SOME NATURE RESERVES OF THE WESTERN AUSTRALIAN WHEATBELT

PART 26

WILLIAMS SHIRE

B.G. MUIR

1979

Some Nature Reserves of the Western Australian wheatbelt

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Western Australian Museum

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A NATURE RESERVE OF THE WILLIAMS SHIRE

B.G. Muir

INTRODUCTION

Williams Shire is in the south-western corner of the central wheatbelt and has an area of ca 2295 square km. There are 5 Nature Reserves within the Shire, totalling ca 15.6 square km or ca 0.7% of the area of the Shire. The largest Nature Reserve is ca 630 ha in area and 3 of the others, 570, 205 and 144 ha in area. Thus 4 of the 5 Reserves are quite large, the fifth being only ca 8 ha in area. None of the Reserves have 'A' classification and only 2, 21521 (Williams) and 32448 are vested (in the Western Australian Wildlife Authority).

This survey was carried out in July 1979 and consisted of a brief examination of Reserve 29313. 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 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.

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 CONCLUSIONS.

Reserve 29313 is ca 570 ha in area, entirely woodland, and lies in the transition zone between the Darling and Avon Botanical Districts. It is rich in plant species and fauna and is a valuable conservation reserve. Additionally, it is not greatly disturbed. I recommend that a management plan be implemented and that firebreaks be installed. I also recommend the Reserve be classified "A" to give maximum protection and that it be vested in the Western Australian Wildlife Authority.

REFERENCES

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RESERVE 29313

Located ca 22 km SW of Narrogin townsite and ca 21 km due W of Highbury townsite. Shown on lithograph 385/80 A3 and on 1:50,000 Highbury sheet (2331-IV) and Williams sheet (2231-1)

Background

Originally set aside 13 September, 1968 for "Conservation of Flora and Fauna".

Physical Characteristics

Reserve 29313 is approximately triangular, ca 4.4 km long (E-W axis) by ca 2.2 km broad at its widest (E) end. It has a total perimeter of ca 11.6 km and an area of 570.1844 ha. Contour maps are available for only the E portion of the Reserve. The lowest point in this portion is ca 310m above sea level, with an altitudinal range of 80m.

Vegetation

(1) Wandoo Open Woodland over Jam and Sheoak Low Woodland A or Jam Low Forest A: Marri common as scattered trees or dense clumps; variable understorey.

(2) Lateritic ridges with Jarrah Forest over Dryandra Thicket with mixed Dwarf Scrub D understorey.

(3) Sheoak Dense Low Forest A with scattered shrubs on granite outcrop.

Plant species

Probably several hundred species present, only a fraction of which were encountered during this survey. Jarrah and Marri, together with many wheatbelt species such as Jam and Broombush suggest the Reserve is on the transition between the Darling and Avon Botanical Districts. Consequently it is floristically rich and may contain some undescribed species.

Nest hollows

Abundant nest hollows throughout Reserve. Many young trees present.

Weeds

Mostly Guildford Grass (Romulea rosea) and ephemerals in lowest lying woodland areas.

Fire History

No evidence of fire within the last 30 years.

Fauna

Echidna (Tachyglossus aculeatus): scats seen in several parts of the Reserve

Grey Kangaroo (Macropus fuliginosus): 5 seen in single group on N side.

Western Brush Wallaby (M. irma): 1 seen in Jarrah on N side.

Emu (Dromaius novaehollandiae): scats common

Black Duck (Anas superciliosa): 2 flying over Reserve

Wedgetail Eagle (Aquila audax): 1 on S boundary

Little Falcon (Falco longipennis): 1 on S boundary chasing Wedgetail Eagle.

Common Bronzewing (Phaps chalcoptera): 3 on N boundary 2 in Casuarina woodland W end.

Port Lincoln Parrot (Platycercus zonarius): common throughout

Pallid Cuckoo (Cuculus pallidus): 1 seen NE corner, 2 heard S boundary.

Kookaburra (Dacelo gigas): common throughout

Tree Martin (Hirundo nigricans): common over Reserve.

Black-faced Cuckoo-Shrike (Coracina novaehollandiae): 1 heard calling

Red-capped Robin (Petroica goodenovii): 2 pairs seen.

Western Shrike-thrush (Colluricincla harmonica rufiventris) heard calling SE corner.

