

TRIGG BUSHLAND AND ADJACENT COASTAL RESERVE, TRIGG/SCARBOROUGH

Boundary Definition: protected area/bushland (part taken to cadastre) boundary

SECTION 1: LOCATION INFORMATION

Bush Forever Site no. 308

Area (ha): bushland 134.6

Map no. 39, 40

Map sheet series ref. no. 2034-II NW, 2034-II SW

Other Names: Karrinyup Bushland

Local Authorities (Suburb): City of Stirling (Trigg, Karrinyup)

System 6 (1983): M36 area of bushland goes beyond System area boundaries, all bushland described

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Spearwood Dunes

Sands derived from Tamala Limestone (Qts: S7)

Tamala Limestone (Qtl: LS1)

Quindalup Dunes (Holocene dunes)

Safety Bay Sands (Qhs: S1, S2)

VEGETATION AND FLORA

Vegetation Complexes

Spearwood Dunes

Cottesloe Complex — Central and South

Quindalup Dunes

Quindalup Complex

Floristic Community Types

Supergroup 4: Uplands centred on Spearwood and Quindalup Dunes

24 Northern Spearwood shrublands and woodlands

28 Spearwood *Banksia attenuata* or *Banksia attenuata* — *Eucalyptus* woodlands

29a Coastal shrublands on shallow sands

29b *Acacia* shrublands on taller dunes

S11 Northern *Acacia rostellifera* — *Melaleuca systema* shrublands

S13 Northern *Olearia axillaris* — *Scaevola crassifolia* shrublands

S14 *Spinifex longifolius* grassland and low shrubland

WETLANDS

No wetlands mapped

THREATENED ECOLOGICAL COMMUNITIES

Not assessed, Not determined

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: vegetated coastal dunes

Vegetation and Flora: detailed survey (Keighery, BJ, 1996, Meney 1991); limited survey (Gibson *et al.* 1994 (Tr 01–08), Griffin 1994 (Trig 01–06), Keighery, GJ, 1996 D (Trigg 08), LeProvost *et al.* 1988)

Structural Units: mapping (LeProvost *et al.* 1988, Meney 1991)

Spearwood Dunes

Uplands — Sands derived from Tamala Limestone: *Eucalyptus gomphocephala* Open Forest to Woodland; *Banksia attenuata* and *B. menziesii* Low Open Woodland

Uplands — Tamala Limestone: Closed Low Heaths and Closed to Open Heaths dominated by *Melaleuca systema*, *Calothamnus quadrifidus*, *Dryandra sessilis* var. *cygnorum*, *Acacia lasiocarpa*, *Grevillea preissii* or *Dryandra lindleyana*

Quindalup Dunes

Uplands — Oldest dunes and plains: Open Heaths dominated by *Melaleuca systema*, *Acacia rostellifera* or *Allocasuarina lehmanniana* over Herblands dominated by *Lomandra maritima*; *Callitris preissii* Low Closed Forest; *Eucalyptus gomphocephala* Open Forest to Woodland

Uplands — Youngest dunes: *Scaevola crassifolia* and *Olearia axillaris* Open Low Heaths, some scattered *Callitris preissii*

Uplands — Strand: *Spinifex longifolius* Grassland

Vegetation Condition: >75% Very Good to Excellent, <25% Good to Degraded, with areas of severe localised disturbance

Total Flora: 175 native taxa (Keighery, GJ, 1996, Meney 1991) (>75 % expected flora)

Significant Flora: *Conostylis pauciflora* subsp. *euryrhipis* (3); *Lechenaultia linarioides*, *Gyrostemon ramulosus* (uncommon in PMR and on Swan Coastal Plain), *Allocasuarina lehmanniana*, *Callitris preissii* (endemic to the PMR and Rottnest Island, most northern significant population, Keighery, BJ, Gibson and Keighery 1997)

Fauna: limited survey for birds (30 species) (How *et al.* 1996) and structured survey for reptiles (24 species) and amphibians (1 species) (How *et al.* 1996). Significant birds: White-browed Scrubwren, Broad-tailed Thornbill, Variegated, White-winged and Splendid Fairy-wrens. Significant reptile species: Western Blue Tongue (*Tiliqua occipitalis*), Bardick (*Echiopsis curtus*), Black-striped Snake (*Simoselaps calanotos*) and a dragon (*Tympanocryptis adelaidensis*). Rich assemblage and high number of reptile species

Linkage: no adjacent bushland; part of Greenways 7, 6, 1 (Tingay, Alan & Associates 1998a); part of a regionally significant fragmented bushland/wetland linkage (Part A, Map 7)

Other Special Attributes

Meets all six specific coastal reserve criteria —

- (i) Quindalup Dune types: 'landscape moderate to tall, moderate aged dunes perched on gently undulating Spearwood (Tamala) limestone surface, with plain between; low coastal Q4 dunes (youngest)' (Griffin and Trudgen 1994)
- (ii) Continuing natural processes: 124.8ha (104ha bushland) of Quindalup Dunes extending to 2.2km inland
- (iii) Shoreline: soft (sand) and hard (rocky)
- (iv) Linkage: contains Quindalup/Spearwood Dunes interface; roads and developments fragment Site; part of semi-contiguous North—South vegetated coastal strip
- (v) Vegetation: typical Quindalup/Spearwood units, highly restricted species (*Callitris preissii*)
- (vi) Habitats: rich assemblage and high number of reptile species; National Trust of Australia (WA) Classification

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Entered in the Register of the National Estate

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Scientific or evolutionary importance, General criteria for the protection of wetland, streamline and estuarine fringing vegetation and coastal vegetation, Criteria not relevant to determination of regional significance, but which may be applied when evaluating areas having similar values

Recommendation: Site with Some Existing Protection; the existing care, control and management intent of the reserve is endorsed. The purpose of the reserve should be amended to include conservation and appropriate mechanisms applied in consultation with the management body (see Table 3, Volume 1).

TRIGG BUSHLAND AND ADJACENT COASTAL RESERVE, TRIGG/SCARBOROUGH

Boundary Definition: protected area/bushland (part taken to cadastre) boundary

SECTION 1: CADASTRAL INFORMATION

(Lots, locations and derived information to be updated in the public submission period)

Bushplan Site no. 308 **Map no.** 44, 49 **Map sheet series ref. no.** 2034-II NW, 2034-II SW
System 6 (1983): M36 area of bushland goes beyond System area boundaries, all bushland described

Other Names

Karrinyup Bushland

Local Authorities (Suburb)

City of Stirling (Trigg, Karrinyup)

Area (ha): total 178.1; bushland 134.6

Zoning

MRS: Parks and Recreation, Urban, Important Regional Roads

TPS: Landscape, Low Density Residential, Public Open Space and Local Authority Purposes

Lot/Location/Reserve numbers (Purpose), Street name

394 Arnott St; 498, 12992 West Coast Hwy; 10, 42, 78 Elliott Rd; 9, 459, 474, 476, 472, 498 Karrinyup Rd; 43, 498, 7443 Jeanes Rd; 10 Hepworth Rd
 Crown Reserve

Ownership Categories

State Government, Private (commercial organisation),
 Not identified

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

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VEGETATION AND FLORA

Vegetation Complexes

Spearwood Dunes

Cottesloe Complex — Central and South

Quindalup Dunes

Quindalup Complex

Floristic Community Types

Supergroup 4: Uplands centred on Spearwood and Quindalup Dunes

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- S14 *Spinifex longifolius* grassland and low shrubland

WETLANDS

No wetlands mapped

THREATENED ECOLOGICAL COMMUNITIES

Not assessed, Not determined

SECTION 3: SPECIFIC SITE DETAIL

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Structural Units: mapping (Le Provost *et al.* 1988, Meney 1991)

Spearwood Dunes

Uplands - Sands derived from Tamala Limestone: *Eucalyptus gomphocephala* Open Forest to Woodland; *Banksia attenuata* and *B. menziesii* Low Open Woodland

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Quindalup Dunes

Oldest dunes and plains: Open Heaths dominated by *Melaleuca acerosa*, *Acacia rostellifera* or *Allocasuarina lehmanniana* over Herblands dominated by *Lomandra maritima*; *Callitris preissii* Low Closed Forest; *Eucalyptus gomphocephala* Open Forest to Woodland

Youngest dunes: *Scaevola crassifolia* and *Olearia axillaris* Open Low Heaths, some scattered *Callitris preissii*

Strand: *Spinifex longifolius* Grassland

Vegetation Condition: >75% Very Good to Excellent, <25% Good to Degraded, with areas of severe localised disturbance

Total Flora: 175 native taxa (Keighery, GJ, 1996, Menev 1991) (>75 % expected flora)

Significant Flora: *Conostylis pauciflora* subsp. *euryrhipis* (3); *Lechenaultia linarioides*, *Gyrostemon ramulosus* (uncommon in PMR and on Swan Coastal Plain), *Allocasuarina lehmanniana*, *Callitris preissii* (endemic to the PMR and Rottnest Island, most northern significant population, Keighery, BJ, Gibson and Keighery 1997)

Fauna: limited surveys by Western Australian Museum of Natural Science for birds (30) and multiple and structured surveys by Western Australian Museum of Natural Science for reptiles (24) and amphibians (1) (How *et al.* 1996). Significant birds: White-browed Scrubwren, Broad-tailed Thornbill, Variegated, White-winged and Splendid fairy-wrens. Significant reptile species: Western Blue Tongue (*Tiliqua occipitalis*), Bardick (*Echiopsis curtus*), Black-striped Snake (*Simoselaps calonotos*) and dragon (*Tympanocryptis adelaidensis*). Rich assemblage and high number of reptile species

Linkage: no adjacent remnant vegetation; part of proposed Greenways 7, 8, 1 (Tingay, Alan & Associates 1997a); part of a regionally significant fragmented bushland/wetland linkage (Volume 2A, Map 8)

