II VEGETATION OF YORNANING NATURE RESERVE

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General

Yornaning Nature Reserve falls within the Avon district of the South-western Botanical Province of Gardner and Bennetts (1956) and the vegetation largely conforms to that generally found throughout this region. The vegetation does, however, show some affinities to the Darling district, the boundary of which lies nearby to the west.

No documented plant collections have been made prior to this survey, which was carried out on 11-12 September 1975 and 13 February 1977.

Vegetation descriptions are presented in **Appendix 1** and shown on **Map 1.** Species lists for selected locations are given in **Appendix 2.** The plant families represented on Yornaning Reserve and the number of species found in each family is given in **Appendix 3.**

Methodology

The vegetation of Yornaning Reserve was mapped at Level 2 of the reliability scale set out in Muir (1977a). Each vegetation formation discernible on the air photographs was examined on the ground and described using the vegetation classification in **Table 1**; this information was then extrapolated to adjacent formations.

Uncleared land contiguous to the Reserve but not included within it was mapped at formation level directly from the photographs (Level 3).

Level 2 locations shown on the accompanying vegetation map represent 'sample areas' where the vegetation was described. The following prefix numbers of the locations represent basic formation types found on the Reserve.

1. = woodland formations
3. = shrubland formations
4. = heath formations
5. = lithic complexes

Level 3 locations shown on the map are prefixed by 'W' which indicates woodland formations.

The methods used in classifying formations, coding vegetation, preparing plant lists, classifying litter and describing soils are those of Muir (1977a).

DISCUSSION

Formations and Distribution

Woodlands, shrublands, heaths and lithic complex are the only formations represented on Yornaning Reserve. Mallee is entirely absent except for a small stand of *Eucalyptus redunca* near loc. 1.5. The area of this stand (0.06 ha) is considered too small to constitute a formation. Breakaways, although present, tend to have very narrow degraded scree slopes (mostly less than 30 m wide) and do not have any of the outwash zones and plants associated with breakaway complexes on other reserves. Salt complexes are entirely absent.

Two basic geological structures have given rise to the soils and hence physiognomy of the vegetation on the Reserve. Firstly, granites underlie the whole area and wherever soils have accumulated on the granite, woodlands occur. The second rock type is laterite which has developed on top of decayed granite and is either directly exposed (as in loc. 3.1 and on the breakaway platforms) or is overlain with sand. The sand may be shallow as in loc. 4.2 or deep as in loc. 4.1.

Formation area and proportion of the Reserve are set out in **Table 2** below. Woodlands are best represented and heath and lithic complex less so. Shrubland is present only to a very small extent.

TABLE 2

Area of each formation and its percentage of the Reserve.

Formation	Area of formation	% of Reserve
Woodland	158 ha	64
Shrubland	1	0.4
Heath	73	30
Lithic complex	15	5.6

Uncleared land adjacent to Yornaning Reserve is all woodland and comprises: 110 ha in a single block adjacent to the south side of the Reserve; *ca* 60 ha on the east side; and 30 ha on the north side. All the woodland to the north and east has been grazed. The woodland to the south is undisturbed except for *ca* 8 ha (loc. W9) which has been scrubrolled.

Associations

'Associations' as used here include associations, associes and consociations according to the definitions of Beadle and Costin (1952) and Polunin (1960).

TABLE 3

List of associations in each formation on Yornaning Reserve.

WOODLAND

Casuarina huegeliana
Eucalyptus astringens
E. wandoo
E. wandoo - C. huegeliana
E. wandoo - E. falcata - E. longicornis

SHRUBLAND

Dryandra nobilis

HEATH

Eremaea pauciflora - Leptospermum erubescens
Xanthorrhoea reflexa

Formation		Number of Associations
Woodland		5
Shrubland		1
Heath		2
	Total	8

Compared with other reserves in the wheatbelt (Muir 1976, 1977a,b, 1978) Yornaning Reserve has few associations. However, expressed as number of associations in relation to area of Reserve, the vegetation is at least as diverse as some larger reserves. Yornaning has 3.24 associations per square km.

