PART II

ENVIRONMENT

by A. A. BURBIDGE[1] and N. L. McKENZIE[1]

INTRODUCTION

The deserts of Western Australia have been described and delineated by Beard (1969). Their geology has been described by the Geological Survey of Western Australia (1975). The Carnarvon Range and the Lake Disappointment Areas lie within the Bangemall Basin, a Precambrian sedimentary basin of the Western Shield. The eastern portion of this basin approximately corresponds to Beard's (1969) "Little Sandy Desert". The Yeo Lake Area and the Gibson Desert Nature Reserve lie within the Officer Basin, a Phanerozoic sedimentary basin (of Permian or Mesozoic marine and continental rocks) included in Beard's "Great Victoria" and "Gibson" deserts.

Soils have been mapped at 1:2 000 000 by Northcote *et al.* (1968). Beard (1974a, 1974b, 1976) has mapped the vegetation at 1:1 000 000. The climate of the region has been described by Beard (*loc. cit.*) and Jackson (1976).

Prior to the work reported here the deserts received unusually high rainfall. Table 1 shows the mean and median rainfall for Warburton, Giles and Glenayle as well as monthly figures from January 1973 to March 1976.

General descriptions of the areas we worked in can be found in the above publications and in Conservation Through Reserves Committee (CTRC) (1974). The detailed descriptions provided below are intended to amplify these data and to provide habitat information for the animal specimens we collected.

Descriptions of vegetation formarions use the terminology of Specht (1970) although we describe each layer of vegetation, not only the upper stratum. Each formation is given a number to facilitate cross reference in later papers in this publication.

CARNARVON RANGE AREA

This proposed nature reserve lies on the boundary of the Carnegie Salient and the Little Sandy Desert (terminology of Beard 1969). Mulga (*Acacia aneura* F. Muell. ex Benth.) formations typical of the former are restricted mainly to the southern edge of the Area, the remainder, except for the Range itself, being predominantly sandplain and sand dune country supporting spinifex formations typical of the Little Sandy Desert.

The Area was proposed as a nature reserve by CTRC (1974). The proposal was supported by the Environmental Protection Authority in 1975 and endorsed by Cabinet in 1976. The boundaries of the Area are: "from the north-east boundary corner of Marymia pastoral lease (approximately 24°52′S, 120°18′E) east to 120°52′E, south to 25°19′S, west to the boundary of Neds Creek pastoral lease (approximately 120°28′E), then north along the east boundary of Neds Creek pastoral lease to its north boundary, then west to approximately 120°18′E, then north to the starting point" (CTRC 1974). It has an area of *ca* 258 000 ha.

[1] Western Australian Wildlife Research Centre, P.O. Box 51, Wanneroo, W.A. 6065.

The Carnarvon Range (Colour Plate 2) consists of cross bedded sandstones, thought to be of Middle to Upper Proterozoic age. The sandstones form low, gently undulating hills with occasional steep cliffs and gullies containing a few semi-permanent pools.

Beard (1974a, 1974b) mapped the vegetation of the proposed Nature Reserve into six categories (Table 2).

Our campsite was at the mouth of a gully on the southern side of the Carnarvon Range, *ca* 2 km at 110° from Trig M6 (25°17′S, 120°41′E).

Habitats we collected in are as follows:

1.1 The vegetation of the range is a tall open-shrubland to tall shrubland of *Acacia aneura* F. Muell. ex Benth. var. *latifolia* J. M. Black to 4–5 m with *Grevillea* sp. (unnamed) and *Hakea* sp. (Figure 1; Colour Plate 1). Below the shrubs are scattered areas of hummock grassland (*Triodia basedowii* and *Plectrachne melvillei*) of up to 50 per cent projective foliage cover. There are scattered emergent *Eucalyptus camaldulensis* Dehn. and *Callitris columellaris* F. Muell. Many areas of bare rock are present.

Figure 1—Tall open-shrublands of mulga and *Grevillea* on top of the Carnarvon Range (1.1). The tree is *Eucalyptus camaldulensis*.

1.2 In the gullies which contain pools and ephemeral streams, *Eucalyptus microtheca* F. Muell. (Coolabah) to 15 m forms fringing formations (Figure 2) although *Callitris columellaris* is also common and *Ficus platypoda* A. Cunn. is present, especially on steep areas. Other species noted in the gullies include *Eucalyptus setosa* Schau., *Pittosporum phillyraeoides* DC. and *Melaleuca nervosa* (Lindl.) Cheel.