Other Special Attributes

Meets all six specific coastal reserve criteria —

- (i) Quindalup Dune types: 'landscape moderate to tall, moderate dunes perched on gently undulating Spearwood (Tamala) limestone surface, with plain between; low coastal Q4 dunes (youngest)' (Griffin and Trudgen 1994)
- (ii) Continuing natural processes: 124.8ha (104ha bushland) of Quindalup Dunes extending to 2.2km inland
- (iii) Shoreline: sandy (soft)
- (iv) Linkage: contains Quindalup/Spearwood Dunes interface; roads and developments fragment Bushplan Site; part of semi-contiguous North—South vegetated coastal strip
- (v) Vegetation: typical Quindalup/Spearwood units, highly restricted species (*Callitris preissii*)
- (vi) Habitats: rich assemblage and high number of reptile species;

National Trust of Australia (WA) Classification

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Listed on the Register of the National Estate

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Scientific or evolutionary importance, General criteria for the protection of wetland, streamline and estuarine fringing and coastal vegetation, Criteria not relevant to determination of conservation value, but which may be applied when evaluating areas having similar values

Opportunities and/or Constraints

Opportunities: Bushplan Site/part Bushplan Site under MRS Parks and Recreation Reservation and TPS Landscape Zoning and Public-Open Space Zoning, Crown Reserve








Constraints: private land; under MRS Urban Zoning, MRD regional road requirements

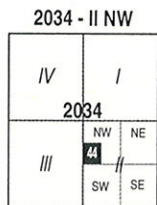
Recommendation: The existing care, control and management intent of the reserve is endorsed. Long-term security and support for conservation management of the Bushplan Site to be enhanced by: amending the purpose of the reserve to include conservation; and applying appropriate mechanisms in consultation with the reserve management body.





LEGEND

-  Bushplan Sites With Regionally Significant Bushland
-  Other Native Vegetation
-  Conservation Category Wetlands
-  Bushplan Sites With Some Existing Protection
-  Lot Number, Location Number
-  Channel Wetlands
-  Local Government Boundary



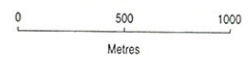
1 : 25 000 AMG Reference Grid showing Perth's Bushplan Map Sheet Breakdown

PERTH'S BUSHPLAN MAP INDEX

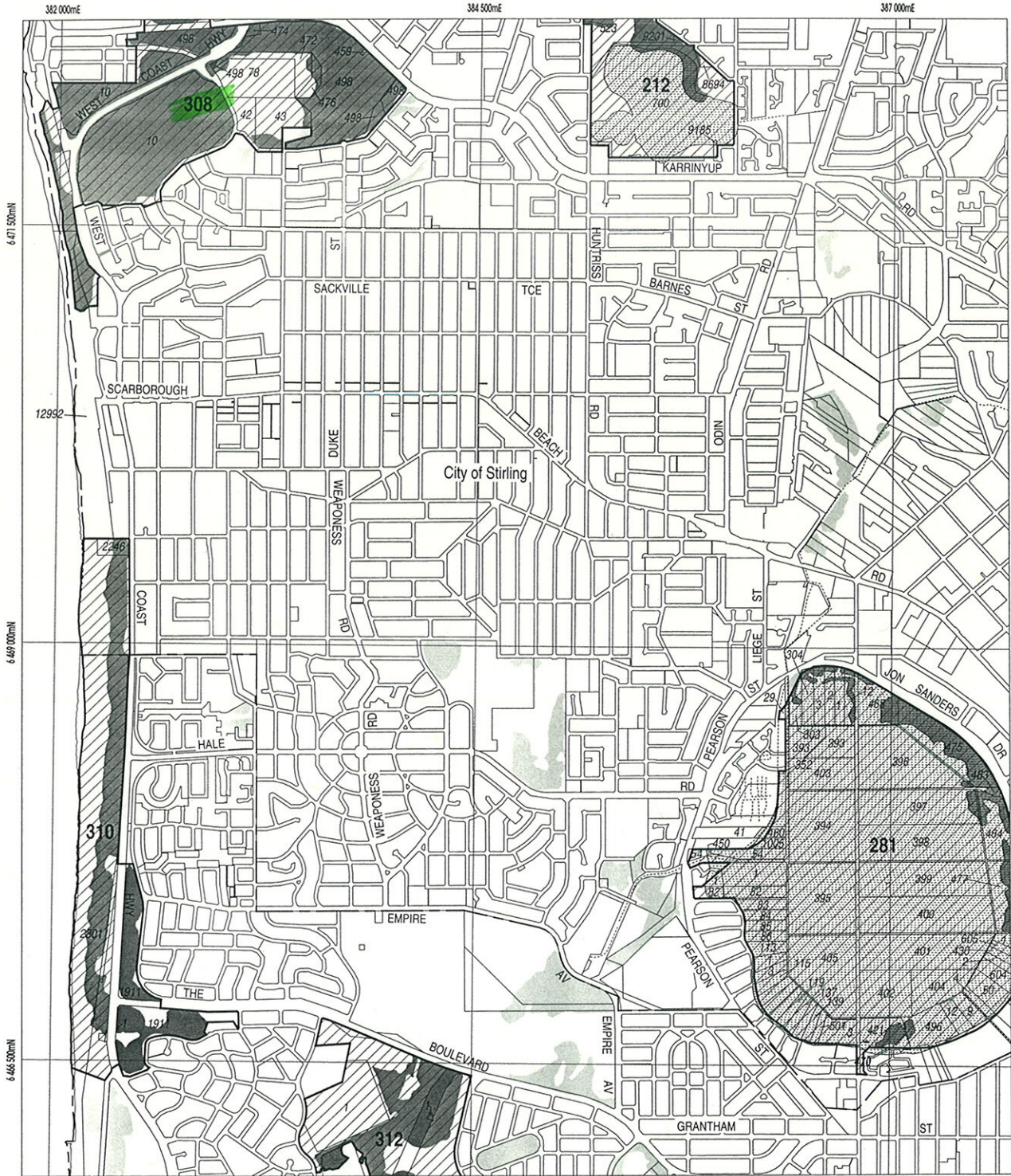
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SCALE

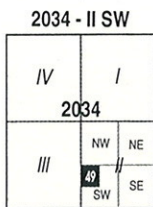


Produced by Project Mapping Section
Land Information Branch, Ministry for
Planning, Perth W.A. November 1998
ntw-map11//environ/bushplan/bushv2_44.dgn
Cadastral Data supplied by Department
of Land Administration, W.A.
Wetlands Data supplied by
Water and Rivers Commission
Native Vegetation Extent for Study Area
supplied by Agriculture Western Australia

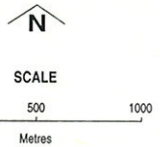
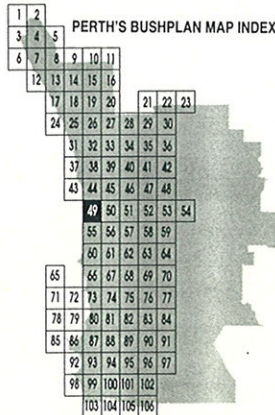


LEGEND

- 472 Bushplan Sites With Regionally Significant Bushland
- Other Native Vegetation
- Conservation Category Wetlands
- Bushplan Sites With Some Existing Protection
- Lot Number, Location Number
- Channel Wetlands
- Local Government Boundary



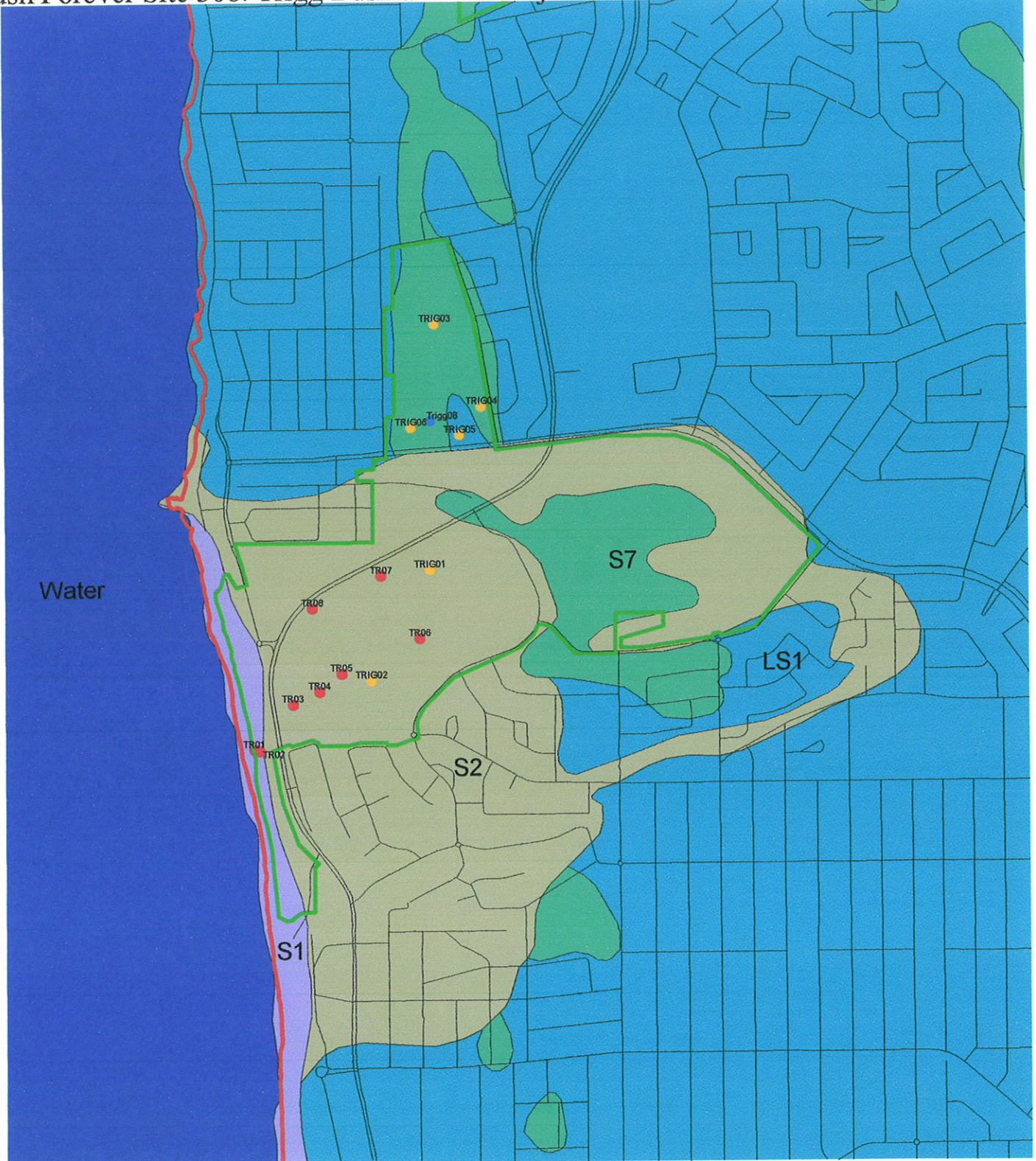
1 : 25 000 AMG Reference Grid showing Perth's Bushplan Map Sheet Breakdown