Senescent trees

The artificially contrived index of abundance of senescent trees discussed in Muir (1977b) can be calculated for Yornaning Reserve. The Reserve has about 158 ha of woodland averaging about 30% canopy cover and thus having about 53 ha of actual canopy. About 26% of all the trees on the Reserve are senescent and with hollow limbs or trunks, and thus the senescence index for the Reserve is 13.8. All the senescent, hollow trees on the Reserve were *Eucalyptus wandoo*. This tree is abundant in only 13 of the 20 woodland areas examined, and makes up only 30-50% of the trees at a further seven of these sample sites. Thus, the *E. wandoo* is mostly in small numbers at each sample site, or if abundant, the groups of trees are widely spaced apart. For these reasons, in terms of faunal utilisation, the calculated index of abundance of hollow limbs and trunks is probably slightly higher than it should be.

Floristics

The fairly uniform nature of the vegetation on Yornaning Reserve makes collection of the common plant species relatively simple.

A total of 107 plant species were collected. Based on previous experience, the total number of common perennials and ephemerals is probably about 150, this gives a relative species abundance of 43.3 species per square kilometre.

Twenty-three families were recorded, dominated by Proteaceae, Myrtaceae and Fabaceae amongst the docotyledons and Cyperaceae amongst the monocotyledons.

Two species of interest are *Cryptandra polyclada* which is thought to be endangered, with only small colonies remaining and *Nuytsia floribunda* is of importance owing to its disjunct distribution (Specht *et al.* 1974).

Table 4 compares floristic diversity between formations.

Formation	No. of species	Spp/ha
Woodland	56	0.35
Shrubland	21	21.0
Heath	60	0.82
Lithic complex	10	0.67

The number of plant species per ha is probably abnormally high for shrubland because the formation area is so small and virtually constitutes an ecotone between locs 1.19 and 1.20. Because of these ecotonal effects only eight species were confined to the shrubland. These were *Acacia insolita, Adenanthos flavidiflora, Bossiaea eriocarpa, Dryandra nobilis, Dryandra* sp. A (SC), *Grevillea teretifolia, Hakea varia* and *Lepidosperma tenue.* Using 8 as the number of species in loc. 3.1 the number of species per hectare is still 8.0. The shrubland must therefore be considered to have 10-20 times the diversity of any other formation. Heath is the next most diverse.

The number of species recorded *only* in a single formation (restricted species) are shown in **Table 5.**

TABLE 5

Number of restricted plant species and number per area in each formation.

Formation	Number of species	Spp/ha
Woodland	29	0.18
Shrubland	8	8.0
Heath	39	0.53
Lithic complex	2	0.13

Apart from the comments on shrubland (above), heath has most restricted species and most per unit area.

A synthesis of all ecological and floristic data for the Reserve will be included in the final wheatbelt study to be presented later.

APPENDIX 1

VEGETATION DESCRIPTIONS: YORNANING RESERVE

WOODLANDS

Loc. 1.1

As for loc. 1.7 with patches of *Casuarina huegeliana* similar to loc. 1.16.

Loc. 1.2

As for loc. 1.7 with patches of *Casuarina huegeliana* similar to loc. 1.16.

Loc. 1.3

As for loc. 1.16.

Loc. 1.4 (Trapline 8)

Stratum 1: *Eucalyptus wandoo* trees, senescent, 12-18 m tall, 2-10% canopy cover. Stratum 2: *Casuarina huegeliana* trees, mature, 4-8 m tall, 10-30% canopy cover. Stratum 3: *Loxocarya* affin. *vestita* sedges and *Borya nitida* herbs, mature, stratum 0-0.3 m tall, 30-70% canopy cover. Some timber removed from area. Old fire scars visible. Area is variable in height and density and some areas have scattered shrubs in the understory, commonly *Hakea lissocarpha* or *Gastrolobium crassifolium*. There are some dense stands of *Casuarina huegeliana* similar to loc. 1.16. Litter: sparse, 2 cm deep, clumps mostly greater than 5 m apart. Horizon A soil brown, sandy loam.

Loc. 1.5 (Trapline 10)

Stratum 1: *Eucalyptus wandoo* trees, immature, stratum 8-10 m tall, 10-30% canopy cover. Stratum 2: *Casuarina huegeliana* trees, immature, stratum 3-4 m tall, 2-10% canopy cover. Stratum 3: *Gastrolobium crassifolium* shrubs, senescent, stratum 1-2 m tall, 10-30% canopy cover. Included within this loc. is an area *ca* 20 m in diameter of *Eucalyptus redunca* shrub mallee, 6-10 m tall, 2-10% canopy cover. This is the only mallee association on the Reserve. Also present is a granite exposure, a small stand of *E. astringens* and scattered dense stands of *Casuarina huegeliana* similar to loc. 1.16. Large timber removed from *E. wandoo* area; evidence of old fire scars. Litter: moderately abundant. Soil: brown, sandy loam.