1.3 Against the base of the southern side of the range are screes and gibbers with a tall shrubland to low woodland of mulga (*Acacia aneura*) and Gidgee (*A. pruinocarpa* Tindale) or, sometimes, low open-woodlands of *Eucalyptus setosa* Schau. over low shrubs, including *Eremophila* sp. and *Cassia sturtii* R.Br., with hummock and tussock grasses (*Triodia* sp. and *Eragrostis eriopoda* Benth.). Figure 3; Colour Plate 1).

Figure 2—A fringing formation of *Eucalyptus microtheca* along a gully in the Carnarvon Range (1.2). Note the tall open-shrubland of mulga on the slopes.

Figure 3—Low woodland of mulga and Gidgee immediately south of the Carnarvon Range (1.3).

To the south of the range are extensive red sandplains with occasional low dunes.

1.4 A low open-woodland of Corkwood (*Hakea lorea* R.Br.) and scattered *Acacia* spp. over a hummock grassland of *Triodia basedowii* covers the plains (Figure 4).

1.5 Where the sandplains approach the range the soil is firmer and a low open-mallee-woodland over mulga and spinifex occurs (Figure 5).

1.6 The dunes have a low open-woodland of *Eucalyptus* sp. (an unnamed bloodwood) with a scattered shrub layer of *Acacia* sp. and *Thryptomene maisonneuvii* F. Muell. over a hummock grassland (*Triodia* sp.) (Colour Plate 2). The desert blackboy *Xanthorrhoea thorntoni* Tate occurs in patches on the plains and on some low dunes.

1.7 South of Mt Methwin is another area of red sandplains and low dunes. In this region the vegetation is predominantly an open-heath to low shrubland of *Thryptomene maisonneuvii* over *Triodia* sp.

LAKE DISAPPOINTMENT AREA

The proposed Lake Disappointment Nature Reserve lies in the Little Sandy Desert. The first recommendation for a reserve in this region was made in 1962 by the Western Australian Sub-Committee of the Australian Academy of Science Committee on National

Figure 4—*Triodia basedowii* hummock grassland on red sandplains in the Carnarvon Range Area. The emergent tree is *Hakea lorea* (1.4).

Figure 5—Low open-woodland of mallee and mulga over spinifex near the Carnarvon Range (1.5).

Parks (Anon. 1965). Their recommendation, which was for a large reserve encompassing the whole of the Lake and extending westward to the No. 1 Rabbit Proof Fence, did not receive official approval.

The Area under discussion here was proposed as a nature reserve by CTRC (1974). It lies within 23°31′–24°00′S and 123°00′–124°00′E. Its area is *ca* 367 000 ha. The proposal was supported by the Environmental Protection Authority in 1975 and was endorsed by Cabinet in 1976.

Much of the proposed reserve consists of red sand dunes with spinifex formations but it also includes part of the saline and usually dry Lake Disappointment and the Durba Hills, a flat topped, steep sided range of Middle Proterozoic sandstones heavily incised with water eroded valleys.

Beard (1974a) has mapped the vegetation of the proposed reserve into three categories (Table 3). Habitats we collected in are as follows:

2.1 On top of the range is a low open-woodland of *Eucalyptus* ? *setosa* Schau. with a scattered shrub layer of *Thryptomene maisonneuvii* F. Muell. and *Acacia* spp. The sparse ground cover (less than 10 per cent projective foliage cover) is of *Triodia* and *Plectrachne*. There are extensive areas o bare rock (Colour Plate 3).

2.2 The massive screes on the steep sides of the range (Figure 6) support occasional *Eucalyptus* ? *setosa* Schau. up to 10 m and patches of *Ficus platypoda* A. Cunn. to 3 m over sparse *Plectrachne* and *Ptilotus obovatus* (Gaud.) F. Muell. (10 to 20 per cent) to 1 m.

Figure 6—Sparse vegetation on the massive scree slopes of the Durba Hills (2.2).

2.3 In the water eroded valleys are pools and ephemeral streams with fringing formations of *Eucalyptus camaldulensis* Dehn., and shrubs such as *Grevillea wickhamii* Meisn., *Eremophila* ? *latrobei* F. Muell. and *Ptilotus obovatus* (Gaud.) F. Muell. (Figure 7). *Ficus platypoda* A. Cunn. occurs on screes. Durba Springs are situated near the mouth of a major valley (Colour Plate 5).

