna.

Rabbit scats and fox and sheep footprints were noted.

Firebreaks and fences

Marginal firebreaks are present on the W, S and E sides and a central firebreak divides the Reserve lengthways. The N boundary has an adjacent roadway. The W, S and E sides are fenced.

Human usage

Some sheep carcasses and a small amount of rubbish have been dumped.

Adjacent uncleared land

Salt flats extend to the N and S of the Reserve.

Opinion and recommendations

Although of low diversity Reserve 28669 supports several animals and plants of interest and is probably valuable as a feeding and rest site for transient bird species, particularly considering its isolation. It is probably also of value in soil conservation as most of the region is fairly flat and salt an increasing problem. I recommend that Reserve 28669 be retained in its present form and that it be vested in the Western Australian Wildlife Authority.

APPENDIX 4

Reserve 28669

Banksia areas

Banksia prionotes and Adenanthos strictus trees and shrubs, mature to senescent, 4-5 m tall, 10-30% canopy cover over Melaleuca spathulata shrubs and Ecdeiocolea monostachya sedge, 1 m tall, 10-30% cover. Also recorded were Acacia restiacea, Banksia attenuata (shrub form), Cassytha glabella, Daviesia nudiflora, Harperia lateriflora, Isopogon drummondii, Jacksonia eremodendron, J. ulicina, Leptospermum spinescens, Lyginea tenax, Mesomelaena stygia, Persoonia coriacea, Rhagodia drummondii, Scholtzia drummondii, Thryptomene strongylophylla. Soil yellow, loamy sand; excessively drained.

Actinostrobos areas

Actinostrobos arenarius shrubs, mature to senescent, 2-4 m tall, 2-10% canopy cover over Melaleuca spathulata and Mesomelaena sp. 0.5 m tall, 30-70% cover. Other species recorded were: Cassytha glabella, Dryandra nivea, Hakea circumalata, Harperia lateriflora, Isopogon drummondii, Jacksonia ulicina, Lepidosperma affin. pruinsum, Lyginea tenax, Plectrachne dielsii and Verticordia affin. picta. Soil yellow, loamy sand; well drained.

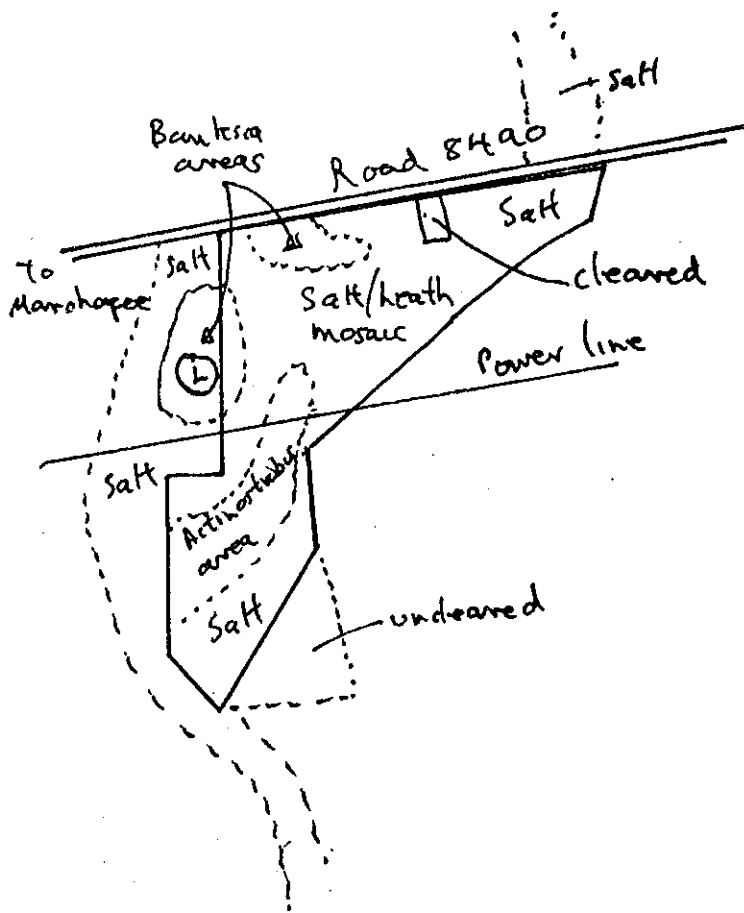
Heath

Eremaea beaufortioides shrubs, mature, 1 m tall, 30-70% cover over Ecdeiocolea monostachya 0.5 m tall, 2-10% cover. Other species recorded were: Acacia pulchella, Cassytha glabella, Corynotheca micrantha, Dryandra nivea, Ecdeiocolea monostachya, Gahnia polyphylla, Grevillea excelsior, Hakea circumalata, Harperia lateriflora, Isopogon drummondii, Jacksonia ulicina, Leptospermum erubescens, Melaleuca oldfieldii, M. spathulata, Mesomelaena uncinata, Synaphaea polymorpha. Soil yellow, loamy sand, moderately drained.

Salt margins and lakes

Salt flats have Arthrocnemum halocnemoides and A. lepidosperma as a patchy mosaic with an overall canopy cover of 10-30%. Margins of lakes and flats have A. bidens to 0.5 m tall and Melaleuca affin. cymbifolia or M. scabra to 1 m tall, 10-30% cover.

Reserve 28669



..... Vegetation boundary

Ⓛ Lake

1 km



Plate 8. Reserve 28669 showing heath area with abundant Ecdeiocollea. Ridge in right distance supports Banksia and dark green line in left distance is Actinostrobos association.



Plate 9. Salt flats with Actinostrobos in the distance.