Loc. 1.7 (Trapline 2)

Stratum 1: *Eucalyptus wandoo* and *Casuarina huegeliana* trees, the *E. wandoo* senescent, the *C. huegeliana* from immature to senescent, stratum 10-15 m tall, 10-30% canopy cover. Stratum 2: *Xanthorrhoea reflexa* and *Gastrolobium crassifolium* shrubs, immature, stratum 1-1.5 m tall, 2-10% canopy cover. Stratum 3: *Dampiera* affin. *coronata* and *Hibbertia helianthemoides* shrubs, immature, stratum 0.5 m tall, 2-10% canopy cover. Some *E. wandoo* emergent to 17 m. *C. huegeliana* trees, regenerating from seed and present at all heights and stages of maturity. Scattered native grasses present. Some timber has been removed from the area. Old fire scars are visible. Litter: sparse. Soil: light yellowish brown fine sandy loam.

Loc. 1.8 (Trapline 5)

This location is situated across a series of ecotones which have developed on the scree zone of a laterite breakaway. The top of the breakaway platform has a mixed assemblage of shrubs. The uppermost of the ecotones constitutes *Eucalyptus wandoo, E. falcata* and *E. longicornis* trees, 10-15 m tall, 2-10% canopy

cover. All immature except the *E. wandoo* which is senescent. This is situated near the visor on exposed pallid zone clays and some scree laterite.

The second ecotonal band lies about half way up the scree. Trapline 5 passes along this band. It constitutes *Casuarina huegeliana* and *Eucalyptus wandoo* trees, 5-10 m tall, 10-30% canopy cover over *Gastrolobium crassifolium* shrubs, 1-1.5 m tall, 10-30% canopy cover. Soil is clays and abundant laterite rubble. A sample taken from the middle of the trapline band was pH5.8, yellowish red, 5YR4/6 fine sandy loam with *ca* 40% laterite pebbles.

The lowest band is *Casuarina huegeliana* trees, 5-7 m tall, 30-70% canopy cover over scattered herbs of less than 2% cover. This passes into *Casuarina huegeliana* trees 40-90% canopy cover with no understory on the flat areas below the breakaway scree. Drainage in this area and in the lowest band is poor, becoming better drained as the vegetation passes up the scree. The area may be coded as eLAr-ceLAi.n_1SBi-cLAc/breakaway. n_1 = *Gastrolobium crassifolium.* Litter: abundant.

Loc. 1.9

As for loc. 1.4.

Loc. 1.10

Mosiac of areas similar to locs 1.4, 1.7 and 1.16.

Loc. 1.11 (Trapline 9)

Stratum 1: *Casuarina huegeliana* trees, mature, stratum 5-15 m tall, 30-70% canopy cover. Stratum 2: *Lepidosperma imbricata* and numerous other species, all immature, 0-1 m tall, 2-10% canopy cover. Abundant weeds and grasses present. Some timber removed. Evidence of old fire scars. Litter: abundant. Soil: brown, fine sandy loam.

Loc. 1.12

As for loc. 1.11 with patches similar to loc. 1.16.

Loc. 1.13

As for loc. 1.4 with patches similar to locs 1.11 and 1.16.

Loc. 1.14

As for loc. 1.4 with areas similar to loc. 1.7. In the region between the breakaway near loc. 1.20 and the lithic complex this loc. has the structure described in loc. 5.1 (woodland).

Loc. 1.15

As for loc. 1.11 with patches similar to loc. 1.16.

Loc. 1.16 (Trapline 3)

Stratum 1: *Casuarina huegeliana* and scattered *Eucalyptus wandoo* trees. *E. wandoo* senescent, *C. huegeliana* immature to mature, stratum 5-10 m tall, 30-70% canopy cover. Stratum 2: *Stackhousia pubescens* and *Stypandra imbricata* herbs, immature, stratum 0-0.4 m tall, 10-30% canopy cover. Some *E. wandoo* emergent to 12 m tall. *C. huegeliana* regenerating, all stages from seedlings to mature trees present. Grasses abundant. Old fire scars visible. Litter: abundant, pale brown, clayey sand.