2.4 The campsite was adjacent to the springs in an area of *E. camaldulensis* woodland with a ground cover of couch grass (? *Cynodon dactylon* L.) (Figure 8). Around the springs are stands of *Cyperus vaginatus* R.Br. Killagurra Rock Hole, in a narrow section of another such valley, is surrounded by a small area of *E. camaldulensis* woodland over *Cyperus*.

To the north of the range are extensive red sand dunes with sandplains between.

2.5 The dunes are covered with a low open-woodland of *Eucalyptus* sp. (un-named, same species as at the Carnarvon Range) with shrubs to 3 m including *Grevillea stenobotrya* F. Muell., *Acacia dictyophleba* F. Muell., *Eremophila longifolia* F. Muell. and a scattered groundcover of *Triodia* and *Plectrachne*.

Figure 7—Water eroded valley in the Durba Hills. Scattered trees and shrubs include *Eucalyptus camaldulensis*, *E.* ? *setosa*, *Grevillea wickhamii* and *Ptilotus obovatus* (2.3).

Figure 8—*Eucalyptus camaldulensis* woodland over couch grass (? *Cynodon dactylon*) near the Durba Springs (2.4).

2.6 A low open-shrubland covers the inter-dune plains with *Acacia* sp., *Grevillea* "*eriostachya* Lindl." and *Hakea lorea* R.Br. being the common species. *Thryptomene maisonneuvii* occurs as a sparse understorey with *Triodia* sp. (30–50 per cent) as a ground cover (Figure 9).

2.7 To the west of the hills is an area of *Acacia* sp. tall shrubland with patches of *Triodia*.

Figure 9—Red sandplain supporting low open-shrubland over *Triodia* hummock grassland (2.6). Part of the steep scree slope surrounding the plateau of the Durba Hills is visible in the background.

YEO LAKE AREA

The proposed Yeo Lake Nature Reserve lies in the Great Victoria Desert. The Area was proposed as a reserve by CTRC (1974). The proposal was supported by the Environmental Protection Authority in 1975 and endorsed by Cabinet in 1976. Boundaries are: from 27°46′S, 124°00′E east to 124°40′E, south to 28°15′S, west to 124°25′E, north to 28°14′S, west to 124°05′E, north to 28°04′S, west to 124°00′E, and north to the starting point. The area is *ca* 330 000 ha.

The proposed nature reserve includes relatively ungrazed mulga formations, sandplain with poorly developed dunes and the saline basin of Yeo Lake with its associated drainage channels. A number of isolated breakaways and quartzite hills provide minor relief.

The geology of the south-eastern portion of the Area has been described and mapped at 1: 250 000 by Van de Graaf and Bunting (1975). Beard (1974b) has mapped the vegetation into four categories (Table 4). The mulga country mapped by Beard as "a_1Li" is variable (Fig. 10). It ranges from low open-woodlands of mulga (*Acacia aneura* F. Muell.) to low open-shrublands of bluebush (*Maireana* spp.) and saltbush (*Atriplex* spp.) with occasional stands of stunted mulga on slight rises in the drainage channels associated with Yeo Lake.

Figure 10—View southwards from Stony Point (Yeo Lake Area) across low open-woodlands of *Acacia aneura* interspersed with low shrublands of bluebush and saltbush.

Habitats we collected in are as follows:

3.1 The low open-woodlands were mainly mulga (*Acacia aneura* F. Muell. ex Benth) (3–5 m) with some scattered *Eucalyptus oleosa* F. Muell. to 5 m over a low shrubland of such species as *Eremophila latrobei* F. Muell. and *Acacia* sp. over a tussock grassland of *Eragrostis eriopoda* Benth. and occasional *Triodia basedowii* E. Pritzel. (Colour Plate 4).

3.2 In slight depressions the upperstorey disappears and bluebush (*Maireana pyramidata* (Benth.) P. G. Wilson) and saltbush (*Atriplex* sp.) form low shrublands to 1 m over open-tussock grasslands of *Aristida browniana* Henr. and *Eragrostis eriopoda* Benth. (Figure 11).

3.3 In extensive depressions such as the drainage channels associated with Yeo Lake, small species of bluebush and saltbush form low open-shrublands along with species of pigface and samphire (*Arthrocnemum* spp.).

