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SOME NATURE RESERVES OF THE WESTERN AUSTRALIAN  
WHEATBELT

PART 18 : GOOMALLING SHIRE

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## A NATURE RESERVE OF THE GOOMALLING SHIRE

B.G. MUIR

### Introduction

Goomalling Shire is in the western-central wheatbelt and has an area of about 1845 square km. There are only 3 Nature Reserves within the Shire, totalling 3.16 square km or ca 0.17% of the area of the Shire. The largest Nature Reserve in the Shire is 'A' 17186 (Walyormouring Lake), ca 291 ha in area; and is vested in the Western Australian Wildlife Authority. The remaining two reserves are 737 (ca 19 ha) and 24885 (ca 6 ha), neither of which are vested.

This survey was carried out in March 1979 and consisted of a brief examination of only 1 reserve, 737. 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 Surveys, 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

TABLE 1: VEGETATION CLASSIFICATION AS USED IN WHEATBELT SURVEY

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

out rapidly and in unfavourable seasons, many plants were not flowering and so identifications were made from foliage alone. Only if an important dominant plant was not recognised were specimens brought back to the laboratory for examination.

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

Fire history was determined from observations 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

The features of Reserve 737 can be summarised as: area ca 19 ha; salt creek, Casuarina and Salmon Gum woodlands; isolated, and important for transient fauna; suggest vesting in Western Australian Wildlife Authority.

This Reserve contains areas of woodland valuable for transient fauna and is of value in preventing further encroachment of salt onto adjacent farmland.

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#### Acknowledgements

Mrs. J. Muir assisted in the field. The Western Australian Herbarium provided access to collections and assistance in identifying plants.

## Reserve 737

### Cartamulligan Well

Located ca 19 km NNE of Northam Townsite and shown on lithograph 27/80, E2.

#### Background

Originally set aside as a "Resting Place for Sheep" (ca 259 ha) on 2 October 1884 and vested in the Northam Shire. This vesting was revoked on 22 August 1889 and the Reserve remained unvested from then until the present day. Its classification was changed to "Resting Place for Travellers and Stock on 22 September 1911. It was decreased to ca 20 ha on the same date. The area was further decreased to ca 19 ha on 2 December 1960 and again to 18.6 ha on 22 June 1976. At the same time as this last change in size, its classification was changed to "Conservation of Flora".

#### Physical characteristics

Reserve 737 is square, with its E and W side oriented to the NW. It has a total perimeter of ca 1.4 km and an area of 18.6838 ha. No spot altitudes or contour maps are available. The overall topographic range of the reserve is about 2 m, with the creek bed a further 2 m below the level of the Reserve.

#### Vegetation

York Gum/Jam Open Woodland to Open Low Woodland A with York Gum/Casuarina Open Woodland closer to the creek margins. The creek banks are wooded with Casuarina obesa (Swamp She-oak) Dense Low Forest A. There are abundant grasses throughout the Reserve, especially where damp soils predominate or where there has been disturbance.

#### Plant species

Forty-eight species were recorded, of which 6 are abundant grasses and 5 are exotics behaving as weed species. Five species are exploited by the wildflower seed trade.

#### Nest hollows

A few are present in the Salmon Gum area. There are no young trees present. The Casuarina obesa on the creek does not form nest hollows.

#### Weeds

Abundant grass, particularly Arena sativa fatua in all areas. Abundant weeds, particularly Inula graveolens and Couch grass (Cynodon dactylon) in the gravel pit.

#### Fire history

Area has not been burnt for at least 30 years, except perhaps for grass fires which leave little trace of their occurrence.

#### Fauna

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

Willie Wagtail (Rhipidura leucophrys): 4 seen along creek.

Wood-swallow (unidentified; Artamus sp.): 4 perched on dead tree near creek.

#### Exotic fauna

Old rabbit warren noted.

#### Firebreaks and fences

No marginal firebreaks present. Installation of firebreaks would damage much of the Reserve. The creek and roadway act as firebreaks.

Good fences are present on the E, S and W sides. The fence on the N side is in poor condition.

#### Human usage

Timber has been removed from the Salmon Gum woodland and some rubbish dumped. Much of the woodland understory has been removed by a gravel pit, and there is

a dam present. Portions of the NW side of the Reserve have been grazed, and a temporary fence constructed to prevent sheep straying onto the roadway.

Adjacent uncleared land

None except along creek.

Opinion and recommendations

The area surrounding the Reserve and along Southern Brook is salt prone and much farmland is already rendered useless. The potential for salting up is already obvious within the Reserve and removal of any of the vegetation is certain to be deleterious. For this reason grazing should be completely banned, as it is preventing young Casuarina trees from becoming established. In the portions of the Reserve where there has not been grazing young trees are fairly abundant.

