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

**PART 19
NORTHAM SHIRE**

B.G. MUIR

1979

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A NATURE RESERVE OF THE WESTERN AUSTRALIAN

WHEATBELT

PART 19 : NORTHAM SHIRE

B.G. MUIR

Introduction

Northam Shire lies in the western-central wheatbelt and has an area of 1389 square km. There are 7 Nature Reserves within the Shire totalling ca 8 sq. km or ca 0.6% of the area of the Shire. The largest Nature Reserve in the Shire is Clackline Reserve (32400) with an area of ca 45 ha. The smallest is 29179 with an area of ca 2 ha. Of the 7 Reserves 5 are less than 20 ha in area.

None of the Reserves in the Northam Shire have 'A' classification and only 2 (31211 and 32400) are vested (in Western Australian Wildlife Authority).

This survey took place in March 1979 and consisted of a brief examination of Reserve 29977, the largest of the unvested reserves. A report is attached.

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 reserve.

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

30

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.

Opinion 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

Reserve 29977 (Meenaar Townsite) is ca 18 ha in area, with a variety of associations. Numerous plant species of unusual distribution, not previously recorded in the wheatbelt during these surveys, or of uncertain taxonomic affinities, were collected. The Reserve has been partly cleared for a gravel pit and a further portion ~~disturbed~~ but has regrown.

Reserve 29977 is worth retaining in its present form and is undoubtedly valuable for conservation of both plants and animals. Effort should be made to prevent further enlargement of the gravel pit.

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Reserve 29977
Meenaar Townsite

Located at Meenaar Townsite, ca 21 km due E of Northam and shown on lithograph 27/80, F 3-4.

Background

Originally set aside for "Conservation of Flora" on 26 September 1969.

Physical characteristics

Reserve 29977 is triangular, the S boundary following the Northam to Meckering railway line. The total perimeter of the Reserve is ca 2.5 km and its area 18.2109 ha. No spot altitudes or contour maps available but I have visually estimated a topographic range of ca 4 km for the Reserve.

Vegetation

- a. She-oak Low Woodland B over mixed Open Dwarf Scrub D.
- b. Wandoo Open Woodland.
- c. Tamma Open Scrub over Casuarina and Melaleuca Open Dwarf Scrub D.
- d. Acacia/?Rulingia Open Dwarf Scrub C.
- e. Gravel pit regrowth.

Plant species

Sixty-four plant species were recorded, of which 15 are exploited by the wildflower seed trade. Several species recorded are of interest because of distribution factors and others have not previously been recorded in the wheatbelt during these surveys.

Nest hollows

Very abundant in old Wandoo trees. Many young trees present.

Weeds

Grasses, particularly Avena sativa fatua, Avena barbata, Stipa hemipogon and Ehrata longiflora are present. Some Osteospermum candestinum (Stinking-roger) is also present.

Fire history

The Reserve has not been burnt for at least 30 years.

Fauna

Grey Kangaroo (Macropus fuliginosus): 2 seen in Wandoo woodland.

Euro (M. robustus): 2 seen in Jam woodland.

Common Bronzewing (Phaps chalcoptera): 2 in Tamma heath.

Crested Pigeon (Ocyphaps lophotes): 4 on roadway next to railway line.

White-backed Swallow (Cheramoeca leucosterna): burrows in banks of gravel pit.

Weebill (Smicrornis brevirostris): common in eucalypts.

Chestnut-rumped Thornbill (Acanthiza uropygialis): 6 in Tamma heath.

Yellow-rumped Thornbill (A. chrysorrhoa): several seen in both Wandoo and Jam woodlands.

Spotted Pardalote (Pardalotus punctatus): 4 birds, (2 male, 2 female) seen in Jam woodland.

Singing honeyeater (Meliphaga virescens): 2 in Casuarina woodland.

Western Magpie (Cracticus tibicen dorsalis): several seen, mostly in Jam and Casuarina woodlands.