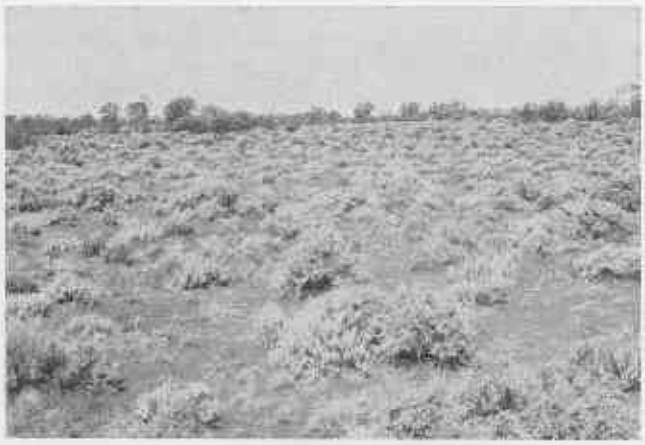

Figure 11—Low shrublands of bluebush (*Maireana pyramidata*) and saltbush (*Atriplex* sp.) in the Yeo Lake Area (3.2). Small tussocks of *Aristida browniana* are also present.

3.4 Near the abandoned Yeo Lake Homestead (*ca* 28°05′S, 124°17′E) were a series of fresh-water pools in an otherwise dry watercourse. The watercourse meanders through a low open-shrubland of saltbush and bluebush over *Aristida browniana* Henr. In the watercourse are small patches of the grass *Diplachne muelleri* Benth. and the shrub *Rutidosis helichrysoides* DC.

3.5 Isolated rocky hills and breakaways such as Stony Point and Point Sunday are covered with low shrublands of *Acacia* spp. including *A. aneura* (Figure 12). Beneath one such breakaway was a pool of water, known as Miller Soak, and an ephemeral watercourse surrounded by a dense thicket of *Acacia* spp. and *Eremophila longifolia* F. Muell. to 4 m.

3.6 The outlying pans south of Yeo Lake are covered with a low open-shrubland of samphire (*Arthrocnemum* spp.), saltbush (*Atriplex*) and species of pigface (Figure 13).

3.7 Between the pans are gypsum dunes supporting low open-woodlands of *Callitris columellaris* F. Muell. and *Casuarina cristata* Miq. to 7 m over scattered *Atriplex* and tufts of native grass (Figure 13).

3.8 Seventeen km ENE of Stony Point is an area between two pans where sand overlies gypsum. The resulting red sandplain supports a low

Figure 12—Low shrublands to low open-woodlands of *Acacia* spp. at Stony Point (3.5). Note the *Arthrocnemum* and pigface at the foot of the slope (3.3).

Figure 13—An outlying pan of Yeo Lake. In the background is a gypsum dune supporting *Callitris columellaris* and *Casuarina cristata* (3.6, 3.7).

Figure 14—Sandplain, supporting a low open-woodland of *Eucalyptus concinna* over *Triodia* hummock grassland (3.8), between two pans of Yeo Lake.

Figure 15—Low open-woodland of *Eucalyptus youngiana* over *Triodia* hummock grassland on red sandplain east of Stony Point (3.11).

open-woodland of *Eucalyptus concinna* Maiden and Blakely to 12 m over *Triodia* hummock grassland and occasional *Acacia aneura* F. Muell. ex Benth. (Figure 14).

Triodia hummock grasslands on sandplains are a prominent feature of the proposed nature reserve.

3.9 In the south-western corner of the proposal the *Triodia* formations of the sandplains are associated with low open-woodlands of *Eucalyptus gongylocarpa* Blakely and/or *E. youngiana* F. Muell. with occasional *Pittosporum* sp. and *Acacia* spp.

3.10 Occasional weak sand dunes occur. These support low shrublands of *Acacia* spp., *Eremophila* and *Thryptomene* over spinifex although some *Eucalyptus gongylocarpa* Blakely and *E. youngiana* F. Muell. occur.

3.11 Twenty-one km east of Stony Point another area of red sandplain supports a more variable upper storey. Here, the low open-woodlands included several other mallee species (*Eucalyptus* sp, E. *concinna* Maiden and Blakely and *E. oleosa* F. Muell.) although *E. youngiana* F. Muell. (Figure 15) and patches of *E. gongylocarpa* Blakely are still present. Occasionally, *Acacia aneura* tall open-shrublands over *Triodia* hummock grasslands occur but these are probably interface situations.