Loc. 1.17

As for loc. 1.16 with areas similar to loc. 1.4. Some granite outcropping.

Loc. 1.18

Mostly *Eucalyptus wandoo* trees, mature, 12-18 m tall, 30-70% canopy cover over *Gastrolobium crassifolium* shrubs, mature, 1.5-2 m tall, 10-30% canopy cover, with patches of *Casuarina huegeliana* similar to loc. 1.16. Some outcrops of granite occur throughout this loc.

Loc. 1.19

Woodlands situated on edge of breakaway. The platform has *Casuarina huegeliana* similar to loc. 1.16. The visor is *ca* 1-1.5 m high and passes into a tumbled scree slope with *Eucalyptus astringens* and scattered *E. wandoo* trees 14-20 m tall, 2-10% canopy cover. The trees are immature and there is no understory. The lower slopes of the scree passes abruptly from *E. astringens* into *Casuarina huegeliana* 5-10 m tall, 10-30% canopy cover over an understory of shrubs 0.5 to 2.0 m tall, 30-70% canopy cover. Soil is compact laterite on the platform, decayed granite with varying percentages of laterite on the scree slope and the lower scree has pH 5.8, 5YR4/6 fine sandy loam with *ca* 30% laterite pebbles.

Loc. 1.20

Stratum 1: *Eucalyptus wandoo* and *Casuarina huegeliana* trees. The *E. wandoo* senescent, the *C. huegeliana* mature to senescent. Stratum 5-10 m tall, 2-10% canopy cover. Stratum 2: no dominants, shrubs immature, 2-3 m tall, 30-70% canopy cover. Stratum 3: no dominants, shrubs immature, 0-0.5 m tall, 2-10% canopy cover. No weeds or grasses. No evidence of fire. In some areas *C. huegeliana* 3-4 m tall forms another stratum 2-10% canopy cover. Litter: variable. Soil: reddish yellow loam.

SHRUBLAND

Loc. 3.1 (Trapline 4)

This area, *ca* 1 ha in extent, is the only shrubland formation on the Reserve, apart from where shrubland associations form understorys for taller formations. Loc. is unstratified *Dryandra nobilis* shrubs, mature, 1.0-2.5 m tall, 30-70% canopy cover. Litter: sparse. Soil: reddish yellow, sandy clay loam with $<80\%$ laterite.

HEATH

Loc. 4.1 (Trapline 1)

Stratum 1: *Eremaea paüciflora* and *Leptospermum erubescens* shrubs, both senescent, stratum 1-1.5 m tall, 10-30% canopy cover. Stratum 2: *Harperia lateriflora* sedge, *Chamaexeros serra* herbs and numerous shrub species present. All senescent, stratum 0.4 m tall, 2-10% canopy cover. No evidence of weeds but some native grasses present. Evidence of very old fire scars. Numerous *Banksia attenuata* trees and *Jacksonia sternbergiana* and *Hakea prostrata* shrubs present. Litter: sparse. Soil: light grey, fine sandy loam.

Loc. 4.2 (Trapline 6)

Stratum 1: *Xanthorrhoea reflexa* and occasional *Calothamnus quadrifidus* and *Banksia sphaerocarpa* shrubs, all senescent, 1.0-1.5 m tall, 2-10% canopy cover. Stratum 2: *Calothamnus quadrifidus, Casuarina microstachya* and several other species of shrubs, all senescent, stratum 0-0.5 m tall, 10-30% canopy cover. Stratum 3: *Harperia lateriflora* sedge and *Borya nitida* herbs, all senescent, stratum 0-0.3 m tall, 10-30% canopy cover. Occasional *Hakea prostrata* and *Casuarina huegeliana* trees up to 2-3 m present. Evidence of old fire scars. Litter: moderately abundant. Soil: white sand.

Loc. 4.3

As for loc. 4.2, merging into loc. 1.20. Near southern boundary of Reserve. Heath here contains *Nuytsia floribunda.*

. LITHIC COMPLEX

Loc. 5.1 (Trapline 7)

Trapline situated across the ecotone from a bare granite exposure into the surrounding woodland.

The bare granite areas are smooth rounded exposures with occasional patches of *Parmelia* spp. lichens and *Grimmea* sp. moss. There are a few exfoliated slabs and some depressions which trap water after rain. The deepest pool has *Isoetes* sp. herbs in the wet season.