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

Exotic fauna

Rabbit scats and diggings, particularly in Jam woodland.

Firebreaks and fences

There are firebreaks on the N and W sides, the W side being a roadway.

The Reserve is fenced on the N and NE sides and there is remains of an old fence in the centre of the Reserve.

Human usage

There has been a good deal of disturbance on the Reserve including old fences, an old house, tracks, costines for gravel testing, woodcutting and a radio tower. There was a road maintenance camp in the gravel pit during the survey.

Adjacent uncleared land

There is adjacent uncleared land along the railway line and wide belts of trees along road 2877 and 5019 on the N corner of the Reserve.

Opinion and recommendations

Despite its disturbance by gravel pits and other human influences Reserve 29977 carries a rich flora both at association and species level and probably a rich fauna as well.

Some of the gravel pit regrowth areas are providing successional stages carrying plant species not found elsewhere during my wheatbelt surveys. The Meenaar Reserve is thus of considerable value, despite its small size and disturbance and I recommend that it be retained in its present form. I also recommend that signs be erected to inform the public that the Reserve is not available for removal of gravel or timber and that rubbish dumping is prohibited. I also suggest the Northam Shire Council be informed that further clearing be prohibited and that the area should be protected from fire at all cost. A detailed biological study of the Reserve, particularly with regards plants would be valuable. I recommend that Reserve 29977 be vested in the Western Australian Wildlife Authority.

APPENDIX

Reserve 29977

She-oak woodland

Casuarina huegeliana trees, 4-5 m tall, 10-30% cover over mixed shrubs 0.5 m tall, 2-10% cover. Also recorded were: Acacia acuminata, Astroloma serratifolium, Baeckea crispiflora, Borya nitida, Casuarina campestris, Dryandra cirsioides, Eucalyptus loxophleba, Hakea incrassata, Melaleuca radula, Patersonia sp., Persoonia striata. Soil pinkish grey, clayey sand. Moderately drained.

Wandoo woodland

Eucalyptus wandoo trees, 12-16 m tall, 2-10% cover over scattered shrubs and grasses occasionally reaching 3% cover.

Species recorded were: Acacia acuminata, A. erinacea, A.? leptospermoides, Borya nitida, Cassytha racemosa, Casuarina Campestris, Dampiera juncea, D. spicigera, Daviesia? preissii, Gastrolobium trilobum, Glischrocaryon flavescens, Hakea trifurcata, Melaleuca radula, Santalum spicatum, Stypandra imbricata, Xanthorrhoea reflexa. Soil pinkish grey, sandy clay. Poorly drained.

Acacia/?Rulingia Heath

Acacia pulchella glaberrima and Rulingia sp., 1 m tall, overall cover 2-10% with areas up to 30-70% cover. In some parts this association is mosaic with patches of Harperia lateriflora and Loxocarya pubescens, 0.3 m tall, 30-70% cover. Other plant species recorded were: Astroloma serratifolium, Billardiera variifolia, Cassytha pubescens, Casuarina microstachya, Conostephium preissii, Dodonaea divaricata, Gastrolobium hookeri, Goodenia affinis, Hakea incrassata, H. lissocarpha, Hemigenia canescens, Hibbertia acerosa, Lomandra effusa, Mesomelaena uncinata, Osteospermum clandestinum, Stipa elegantissima, Stylidium caricifolium affine.

Soil greyish-brown, sandy loam. Well drained. Area has been disturbed and has regrown.

Tamma shrubland

Casuarina campestris shrubs, 2-3 m tall, 2-10% cover over C. microstachya and Melaleuca platycalyx shrubs, 0.5 m tall, 2-10% cover. Also recorded were: Acacia campylophylla, A. stenoptera, Baeckea crispiflora, Borya nitida, Casuarina huegeliana, Dryandra fraseri, Hakea crassifolia, H. gilberti, Hemigenia canescens, Isopogon affin. formosus, Melaleuca radula, Xanthorrhoea reflexa. Soil pinkish grey light clay with ca 80% laterite.