GIBSON DESERT NATURE RESERVE

This Nature Reserve lies entirely within the Gibson Desert. It was proposed as a reserve by the CTRC (1974). The proposal was supported by the Environmental Protection Authority (1975) and endorsed by Cabinet in 1976. The Reserve (No. 34606) was gazetted on 22 April 1977 for the purpose of Conservation of Flora and Fauna, proclaimed Class A and vested in the Western Australian Wildlife Authority. Boundaries are 24°25′–25°25′S and 124°40′–126°20′E but excluding Reserve No. 29452. It has an area of 1 859 286 ha.

The Gibson Desert Nature Reserve includes the major plant formations typical of the Gibson Desert—extensive Mulga formations on laterite and lateritic sands, *Acacia* shrublands between sandhills and Desert Oak (*Casuarina decaisneana* F. Muell.) woodlands. Smaller areas of Coolabah (*Eucalyptus microtheca* F. Muell.) woodland, salt lakes and saltbush and samphire vegetation also occur (Table 5). Much of the geology of the Reserve has been described and mapped at 1: 250 000 by Van de Graaf (1974) and Jackson (1976).

Our campsite was beside a drainage line which crosses the "Gary Highway" *ca* 4 km south of Charlies Knob (25°02′S, 124°59′E) a westward extension of the Young Range. Habitats we collected in are as follows:

4.1 The country around Everard Junction (25°11′S, 124°58′E) is a gravelly sandplain (Figure 16). The vegetation is a low open-hummock grassland

Figure 16—Spinifex on gravelly sandplain at Everard Junction, Gibson Desert Nature Reserve (4.1).

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of *Plectrachne* and *Triodia*, with patches of soft grass, growing on red sand covered with fine black gravel. Emergent *Hakea lorea* R.Br. along with occasional low mulga occur.

4.2 Two kilometres north of Everard Junction are some low red sand dunes around the base of which is an open-hummock grassland of spinifex with emergent *Acacia* spp. to 2 m and *Hakea lorea* R.Br. to 3 m and occasional desert bloodwoods (*Eucalyptus* sp.). On top of the dune is a low open-shrubland of *Grevillea stenobotrya* F. Muell. and *Sida* sp. over bare red sand with some large tussocks of *Plectrachne schinzii* Henr.

4.3 The slopes of the Browne Range near Mt Everard are covered with a low open-shrubland to low open-shrubland of *A. aneura* F. Muell. ex Benth. over soft grasses with occasional patches of spinifex.

4.4 The top of the Young Range near Charlies Knob is flat to undulating sandstone and pebble conglomerate with areas of shallow soil supporting a low open-shrubland of *Acacia aneura* F. Meull. ex Benth., *A. grasbyi* Maiden and *Eremophila exilifolia* F. Muell. Along a rocky watercourse on top of the range is a fringing community of *Eucalyptus papuana* F. Muell., *Acacia aneura*, *Sarcostemma australe* R.Br. and *Dodonaea petiolaris* F. Muell.

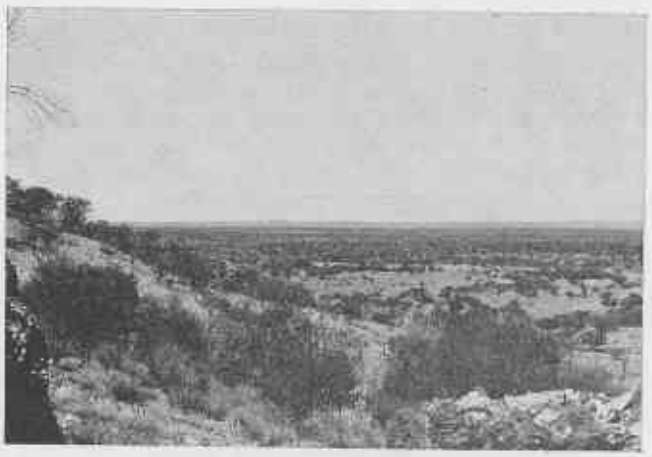

Figure 17—Low open-woodland of *Acacia* spp. on slopes of the Young Range (4.5).

Figure 18—Open-hummock grassland of spinifex on heavy gravel; Young Range in the background (4.6). The mallee is *Eucalyptus pachyphylla*.