Where soil has collected some *Borya nitida* herbs are present, and in the west season abundant *Drosera* spp., mosses and minute herbs.

Deeper soil mostly has associations of *Casuarina huegeliana* trees, mature, 6-10 m tall, 30-70% canopy cover over *Lepidosperma angustatum* sedges, mature, 0.5-1 m tall, 10-30% canopy cover over *Cheilanthes tenuifolia* ferns and *Ursinia anthemoides* herbs, immature, 0-0.3 m tall, 30-70% canopy cover.

The woodland surrounding the granite dome (loc. 5.1 woodland) is mostly *Casuarina huegeliana* and *Eucalyptus wandoo* trees, mature, 10-15 m tall, 30-70% canopy cover over *Xanthorrhoea reflexa* shrubs, mature, 1-2 m tall, 2-10% canopy cover. The dense *L. angustatum* understory becomes sparser away from the granite watershed, and several other species become more common. Litter: varies from absent to dense. Soil: the deeper pockets of soil on the outcrop is pink sandy loam; the soil of the surrounding woodland dark brown, loamy sand.

UNCLEARED LAND CONTIGUOUS WITH OR NEAR THE RESERVE

WOODLANDS

W1 to W7 and W17,W18

Casuarina Huegeliana and *Eucalyptus wandoo* woodlands, mostly 4-7 m tall or 6-15 m tall respectively. No understory, mostly grazed. Litter sparse. Mostly situated on granitic outcrops or laterite residues.

W8

As for loc. 1.18.

W9

Casuarina huegeliana trees, immature, stratum 2-8 m tall, 70-100% canopy cover. No understory present. Whole area has been scrubrolled and regrown.

W10

Mostly *Eucalyptus wandoo* and *Casuarina huegeliana* mosiacs similar to locs 1.11, 1.16, 1.18 and 1.20.

W11

As for loc. 1.20.

W12

As for loc. W10 with patches of *Acacia acuminata* trees 2-5 m tall, 10-30% canopy cover. The *Eucalyptus wandoo* in this region is heavily parasitised with *Amyema miquellii* mistletoe.

W13 to W16

Mostly as for locs 1.4 and 1.20. Some areas with *Eucalyptus wandoo*, senescent, 8-18 m tall, 10-30% canopy cover.

APPENDIX 2
PLANT SPECIES RECORDED AT SELECTED LOCATIONS

(SC) denotes specimens lodged in Western Australian Museum Survey Collection.

Loc. 1.4

Borya nitida
Casuarina huegeliana
Eucalyptus wandoo
Gastrolobium crassifolium
Hakea lissocarpha
Loxocarya affin. *vestita*

Loc. 1.5

Borya nitida
Casuarina huegeliana
Comesperma volubile
Dampiera affin. *coronata*
Dillwynia cinerescens
Eucalyptus astringens
E. redunca
E. wandoo
Gastrolobium crassifolium
Lepidosperma gracile
Loxocarya affin. *vestita*
Stipa elegantissima
Ursinia anthemoides (exotic)
Waitzia acuminata

Loc. 1.7

Astroloma compactum
Casuarina huegeliana
Chamaexeros serra
Comesperma volubile
Dampiera affin. *coronata*
Dianella revoluta
Dryandra circioides
D. nivea
D. sessilis
Eucalyptus wandoo
Gastrolobum calycinum
G. crassifolium
G. hookeri
Grevillea pulchella
Hakea incrassata
H. lissocarpha
Harperia lateriflora
Hibbertia helianthemoides
Isopogon affin. *formosus*
Lomandra effusa
Loxocarya fasciculata
L. affin. *vestita*
Persoonia striata
Platysace effusa
Schoenus affin. *subbulbosus*
Stackhousia pubescens
Xanthorrhoea reflexa

Loc. 1.8

Casuarina huegeliana
Eucalyptus astringens
E. falcata
E. longicornis
E. wandoo
Gastrolobium crassifolium

Loc. 1.11

Amyema miquellii
Casuarina huegeliana
Eucalyptus wandoo
Gastrolobium calycinum
Lepidosperma drummondii
L. gracile
Loxocarya affin. *cinerea*
Stackhousia pubescens
Stypandra imbricata