Grey Fantail (Rhipidura fuliginosa): Common throughout

Willie-Wagtail (R. leucophrys): 2 in Casuarina woodland

Western Warbler (Gerygone fusca): common throughout

Weebill (Smicrornis brevirostris): common throughout

Yellow-rumped Thornbill (Acanthiza chrysorrhoea): common throughout

Rufous tree-creeper (Climacteris rufa): 2 seen W end

Mistletoe bird (Dicaeum hirundinaceum): several heard, 1 seen at SE corner.

Singing Honeyeater (Meliphaga virescens): common, feeding in Dryandra sessilis.

White-eared Honeyeater (M. leucotis): in Dryandra sessilis

Red Wattlebird (Anthochaera carunculata): common throughout

Magpie-lark (Grallina cyanoleuca): common, particularly on boundaries

Grey Currawong (Strepora versicolor): 4 seen S boundary

Exotic Fauna

None recorded

Firebreaks and fences

No firebreaks; marginal fences only

Human Usage

A gravel pit of 3-4 ha is on the S side of the Reserve. A track follows the S boundary, another used as a horse-riding trail passes across the N end of the Reserve and there is a short track into the gravel pit. The riding trail is used by the local riding club and appears to be quite well used. There is no evidence of horses straying far from the trail. Timber has been removed from many parts of the Reserve.

Adjacent uncleared land

About 200 ha of uncleared land, mostly woodland, are contiguous with the N end of the Reserve.

Opinion and recommendations

Reserve 29313 is in excellent condition and supports one of the largest and least disturbed areas of woodland in the wheatbelt. The presence of Jarrah, Marri, Wandoo and Jam suggest the Reserve lies in the transition zone between the Jarrah forest block and the wheatbelt and as such is of interest biogeographically. The richness of understorey plant species and geological and topographic variation suggest that the Reserve should be quite rich in fauna. I strongly recommend that the Reserve be examined in detail and that a management plan including firebreaks be implemented. Further removal of gravel from the gravel pit should be prohibited.

I consider Reserve 29313 to be one of the more valuable conservation Reserves in the wheatbelt and recommend that it be declared "A" class to ensure its future protection. I also recommend it be vested in the Western Australian Wildlife Authority.

APPENDIX

RESERVE 29313

The vegetation of the Reserve is extremely variable according to topographic and drainage changes. This, and the large size of the Reserve, made a complete list of plants unprocurable in the time available. In the lists below only the most prominant species are recorded:-

Wandoo woodland

Eucalyptus wandoo trees, 8-18m tall 2-10% cover over Casuarina huegeliana and Acacia acuminata trees 2-10m tall, 10-30% cover. Scattered E. calophylla to 18m tall. Acacia nervosa, Dryandra affin. nivea and Gastrolobium bilobum were prominant. In areas where E. wandoo canopy cover reached 10-30% cover Dryandra hewardiana, Gastrolobium crassifolium, Hakea lissocarpha, H. prostrata and Hypocalymma angustifolium were conspicuous. In areas where A. acuminata reached 7-12m tall and 30-70% cover Acacia microbotrya, Casuarina humilis, Dryandra nivea, D. polycephala and Hakea varia were common. Soils variable.

Jarrah Woodland

Eucalyptus marginata trees, 16-24m tall, 30-70% cover over Dryandra sessilis shrubs 2-3.5m tall, 30-70% cover over mixed shrubs 0.5m tall, 10-30% cover. Species dominant in various areas were:

Daviesia acanthoclona, Dillwynia cinerascens, Dryandra nivea, D. nobilis, Eucalyptus accedens, (on slopes), Hakea incrassata, H. prostrata, H. varia, Loxocarya pubescens Melaleuca uncinata, Synaphaea petiolaris, S. polymorpha.

Soils variable, mostly very lateritic.

Sheoak Woodland

Casuarina huegeliana trees, 4-10m tall, 70-100% cover. Also recorded were: *Borya nitida*, *Calothamnus quadrifidus*, *Hybanthus floribindus*, *Hypocalymma angustifolium*, *Lepidosperma drummondii*, *Stypandra imbricata*. Soil pinkish grey, gritty, loamy sand. Well drained. Exposures of granite pavement and boulders.