4.5 The southern face of the range near Charlies Knob is mostly mesaform, with occasional deep caves extending back into Mesozoic claystones and sandstones. Steep slopes of light scree and gravel beneath the breakaway support a low open-woodland of *Acacia aneura* to 5 m over *Acacia* spp. and *Eremophila exilifolia* F. Muell. (Figure 17).

4.6 As the gradient of the slope eases it becomes covered with an open hummock grassland of spinifex on gravel (Figure 18), with *Eremophila* sp. in rocky drainage lines and trends towards soils which are more sandy and on which the spinifex tussocks become larger. Here *Eucalyptus pachyphylla* F. Muell. (mallee), mulga and very dense spinifex fringe the drainage lines.

Figure 19—Tall shrubland of *Acacia kempeana* and *A. aneura* (in flower) with some *Acacia pruinocarpa* over *Triodia pungens* in gently undulating country approximately 4 km south of Charlies Knob, Gibson Desert Nature Reserve (4.7).

4.7 Fringing the range south of Charlies Knob is a band, several kilometres wide, of gently undulating country with occasional low stony hills, supporting low open-woodlands of *Acacia aneura* to 3 m with occasional *A. grasbyi* and *A. pruinocarpa* (Gidgee) to 6 m, and stunted mallee (*Eucalyptus pachyphylla* F. Muell.) over low *Acacia* shrubs and patches of soft grasses and *Triodia pungens* R.Br. on pebbly reddish loamy sand. In low lying areas stands of Gidgee to 5 m occur along with other *Acacia* spp. (Figure 19) some of which were in flower at the time of our visit. About 6 km south of camp is an area of *Acacia grasbyi*

Figure 20—Campsite, approximately 2·5 km south of Charlies Knob on a dry drainage line. Fringing community includes *Eucalyptus* sp. to 12 m over low woodland of *Acacia* spp. over spinifex (4.7).

to 2 m and 20 per cent projective foliage cover over *Triodia* to 0·5 m and 30 per cent. In a larger drainage line there is some *Eucalyptus* sp. to 12 m (Figure 20) although the fringing community is mostly *Acacia kempeana* F. Muell. and *A. aneura* (3–4 m), with occasional Gidgee, *Sarcostemma australe* R.Br., *Acacia* spp. (shrubs to 2 m) and *Canthium latifolium* F. Muell. over thick spinifex including *Triodia pungens* R.Br. The campsite was on this drainage line.

The country immediately north of Charlies Knob is similar to that south of it.

4.8 North of Charlies Knob the vegetation is mulga low open-woodland with scattered Gidgee (2–6 m) over occasional *Acacia* shrubs and spinifex humocks on bare clayey sand with rock fragments.

4.9 Interspersed are areas of spinifex (including *Triodia*) hummock grassland on sandplain with gravel. A few weak sand dunes occur.

ACKNOWLEDGEMENTS

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TABLE 1

RAINFALL (mm) FROM THREE LOCALITIES RELEVANT TO SURVEY AREAS

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
WARBURTON													
Mean	26	28	23	20	19	21	12	11	4	10	17	23	214
Median .... (1940–1973)	10	9	3	6	13	12	4	3	1	4	9	15	168
1973	136	0	60	10	22	54	51	36	24	5	7	....	405*
1974	....	....	....	....	....	....	....	....	24	102	28	9	....
1975	0	67	61	37	1	....	....	....	....	....	....	....	....
1976	....	....	....										
GILES													
Mean	30	56	19	16	18	20	12	15	7	10	19	29	251
Median .... (1955–1975)	19	15	15	6	16	7	1	5	1	3	10	21	238
1973	122	169	34	4	16	40	42	37	18	....	10	29	521*
1974	121	312	53	100	3	0	1	18	38	75	56	6	783
1975	24	37	6	1	1	0	7	21	28	98	63	18	304
1976	6	43	4										
GLENAYLE													
Mean	37	34	31	20	27	24	13	7	3	2	9	22	229
Median .... (1950–1974)	26	8	6	7	20	8	3	3	0	0	6	9	203
1973	119	0	145	45	16	33	47	24	0	0	0	136	565
1974	153	8	7	24	28	7	27	25	4	7	14	55	359
1975	10	52	24	38	0	4	5	3	0	40	94	35	305
1976 (Eraheedy)†	0	46	26										

.... No data. * Incomplete total. † Eraheedy is 60 km south-west of Glenayle.