Produced by Project Mapping Section
Land Information Branch, Ministry for
Planning, Perth W.A. November 1998
ntw-map18/environ/bushplan/bushv2_49.dgn
Cadastral Data supplied by Department
of Land Administration, W.A.
Wetlands Data supplied by
Water and Rivers Commission
Native Vegetation Extent for Study Area
supplied by Agriculture Western Australia

ENVIRONMENTAL GEOLOGY

Bush Forever Site 308: Trigg Bushland and Adjacent Coastal Reserve, Trigg/Scarborough



Bush Forever Sites
 Bush Forever, MRS Ammendments

1:20000

200 0 200 400 Meters



Local Government Authority Boundaries

Floristic Survey Sites of the Southern Swan Coastal Plain

- GJKENV (Keighery 1996)
- GRIFFIN (Griffen 1994)
- SCP (Gibson et al 1994)
- SYS6ENV (DEP 1996 and Trudgen & Keighery 1995)
- SYS6ENV2 (DEP 1996 and Trudgen & Keighery 1995)

CALM Threatened Ecological Communities 2002

Roads - Perth Metropolitan
 Swan Coastal Plain - Eastern Boundary



Projection: GDA94
 MGA Zone 50

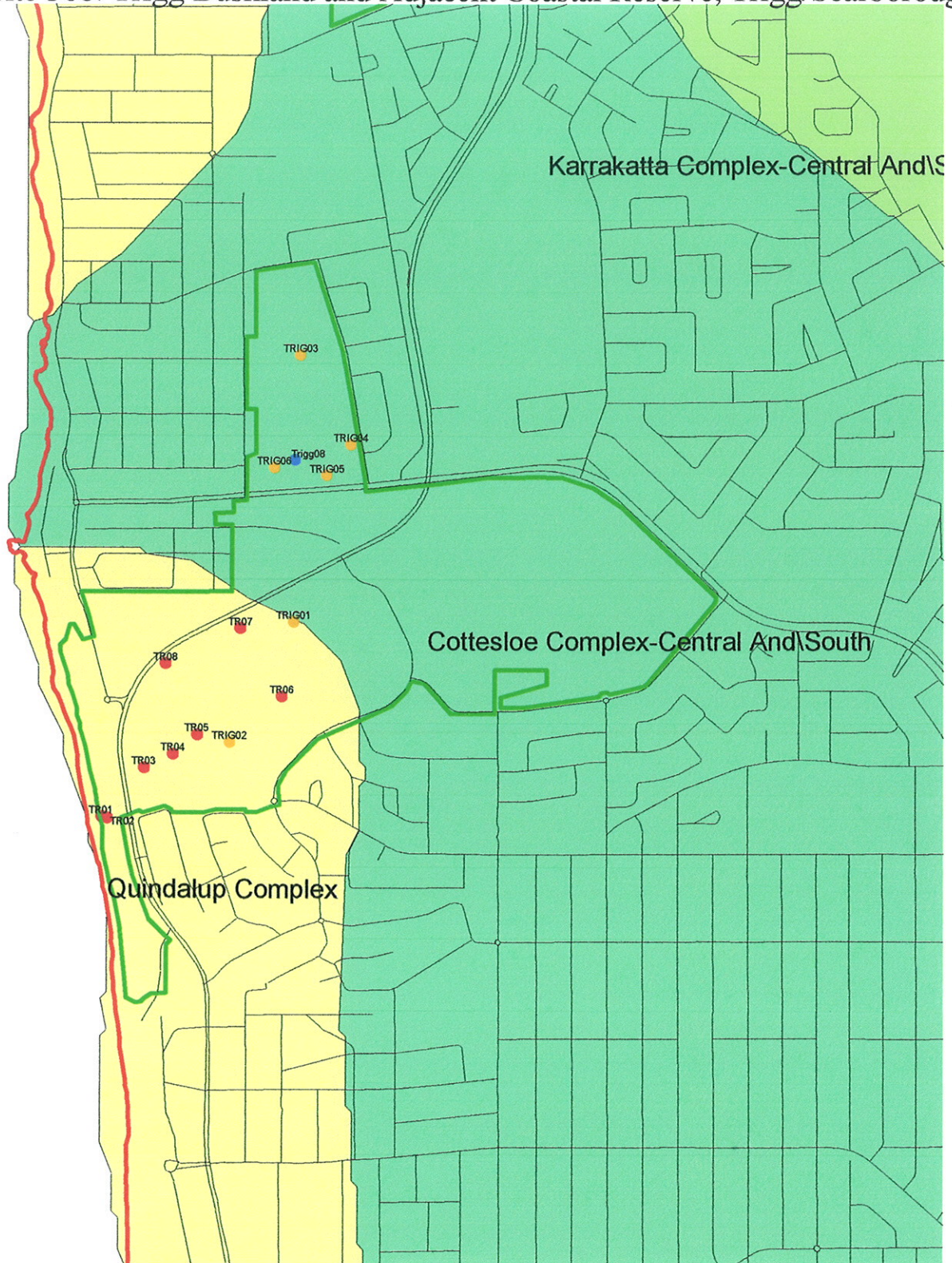
Department of Environment
 Western Australia

*This map has been produced using
 various data from other agencies.
 No responsibility is accepted for
 any error or omission.*

Aerial Photography: Perth Metro Area - North West 2003

VEGETATION COMPLEXES

Bush Forever Site 308: Trigg Bushland and Adjacent Coastal Reserve, Trigg/Scarborough



Bush Forever Sites
 Bush Forever, MRS Ammendments

1:20000

Local Government Authority Boundaries

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- CALM Threatened Ecological Communities 2002

Roads - Perth Metropolitan
 Swan Coastal Plain - Eastern Boundary

200 0 200 400 Meters



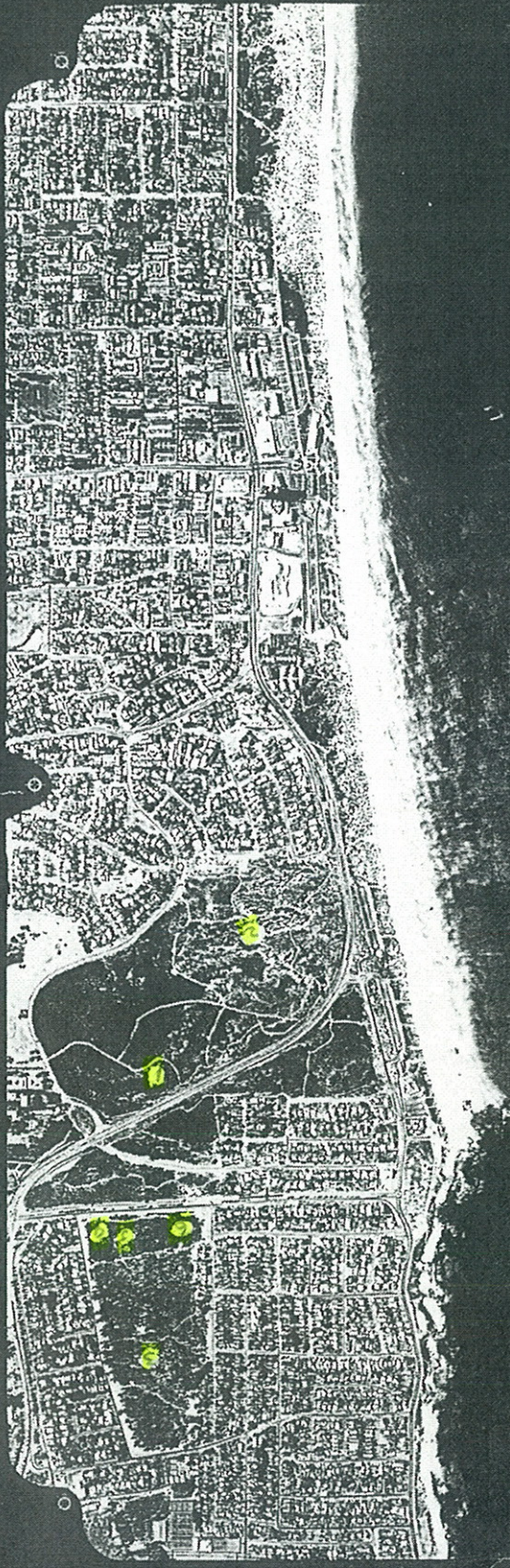
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 MGA Zone 50