The only refuge areas for transient fauna are small pockets of scrub left in farmland, and this Reserve; the rest is cleared.

I strongly recommend that action be taken to remove the temporary fences and prevent further grazing on the Reserve. Apart from this alteration I suggest a sign be placed near the NE corner stating that the area is a reserve and that rubbish dumping is prohibited. I also recommend that it be vested in the Western Australian Wildlife Authority.

APPENDIX

Reserve 737

York Gum/Jam woodland

Eucalyptus loxophleba trees, 8-16 m tall, 2-10% cover, over Acacia acuminata trees, 3-5 m tall, 2-10% cover. Scattered Salmon Gum present. Other species recorded were: Aira caryophylla, Atriplex? exilifolia, Avena sativa fatua, Bassia diacantha, Comesperma polygaloides, Dampiera spicigera, Dianella revoluta, Eragrostis curvula, Grevillea paniculata, Hakea preissii, Lomandra effusa, Maireana brevifolia, Olearia revoluta, Osteospermum clandestinum, Rhagodia semibaccata, Santalum spicatum, Stipa elegantissima, S. hemipogon, Trichoryne elatior. Soil yellowish brown, sandy clay. Poorly drained.

York Gum/Casuarina woodland

Eucalyptus loxophleba 16 m tall and Casuarina obesa 10 m tall, trees, canopy cover 2-10%. Scattered Acacia acuminata present. Other species found were: Acacia saligna, Aizoon quadrifidum, Amyema preissii (on Acacia acuminata and Melaleuca pauciflora), Atriplex semibaccata, Euphorbia drummondii, Hakea preissii, Maireana brevifolia, Melaleuca hamulosa, M. pauciflora, Podolepis capillaris, Rhagodia sp., Stipa elegantissima. Soil yellow brown sandy loam. Poorly drained.

Creek margins

Mostly Casuarina obesa trees, to 8 m tall on waters-edge down to 3 m tall on outer edges of belt; 20-100% cover decreasing to 2-10% cover away from creek. Understory of grasses including Amphipogon caricinus, Briza maxima, B. minima, Eragrostis dielsii, Hordeum marinum and Paspalum distichum. Weeds recorded were: Arctotheca calendula, Cucumis myriocarpus, Raphanus raphanistrum, Rumex acetosella, and a single tree of Shinus molle. Native species recorded were: Amyema gibberulum (on C. obesa) Arthrocnemum bidens, Atriplex? exilifolia, A. semibaccata, Bassia diacantha, Chenopodium pumilio, Hakea preissii and Juncus? kraussii. There was also a single plant of Jacksonia furcellata. Soil brownish yellow, loam. Poorly drained.

Reserve 737.

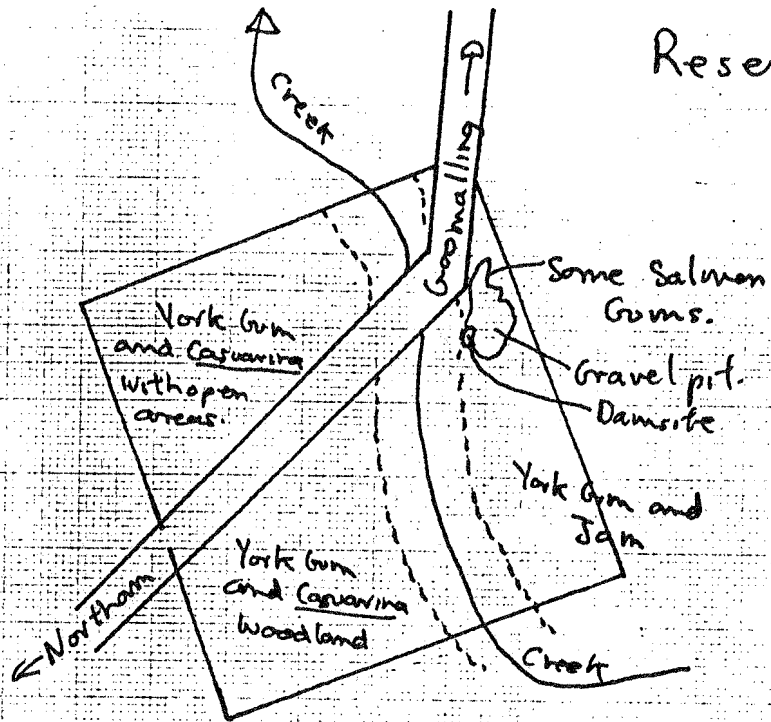




Plate 1. Reserve 737 showing York Gum/Jam woodland on NE corner near cleared area.



Plate 2. View NE towards creek from SW corner of Reserve showing Swamp She-oak with understory of Aizoon quadrifidum and grasses.

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