TABLE 2

CARNARVON RANGE AREA, VEGETATION

Calculated from Beard (1974a, 1974b)

Beard-Webb Formula (Beard and Webb 1974)	Equivalent Specht Formation (Specht 1970)	Area (ha)	Per cent
$a_nSr.\ t_2Hi$	Tall open-shrubland (*Acacia* spp.) over open-hummock grassland (*Triodia basedowii*)	158 000	61·2
a_1Li	Low woodland (*Acacia aneura*)	28 000	10·9
t_2Hi	Open-hummock grassland (*Triodia basedowii*)	31 000	12·0
$a_1Lp.\ t_2Hi$	Low open-woodland (*Acacia aneura*) over open-hummock grassland (*Triodia basedowii*)	24 000	9·3
a_1Lp	Low open-woodland (*Acacia aneura*)	16 000	6·2
a_1Si	Tall shrubland (*Acacia aneura*)	1 000	0·4
	Totals	258 000	100·0

TABLE 3

LAKE DISAPPOINTMENT AREA, VEGETATION

Calculated from Beard (1974a)

Beard-Webb Formula (Beard and Webb 1974)	Equivalent Specht Formation (Specht 1970)	Area (ha)	Per cent
$a_nSr.\ t_pHi$ between sandhills	Tall open-shrubland (*Acacia* spp.) over open-hummock grassland of *Triodia pungens* and *Plectrachne schinzii*	169 000	73·3
$a_3hSr\ t_2Hi$	Tall open-shrubland of *Acacia coriacea* and *Hakea* over open-hummock grassland of *Triodia basedowii*	31 000	8·5
t_t^sHi	Open-hummock grassland of *Triodia pungens* and *T. wiseana*	18 000	4·9
Salt Lake	....	49 000	13·3
	Totals	367 000	100·0

TABLE 4

YEO LAKE AREA, VEGETATION

Calculated from Beard (1974b)

Beard-Webb Formula (Beard and Webb 1974)	Equivalent Specht Formation (Specht 1970)	Area (ha)	Per cent
$e_{19}Lr.\ e_{20}Sr.t_2\ Hi$	Low open-woodland (*Eucalyptus gongylocarpa*) over tall shrubland (*E. youngiana*) over open-hummock grassland (*Triodia basedowii*)	168 000	50·9
a_1Li	Low woodland (*Acacia aneura*)	100 000	30·3
Salt Lakes	....	39 000	11·8
xCi	Low open-shrubland (saltbush and samphire)	13 000	4·0
eSi	Tall shrubland (mallee)	10 000	3·0
	Totals	330 000	100·0

TABLE 5

GIBSON DESERT NATURE RESERVE, VEGETATION

Calculated from Beard (1974b)

Beard-Webb Formula (Beard and Webb 1974)	Equivalent Specht Formation (Specht 1970)	Area (ha)	Per cent
a_1Sp. t_2Hi	Tall open-shrubland (*Acacia aneura*) over open-hummock grassland (*Triodia basedowii*)	1 130 000	60·8
a_1Si	Tall shrubland (*Acacia anura*)	384 000	20·7
C_1Mp. t_2Hi	Woodland (*Casuarina decaisneana*) over open-hummock grassland (*Triodia basedowii*)	126 000	6·8
a_nSr. t_2Hi between sandhills	Tall open-shrubland (*Acacia* spp.) over open-hummock grassland (*T. basedowii*) between sandhills	92 000	4·9
a_n Sr. t_2Hi	Tall open-shrubland (*Acacia* spp.) over open-hummock grassland (*T. basedowii*)	23 000	1·2
e_{17} Mi. xGi	Woodland (*Eucalyptus microtheca*) over mixed grasses	74 000	4·0
xCi	Low open-shrubland (saltbush and samphire)	12 000	0·6
Salt Lakes	....	18 000	1·0
	Totals	1 859 000	100·0

THE WILDLIFE OF SOME EXISTING AND PROPOSED NATURE RESERVES IN THE GIBSON, LITTLE SANDY AND GREAT VICTORIA DESERTS, Western Australia

EDITED BY

N. L. McKenzie

and

A. A. Burbidge

WESTERN AUSTRALIAN WILDLIFE RESEARCH CENTRE

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