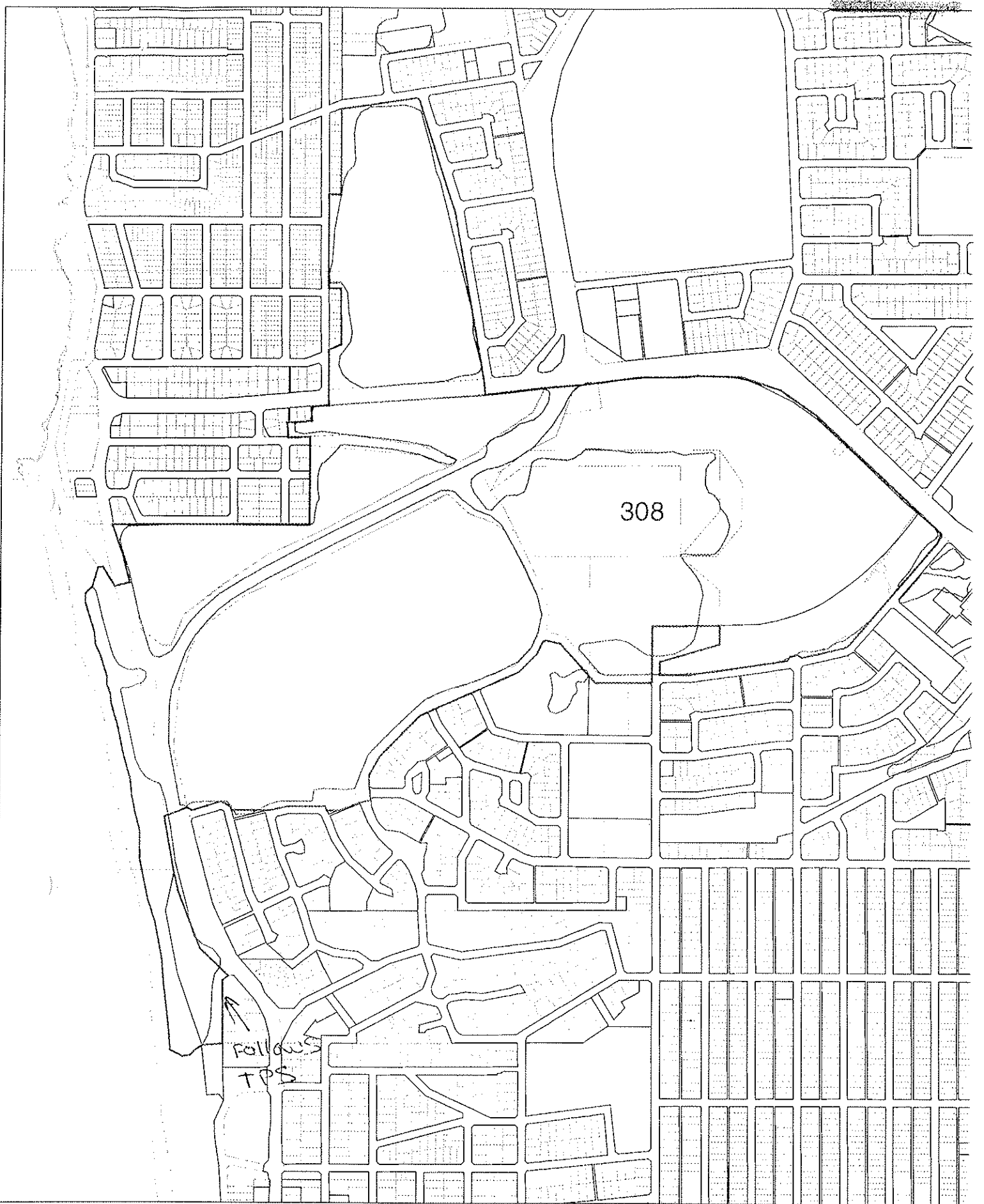
Department of Environment
 Western Australia

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Aerial Photography: Perth Metro Area - North West 2003

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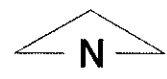
BUSHPLAN SITES CORRECTED



WESTERN
AUSTRALIAN
PLANNING
COMMISSION



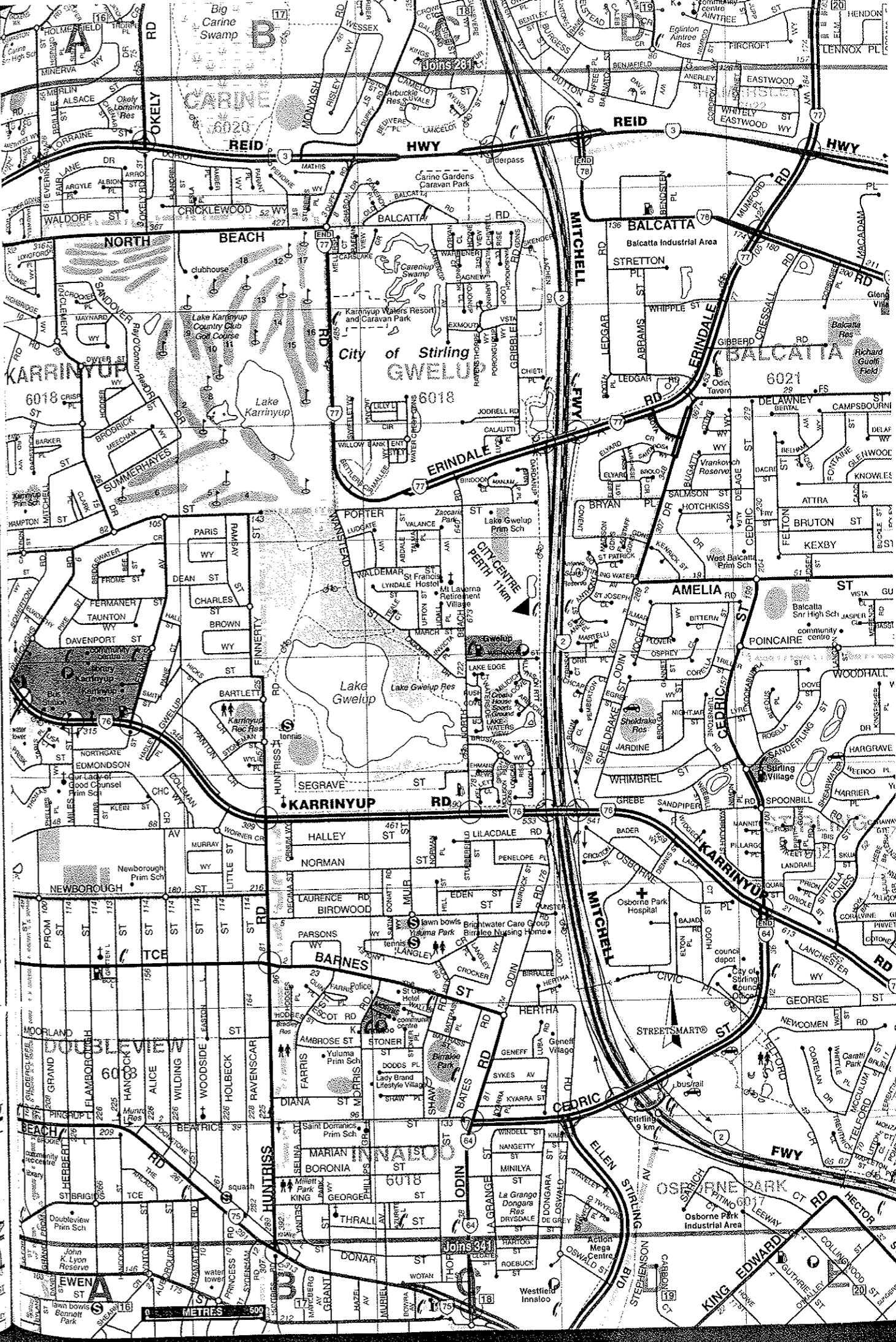
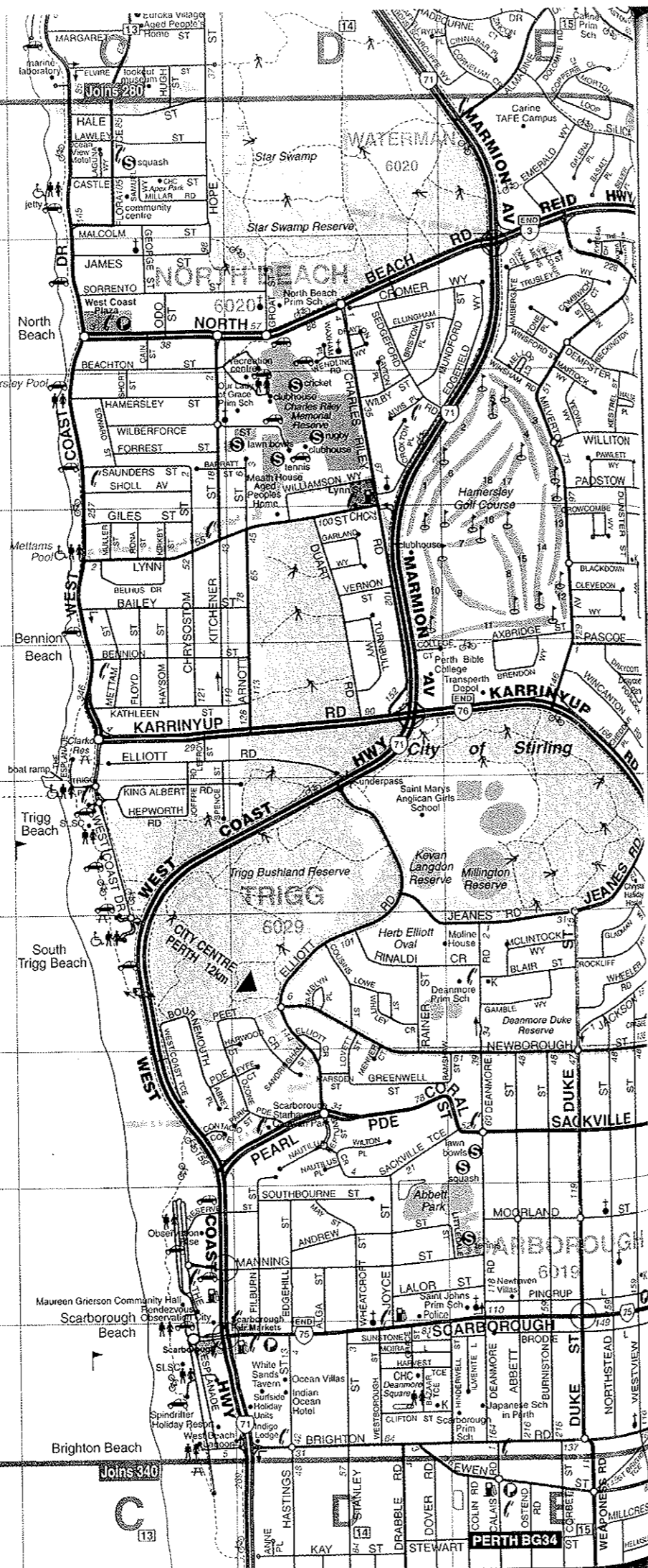
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INDIAN