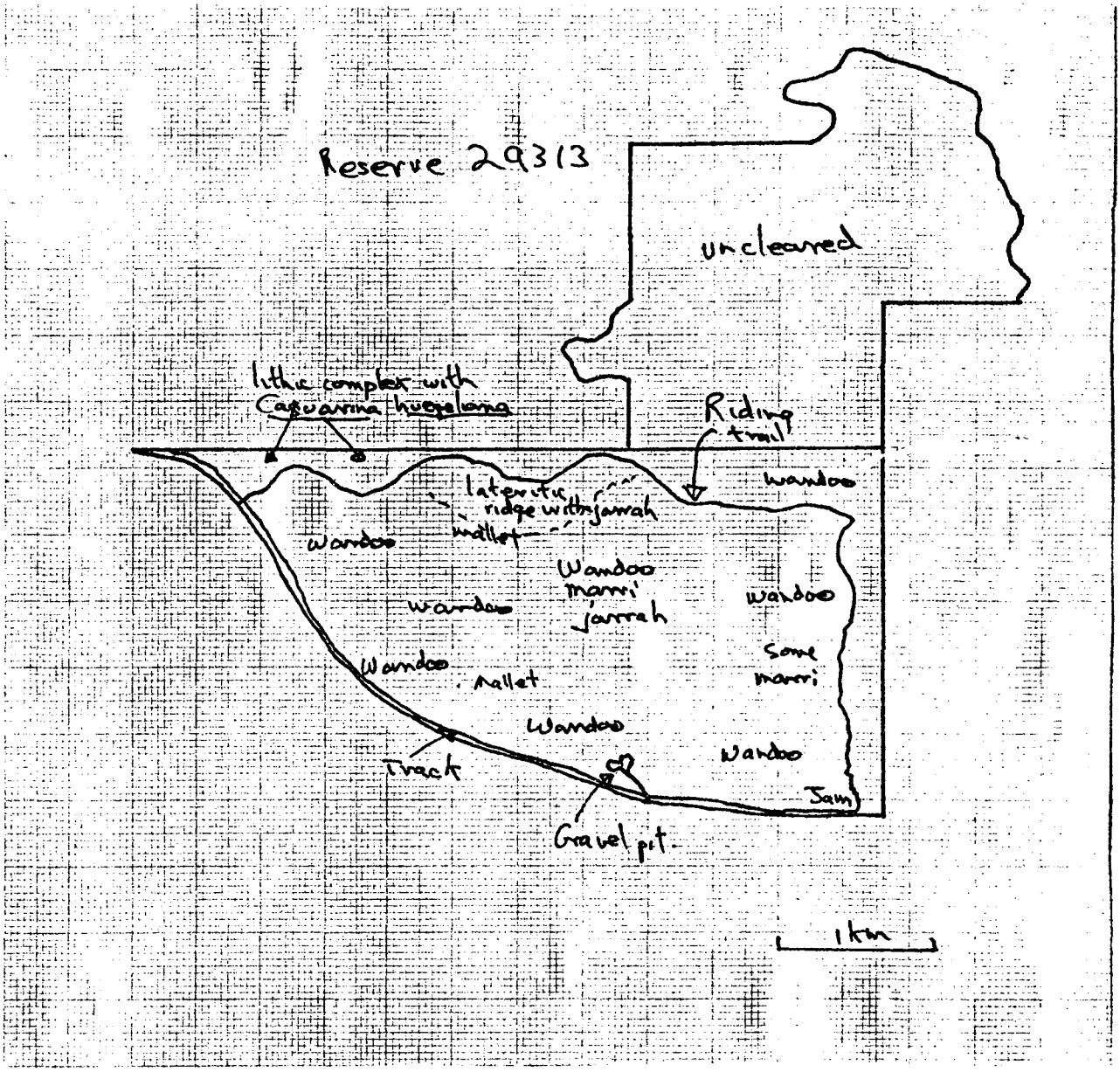
Reserve 29313
uncleared
lithic complex with
Casuarina huegeliana
Riding trail
laterite ridge with jarrah
Wandoo
Wandoo
mallet
Wandoo
marri
jarrah
Wandoo
Wandoo
Some
marri
Wandoo
mallet
Wandoo
Wandoo
Track
Jam
Gravel pit
1km

Plate 1. Wandoo woodland with very low heath understorey on Reserve 29313.

Plate 2. Wandoo woodland with Gastrolobium crassifolium understorey

Plate 3. Jarrah woodland over Dryandra sessilis on laterite ridge Reserve 29313.

Plate 4. Sheoak woodland on granite outcrop.