Loc. 1.16

Acacia pulchella var *glaberrima*
Casuarina huegeliana
Eucalyptus wandoo
Gastrolobium calycinum
G. crassifolium
Lepidosperma gracile
Loxocarya affin. *cinerea*
Stackhousia pubescens
Stypandra imbricata

Loc. 1.20

Astroloma epacris
Casuarina huegeliana
Dryandra circioides
Enneapogon caerulescens
Eucalyptus wandoo
Gastrolobium crassifolium
G. spinosum
Grevillea pulchella
Hakea lissocarpha
H. petiolaris
Hibbertia helianthemoides
Lepidosperma gracile
Loxocarya affin. *cinerea*
Petrophile heterophylla
Stackhousia pubescens
Xanthorrhoea reflexa

Loc. 3.1

Acacia insolita
A. oxyclada
A. pulchella var. *glaberrima*
Adenanthos flavidiflora
Astroloma epacris
Bossiaea eriocarpa
Casuarina huegeliana
C. humilis
Dryandra nobilis
D. sessilis
D. sp. A (SC)
Eucalyptus wandoo
Gastrolobium crassifolium
Grevillea pulchella
G. teretifolia
Hakea varia
Hibbertia helianthemoides
H. pungens
Lepidosperma gracile
L. tenue
Petrophile heterophylla
Platysace effusa

Loc. 4.1

Acacia stenoptera
Banksia attenuata
Calothamnus preissii
Casuarina humilis
Chamaexeros serra
Conospermum stoechadis
Daviesia rhombifolia
Dianella revoluta
Dryandra cirsioides
D. nivea
D. sessilis
Eremaea pauciflora
Gompholobium marginatum
Grevillea pulchella
Hakea lissocarpha
H. prostrata
Harperia lateriflora
Hibbertia verrucosa

Jacksonia sternbergiana
Lechenaultia biloba
Leptospermum erubescens
Loxocarya fasciculata
Melaleuca seriata
M. subtrigona
Persoonia striata
Petrophile seminuda
Schoenus affin. *compressus*
Stirlingia latifolia

Loc. 4.2

Acacia brachyphylla
A. filifolia
A. pulchella var. *glaberrima*
Andersonia caerulea
Astroloma compactum
Banksia sphaerocarpha
Borya nitida
Calothamnus quadrifidus
C. preissii
Casuarina huegeliana
C. humilis
C. microstachya
Cryptandra polyclada
Dampiera affin. *coronata*
Daviesia acanthoclona
D. aphylla
D. rhombifolia
Dryandra circioides
D. fraseri
Hakea crassifolia
H. falcata
H. incrassata
H. lissocarpha
H. prostrata
Harperia lateriflora
Hibbertia verrucosa
Jacksonia racemosa
Kunzea micrantha
Lepidosperma gracile
Leucopogon minutifolius
Loxocarya fasciculata
Lysinema ciliatum
Melaleuca conferta
M. pungens
M. subtrigona
Mesomelaena uncinata
Micromyrtus imbricata
Persoonia striata
Petrophile seminuda
P. squamata
Schoenus affin. *subbulbosus*
Stackhousia pubescens
Synaphaea polymorpha
Xanthorrhoea reflexa

Loc. 5.1 (granite)

Acacia lasiocalyx
Borya nitida
Casuarina huegeliana
Cheilanthes tenuifolia (fern)
Dodonaea attenuata
Drosera glanduligera
D. subhirtella
Hakea periolaris
Lepidosperma pubescens
Stypandra imbricata
Ursinia anthemoides (exotic)