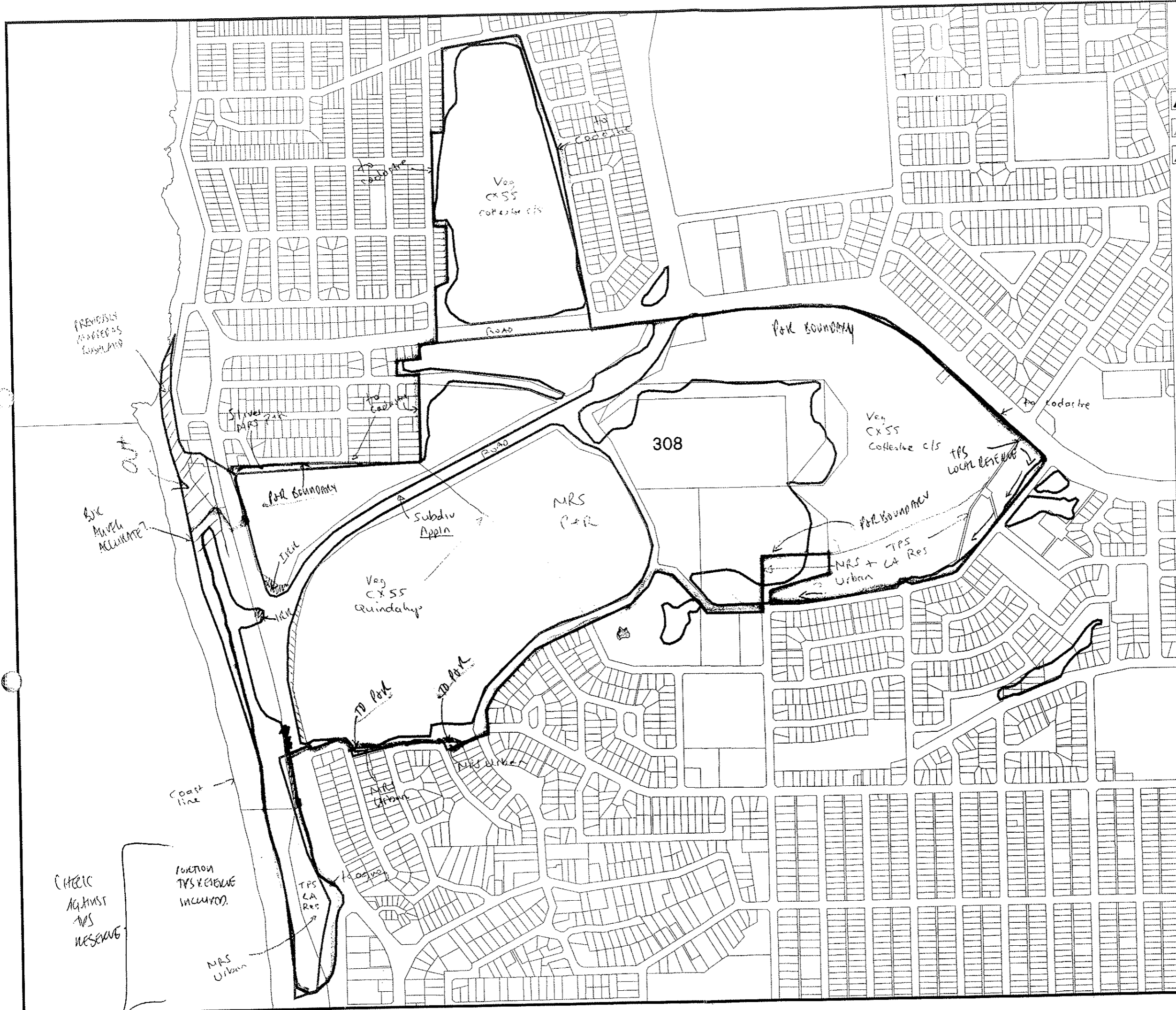
OCEAN

MARMION MARINE PARK




-  AG VEG 1998 BOUNDARY THEME
-  Cadastre
-  Bushplan sites refno 1-500 SCP BOUNDARY

INCLUDES EXR SLIVERS.



Crown Res
 TPS (LA Reserve only)
 MRS - Occupied, P+R & Urban
 Development Appln - number
 1 Sub Appln - Road Reserve only

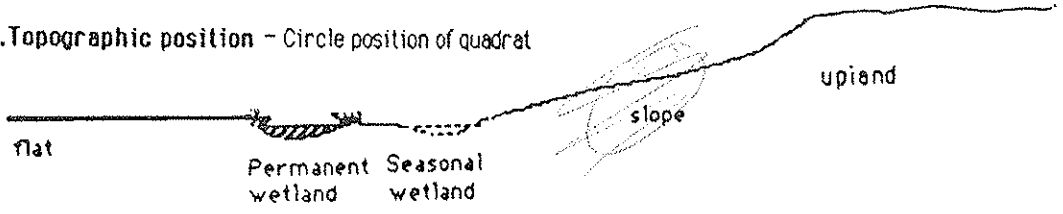
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Prepared By: Andrea Zappacosta
Prepared For:
Date: 28 May 98
Scale 1:9174
 250 m
MFP INTERNAL USE ONLY

QUADRAT No. TR16 1 VEGETATION TYPE _____
 DATE FIRST TRIP 1/10/92 VOLUNTEERS _____
 DATE SECOND TRIP 23/11/92 VOLUNTEERS _____
 BOTANIST ML T J G / QJK

TR16 1

1. LOCATION of the QUADRAT

- a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet →
- b. Photograph Photographer's name GIBSON
- c. Topographic position - Circle position of quadrat



Keighery and Keighery, 1990
 Adapted from Griffin and Keighery, 1989
 MOORE RIVER to JURRIEN SANDPLAIN
 SURVEY. WILDFLOWER SOCIETY of WA

2. SITE DATA - Circle the correct response

Slope flat gentle step Aspect N NE E SE S SW W NW

% Bare ground 60% Drainage well mod poor Wet All year winter/spring

Litter (% cover) 10% Surface soil white sand Sub-surface soil _____

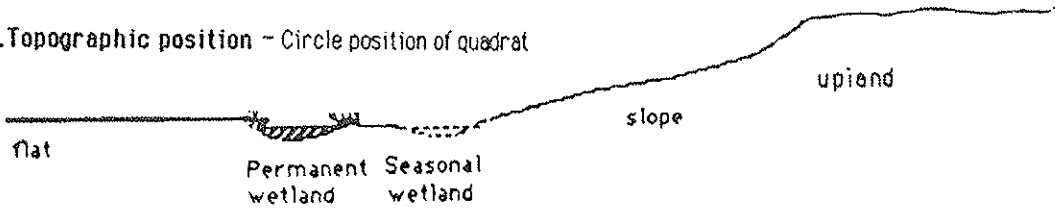
3. VEGETATION STRUCTURE AND COVER Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES		MALLEES				Height (metres)	
	50-70%	LIFE FORM	> 15m 5-15m 	Under 5m 	MALLEE SHRUB less than 8m 	MALLEE TREE 8m or more 	15m 10m 5m		
	30-50%	COVER CLASS (%)	2-15m 5-15m						
	20-30%	SHRUBS		<i>Acacia rostellata</i>					
	10-20%	LIFE FORM	over 2m 	2.0-1.5m 	1.5-1.0m 	1.0m - .5m that <i>Acacia</i> <i>Callitriche</i> <i>Manisot</i> 	under 5m 		3m 2m 1m
	2-10%	COVER CLASS (%)			50-70	20-30			
	0%	BUNCH GRASSES		HERBS		SEDGES			
	under 2%	LIFE FORM	under .5m 	under .5m (except creepers) 	over .5m 	under .5m 	2.0m 1.5m 1.0m .5m		
	0%	COVER CLASS (%)							

QUADRAT No. TRIG 2 VEGETATION TYPE _____
 DATE FIRST TRIP 11/10/92 VOLUNTEERS _____
 DATE SECOND TRIP 23/11/92 VOLUNTEERS _____
 BOTANIST MLT/NL / BJR

1. LOCATION of the QUADRAT

- a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet →
- b. Photograph Photographer's name N. GIBSON
- c. Topographic position - Circle position of quadrat



Keighery and Keighery, 1990
 Adapted from Griffin and Keighery, 1989
 MOORE RIVER to JURIE SANDPLAIN
 SURVEY. WILDFLOWER SOCIETY OF WA