Gravel pit regrowth

Scattered plants of the following species. Acacia leptophylla, A. mackayana, Astroloma serratifolium, Baekkea affin. crispiflora, Casuarina compestris, Conostephium preissii, Cryptandra sp., Daviesia? microphylla, D.? nudiflora, Dodonaea diraricata, Eucalyptus wandoo, Gastrolobium hookeri, G. spinosum, Glischrocaryon flavescens, Goodenia affinis, Hakea subsulcata, Hemigenia canescens, Hibbertia acerosa, Lepidosperma tenue, Olearia revoluta, Rulingia sp., Santalum acuminatum, Stylidium caricifolium affine, Synaphaea polymorpha, Xanthorrhoea reflexa.

Growing on bare laterite surface in soil pockets and cracks.

Disturbed area near house

Dryandra cuneata, D. fraseri and Grevillea vestita are common near the old house.

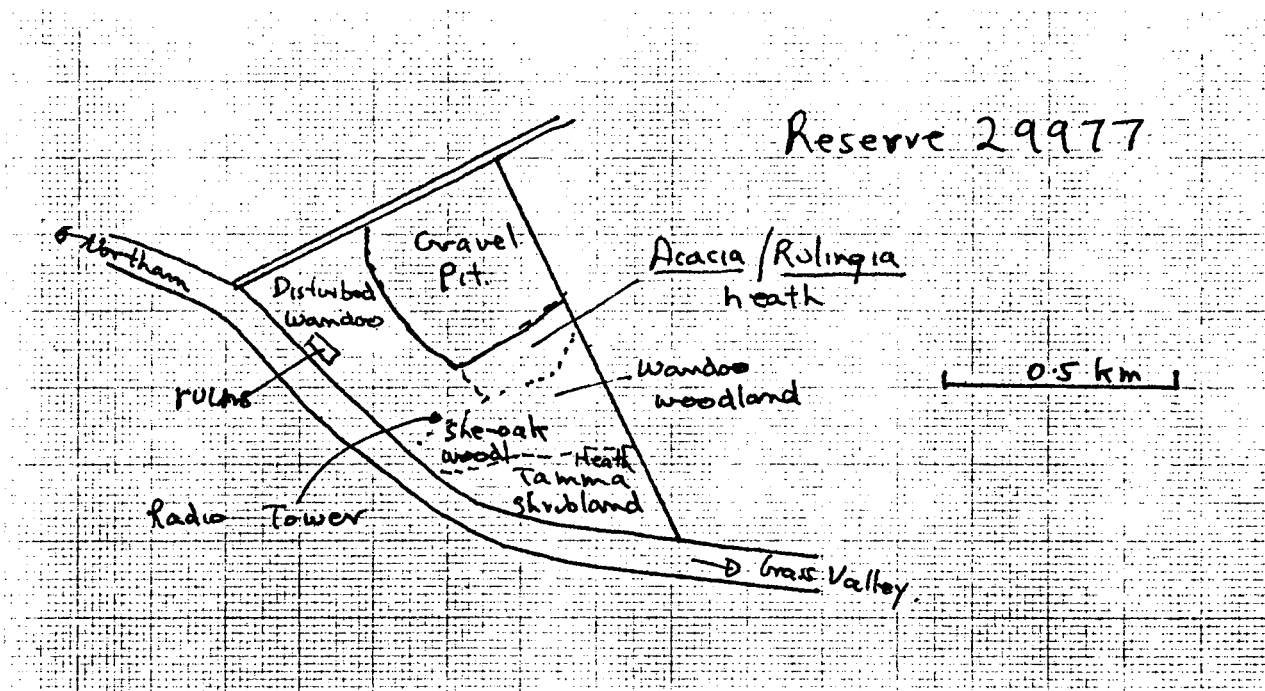




Plate 1. Reserve 29977 showing heaths on SE side.



Plate 2. Portion of regrowth in gravel pit, with Wandoo woodland in background.