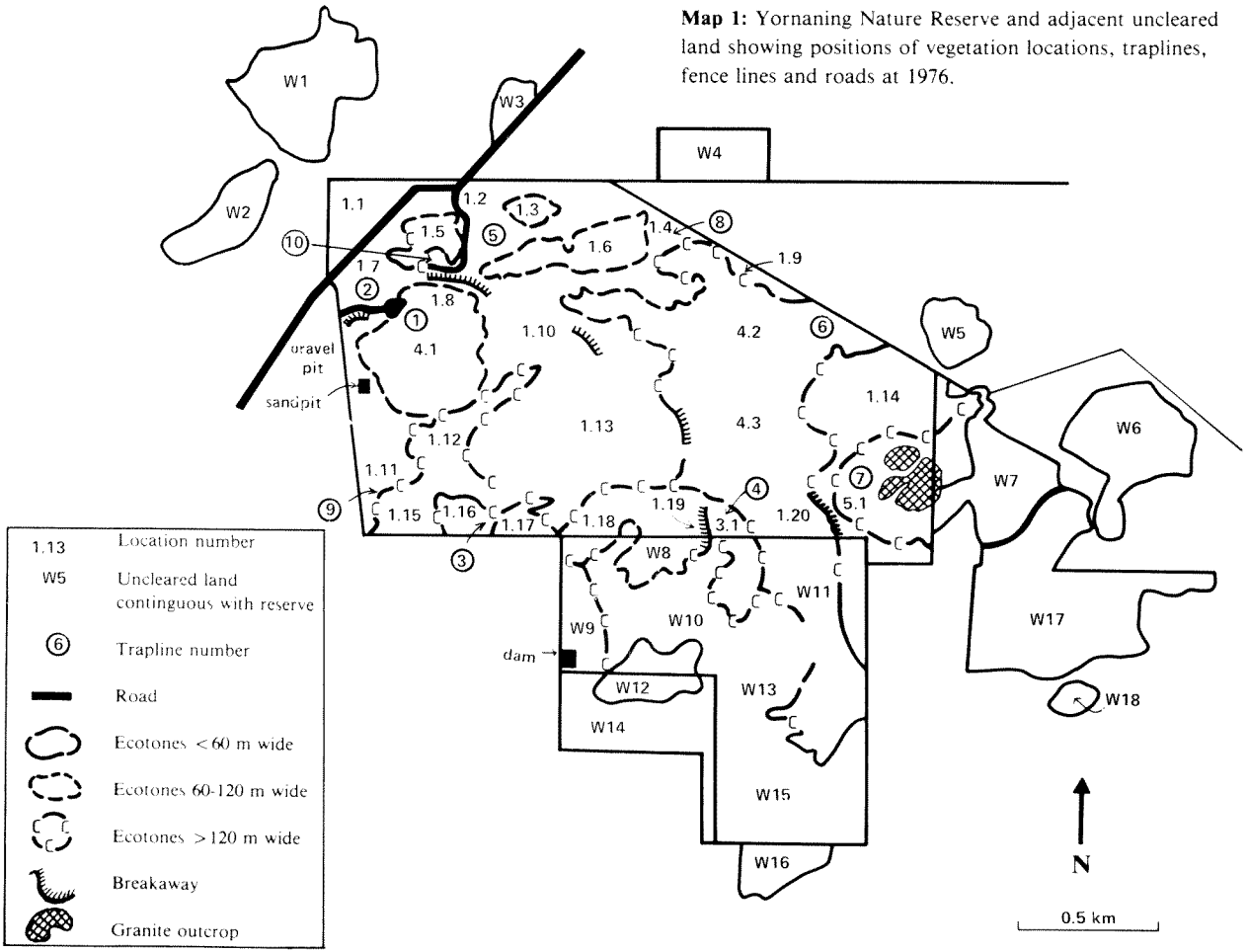
Loc. 5.1 (woodland)

Astroloma epacris
Casuarina huegeliana
Enneapogon caerulescens
Eucalyptus wandoo
Gastrolobium crassifolium
G. spinosum
Grevillea pulchella
Hakea lissocarpha
H. petiolaris
Hibbertia helianthemoides
Lepidosperma angustatum
L. gracile
Loxocarya affin. *cinerea*
Stackhousia pubescens
Xanthorrhoea reflexa

APPENDIX 3

PLANT FAMILIES REPRESENTED ON YORNANING RESERVE

Family	No. species
Apiaceae	1
Asteracea	3
Casuarinaceae	3
Chenopodiaceae	1
Cyperaceae	7
Dilleniaceae	3
Epacridaceae	5
Fabaceae	12
Goodeniaceae	3
Haloragaceae	1
Lamiaceae	1
Liliaceae	3
Loranthaceae	2
Mimosaceae	8
Myrtaceae	15
Poaceae	2
Polygalaceae	1
Proteaceae	26
Restionaceae	4
Rhamnaceae	1
Sapindaceae	1
Stackhousiaceae	1
Xanthorrhoeaceae	3



Map 1: Yornaning Nature Reserve and adjacent uncleared land showing positions of vegetation locations, traplines, fence lines and roads at 1976.