2. SITE DATA - Circle the correct response

Slope flat gentle steep Aspect N NE E SE S SW W NW

% Bare ground _____ Drainage well mod poor Wet All year winter/spring

Litter (% cover) _____ Surface soil _____ Sub-surface soil _____

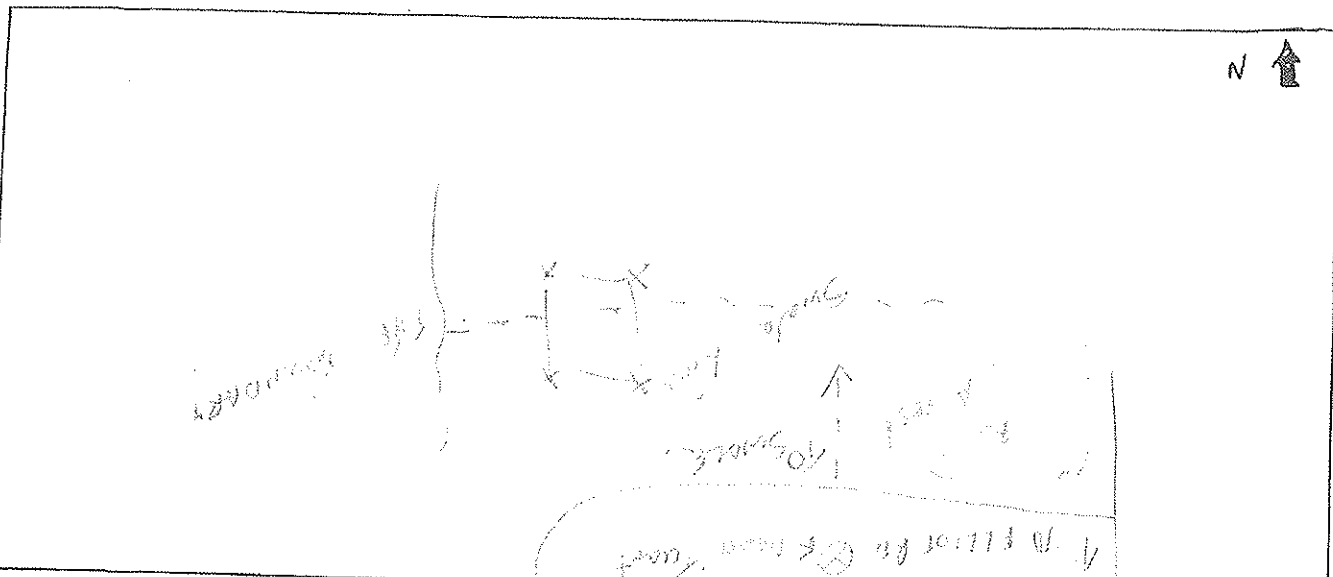
3. VEGETATION STRUCTURE AND COVER Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES <i>Callitris prenanthoides</i>		MALLEES								
	50-70%	LIFE FORM	> 15m 5-15m	Under 5m	MALLEE SHRUB less than 8m	MALLEE TREE 8m or more	15m	10m	5m			
	30-50%	COVER CLASS (%)	> 15m 5-15m									
	20-30%	SHRUBS										
	10-20%	LIFE FORM	over 2m		2.0-1.5m	1.5-1.0m	1.0m - .5m	under 5m	3m	2m	1m	Height (metres)
	2-10%	COVER CLASS (%)										
	0%	LIFE FORM	under .5m		under .5m (except creepers)	over .5m	under .5m	2.0m	1.5m	1.0m	.5m	
		COVER CLASS (%)			20-30%							

1. LOCATION OF THE QUADRAT

TRIG-2

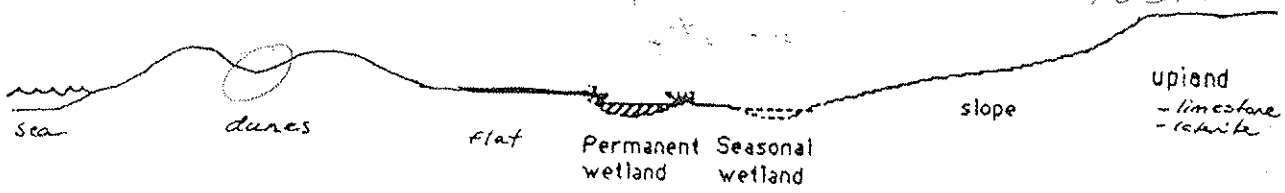
a. Mud Map Draw a sketch of the location of the quadrat



b Road Location	c. Latitude	Longitude
	31 52 58.7	115 45 25.21

d. Photograph	Photographer's name	Photo No. 28	Altitude 10m
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e. Topographic position - Circle position of quadrat ± 100m



2. SITE DATA - Circle the correct response

Slope flat gentle steep

Aspect	N	NE	E	SE	<u>S</u>	SW	W	NW
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Surface soil white | Sand

Sub-surface soil _____

Drainage well mod poor

Wet All year winter/spring

Litter (% cover) 90%

% Bare ground 10%

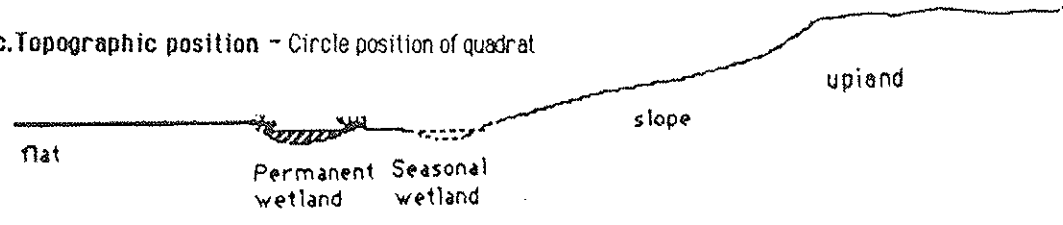
4. VEGETATION CONDITION

EXCELLANT		Comments ? Severe disturbance part ? All limestone (2-150cm) many active seedlings spines, Callitriche, Lemn Annual weeds - *Lagotis etc.
VERY GOOD	<u>3</u>	
GOOD	<u>1</u>	
POOR		
VERY POOR		

QUADRAT No. R1553 VEGETATION TYPE _____
 DATE FIRST TRIP 6/10/92 VOLUNTEERS _____
 DATE SECOND TRIP 23/11/92 VOLUNTEERS _____
 BOTANIST: NSM/TBK

1. LOCATION of the QUADRAT

- a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet →
- b. Photograph Photographer's name _____
- c. Topographic position - Circle position of quadrat



Keighery and Keighery, 1990
 Adapted from Griffin and Keighery, 1989
 MOORE RIVER to JURIE SANDPLAIN
 SURVEY. WILDFLOWER SOCIETY of WA

2. SITE DATA - Circle the correct response

Slope flat gentle steep Aspect N NE E SE S SW W NW

% Bare ground _____ Drainage well mod poor Wet All year winter/spring

Litter (% cover) _____ Surface soil _____ Sub-surface soil _____

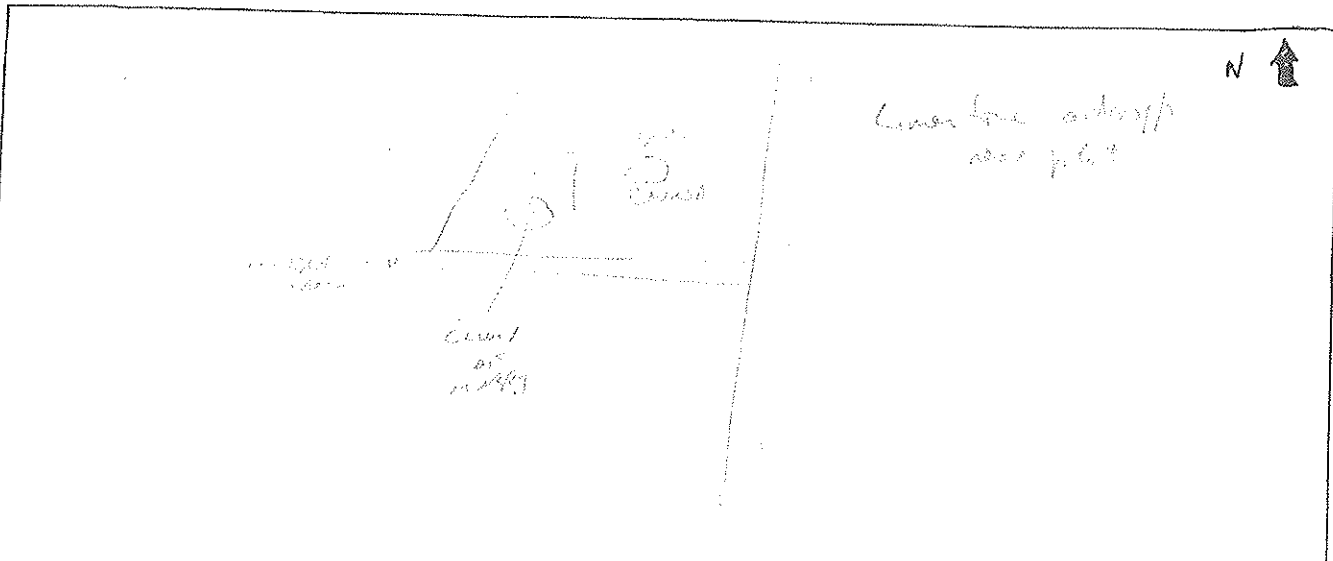
3. VEGETATION STRUCTURE AND COVER Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES				MALLEES				Height (metres)	
	50-70%	LIFE FORM	> 15m or 5-15m	Under 5m	MALLEE SHRUB less than 8m	MALLEE TREE 8m or more	15m	10m	5m		
	30-50%	COVER CLASS (%)	2-5m 5-15m	10-20							
	20-30%	SHRUBS				MALLEES					
	10-20%	LIFE FORM	over 2m	2.0-1.5m	1.5-1.0m	1.0m - .5m	under .5m	3m	2m		1m
	2-10%	COVER CLASS (%)									10-30
	0%	BUNCH GRASSES				HERBS		SEDGES			
	under 2%	LIFE FORM	under .5m	under .5m (except creepers)	over .5m	under .5m	2.0m	1.5m	1.0m		.5m
	under 2%	COVER CLASS (%)	50-20	10-20							

1. LOCATION OF THE QUADRAT

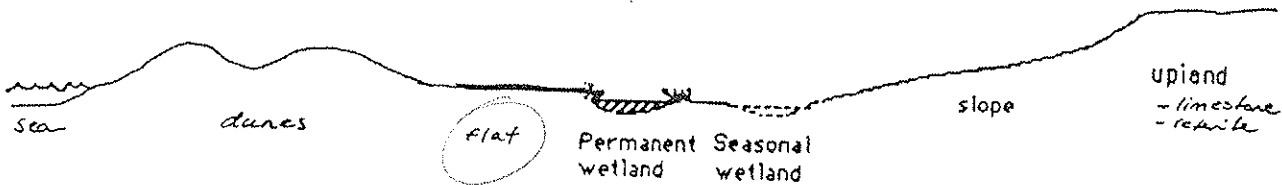
TRIG-3

a. Mud Map Draw a sketch of the location of the quadrat



b. Road Location	c. Latitude	Longitude
	31 52 17.0	115 45 34.5
d. Photograph Photographer's name	Photo No	Altitude
		10 ± 100 m

e. Topographic position - Circle position of quadrat



2. SITE DATA - Circle the correct response

Slope flat gentle steep

Aspect

N	NE	E	SE	S	SW	W	NW
---	----	---	----	---	----	---	----

Surface soil DR SAND

Sub-surface soil DR SLT exposed limestone

Drainage well mod poor

Wet All year winter/spring

Litter (% cover) 70

% Bare ground 5

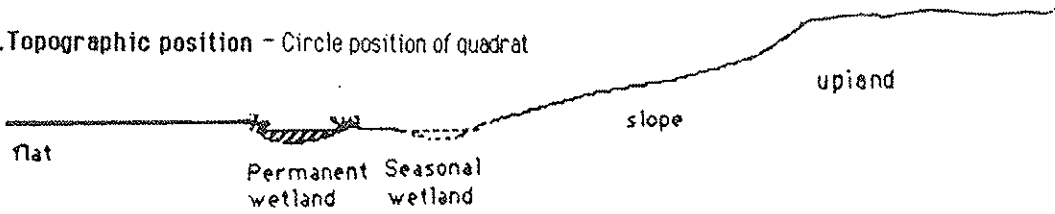
4. VEGETATION CONDITION

EXCELLANT		Comments lots of wood structure in soil * birds some re. habitat legume 85%
VERY GOOD		
GOOD		
POOR		
VERY POOR		

QUADRAT No. TR154 4 VEGETATION TYPE Wetland
 DATE FIRST TRIP 6/10/92 VOLUNTEERS _____
 DATE SECOND TRIP 23/11/92 VOLUNTEERS _____
 BOTANIST: NTML/BJK

1. LOCATION of the QUADRAT

- a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet ➔
- b. Photograph Photographer's name _____
- c. Topographic position - Circle position of quadrat



Keighery and Keighery, 1990
 Adapted from Griffin and Keighery, 1989
 MOORE RIVER to JURIE SANDPLAIN
 SURVEY. WILDFLOWER SOCIETY of WA

2. SITE DATA - Circle the correct response

Slope flat gentle steep Aspect N NE E SE S SW W NW

% Bare ground _____ Drainage well mod poor Wet All year winter/spring

Litter (% cover) _____ Surface soil _____ Sub-surface soil _____

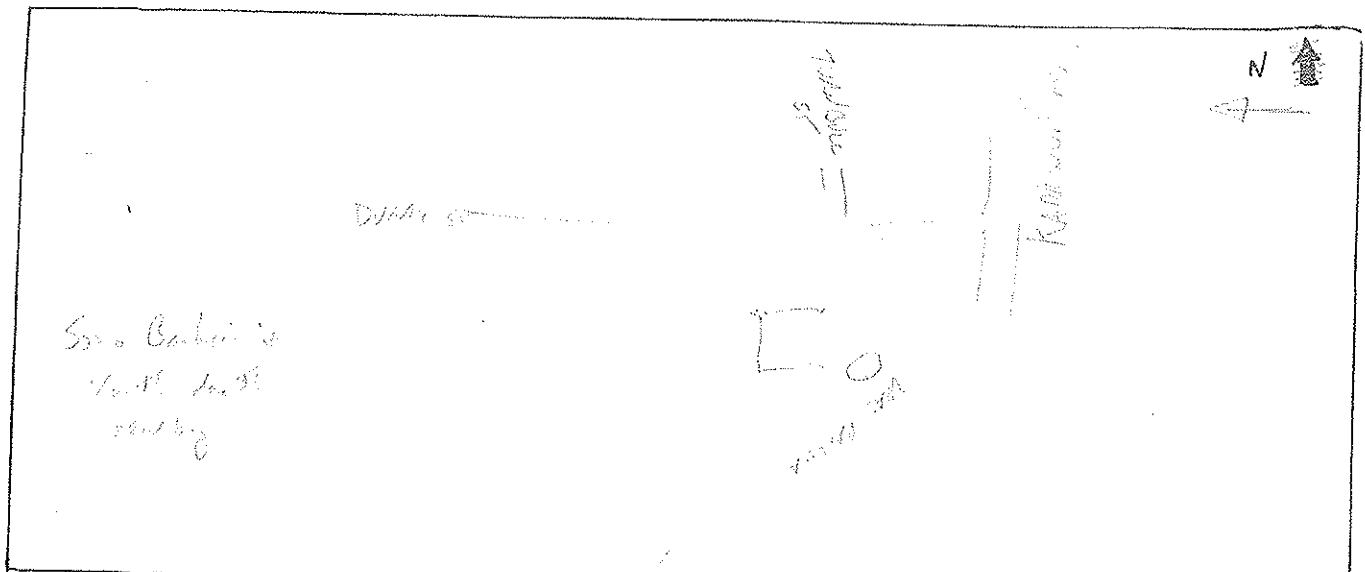
3. VEGETATION STRUCTURE AND COVER Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES				MALLEES				Height (metres)		
	50-70%	S. oak D. mang										
	30-50%	> 15m or 5-15m		under 5m		MALLEE SHRUB less than 8m		MALLEE TREE 8m or more				
	20-30%	COVER CLASS (%)		COVER CLASS (%)		COVER CLASS (%)		COVER CLASS (%)				
	10-20%	> 15m		5-15m		30-50						
	2-10%	SHRUBS				ALL OVER						
	0%	LIFE FORM		LIFE FORM		LIFE FORM		LIFE FORM				
	under 2%	over 2m		2.0-1.5m		1.5-1.0m		1.0m - .5m			under .5m	
	under 2%	COVER CLASS (%)		COVER CLASS (%)		COVER CLASS (%)		COVER CLASS (%)			COVER CLASS (%)	
	under 2%	3-50		10-20								
under 2%	BUNCH GRASSES		HERBS		SEDGES		More plants					
under 2%	LIFE FORM		LIFE FORM		LIFE FORM		LIFE FORM					
under 2%	under .5m		under .5m (except creepers)		over .5m		under .5m					
under 2%	COVER CLASS (%)		COVER CLASS (%)		COVER CLASS (%)		COVER CLASS (%)					
under 2%	10-20		30-50				30-50					

1. LOCATION of the QUADRAT

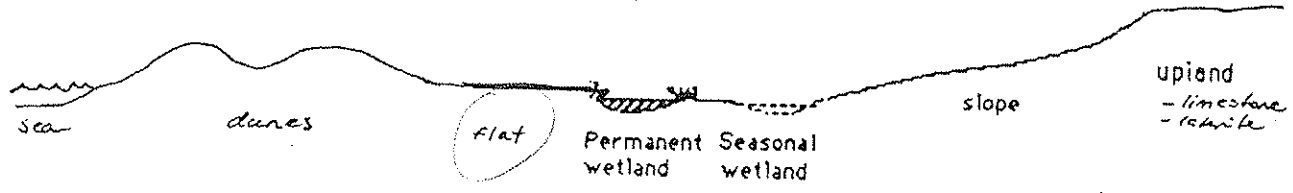
TRIG-4

a. Mud Map Draw a sketch of the location of the quadrat:



b Road Location	c. Latitude	Longitude
	31 52 27.6	115 45 47.4
d. Photograph Photographer's name <u>NG</u> Photo No <u>11</u>	Altitude <u>10 ± 100 m</u>	

e. Topographic position - Circle position of quadrat:



2. SITE DATA - Circle the correct response

Slope flat gentle steep

Aspect

N	NE	E	SE	S	SW	W	NW
---	----	---	----	---	----	---	----

Surface soil RR SAND

Sub-surface soil VD70

Drainage well mod poor

Wet All year winter/spring

Litter (% cover) 90

% Bare ground 0

4. VEGETATION CONDITION

EXCELLANT		Comments May be so a. Pe i. m. low wood good veg structure escaped burn, all timber a. white, Montmorency, *Honnara sig 1 * Glad.
VERY GOOD	<u>5</u>	
GOOD		
POOR		
VERY POOR		

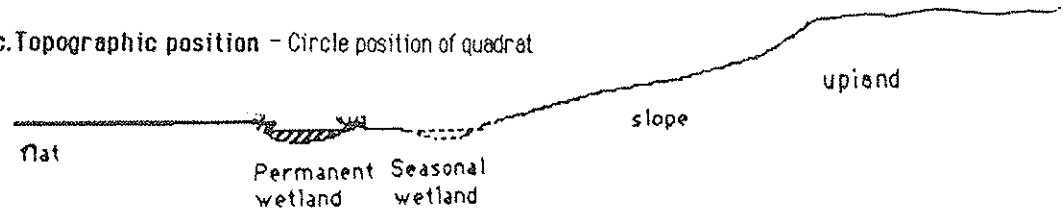
QUADRAT No. TN63 of VEGETATION TYPE _____
 DATE FIRST TRIP 6/10/92 VOLUNTEERS _____
 DATE SECOND TRIP 23/11/92 VOLUNTEERS _____
 BOTANIST: W. J. M. B. J. C.

1. LOCATION of the QUADRAT

a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet →

b. Photograph Photographer's name _____

c. Topographic position - Circle position of quadrat



Keighery and Keighery, 1990
 Adapted from Griffin and Keighery, 1989
 MOORE RIVER to JURIEAN SANDPLAIN
 SURVEY. WILDFLOWER SOCIETY of W.A

2. SITE DATA - Circle the correct response

Slope flat gentle steep Aspect N NE E SE S SW W NW

% Bare ground _____ Drainage well mod poor Wet All year winter/spring

Litter (% cover) _____ Surface soil _____ Sub-surface soil _____

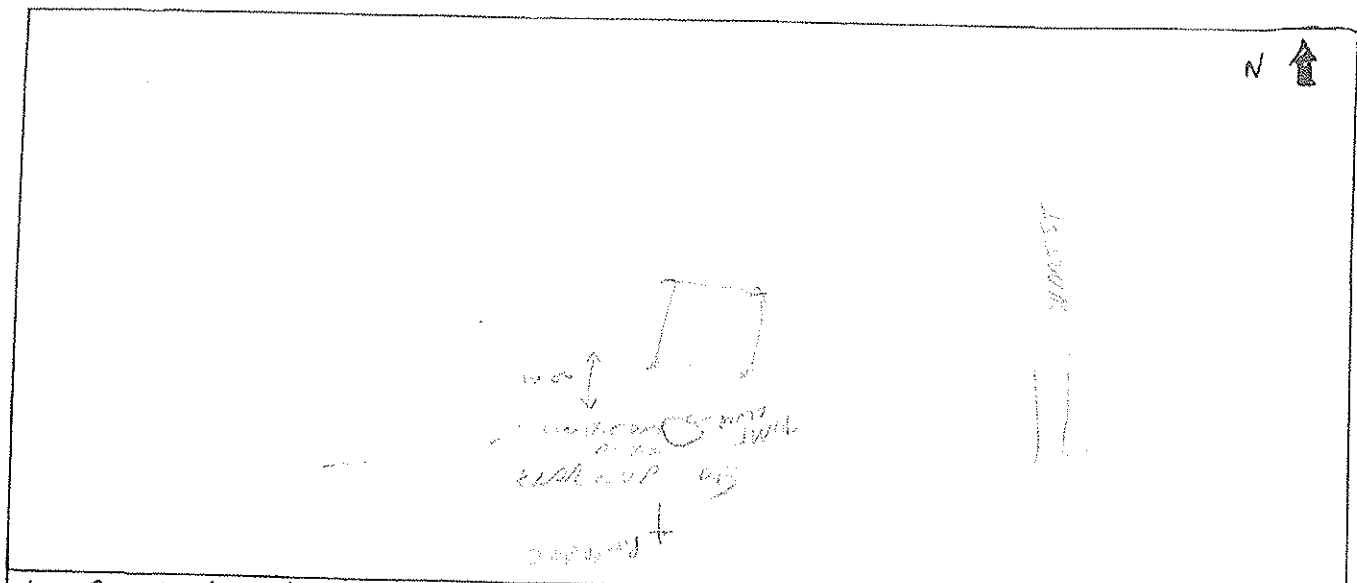
3. VEGETATION STRUCTURE AND COVER Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES				MALLEES				Height (metres)
	50-70%	> 15m or 5-15m	Under 5m		MALLEE SHRUB less than 8m		MALLEE TREE 8m. or more			
	30-50%	> 15m 5-15m								
	20-30%	SHRUBS				SPERMATOPHYTES				
	10-20%	over 2m		2.0-1.5m	1.5-1.0m	1.0m - .5m	under 5m			
	2-10%			10-20			50-70			
	0%	BUNCH GRASSES		HERBS		SEDGES		LOW GROWING		
	under 2%	under .5m		under .5m (except creepers)		over .5m		under .5m		
	under 2%	2-10		2-10		10-20		10-20		

1. LOCATION OF THE QUADRAT

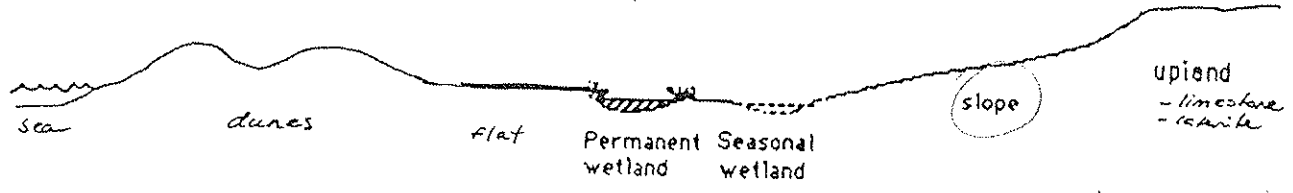
TRIG-5

a. Mud Map Draw a sketch of the location of the quadrat



b. Road Location	c. Latitude	Longitude
	31 52 30.0	115 45 32.7
d. Photograph Photographer's name	Photo No	Altitude 2m 3100

e. Topographic position - Circle position of quadrat



2. SITE DATA - Circle the correct response

Slope flat gentle steep

Aspect

N	NE	E	SE	S	SW	W	NW
---	----	---	----	---	----	---	----

Surface soil DRS | sh17

Sub-surface soil sh17 | exposed limestone

Drainage well mod poor

Wet All year winter/spring

Litter (% cover) 50

% Bare ground 30

4. VEGETATION CONDITION

EXCELLANT		Comments patches sprayed P. veldt clumped seed well Stratum 70% seed spray for Per Veldt grass
VERY GOOD		
GOOD		
POOR	3-5	
VERY POOR		

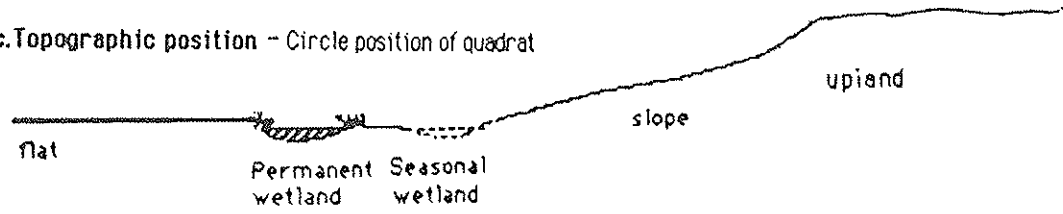
QUADRAT No. TRIG 06 VEGETATION TYPE _____
 DATE FIRST TRIP 6/10/92 VOLUNTEERS _____
 DATE SECOND TRIP _____ VOLUNTEERS _____
 BOTANIST N.G. & M.L.

1. LOCATION of the QUADRAT

a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet →

b. Photograph Photographer's name N.G. Gibson

c. Topographic position - Circle position of quadrat



Keighery and Keighery, 1990
 Adapted from Griffin and Keighery, 1989
 MOORE RIVER to JURIE SANDPLAIN
 SURVEY. WILDFLOWER SOCIETY of WA

2. SITE DATA - Circle the correct response

Slope flat gentle steep Aspect N NE E SE S SW W NW

% Bare ground _____ Drainage well mod poor Wet All year winter/spring

Litter (% cover) _____ Surface soil _____ Sub-surface soil _____

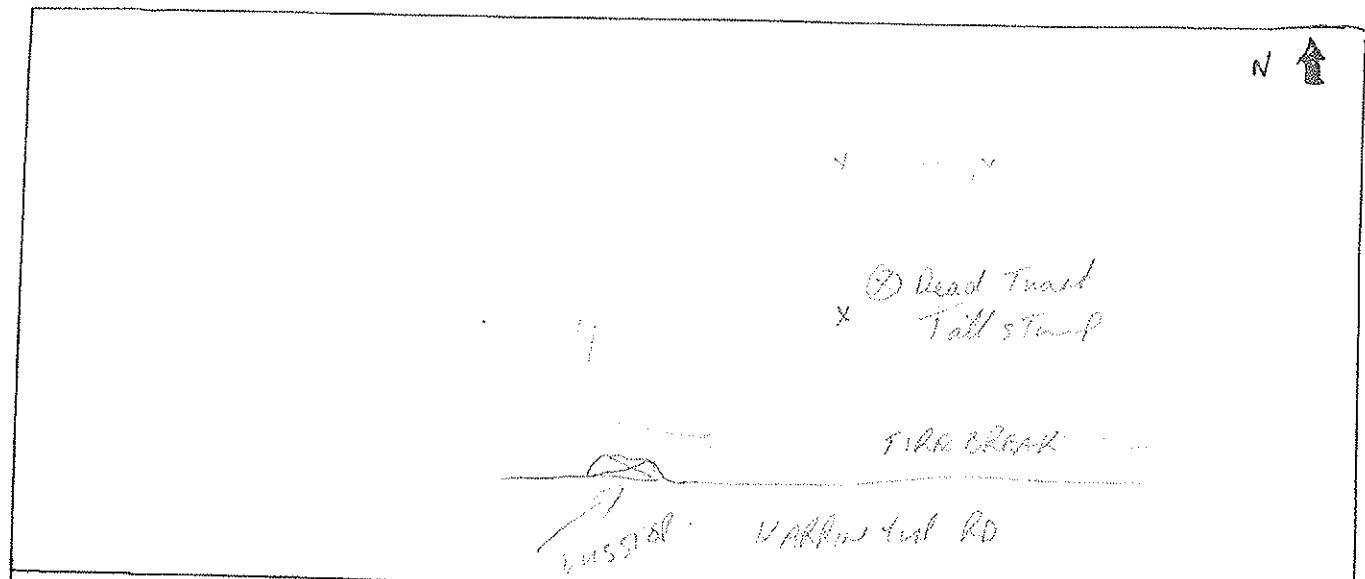
3. VEGETATION STRUCTURE AND COVER. Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES <i>Eucalyptus macrocarpa</i>		MALLEES		Height (metres)	
	50-70%	LIFE FORM	> 15m 5-15m 	under 5m 	MALLEE SHRUB less than 8m 		MALLEE TREE 8m or more
	30-50%	COVER CLASS (%)	7-15m 5-15m 50-70%	2-70%			
	20-30%	SHRUBS <i>Hakea sp lasiocarpa</i> <i>Taxodium sp.</i> <i>Acacia saligna</i>	over 2m	2.0-1.5m	1.5-1.0m <i>var. hirt</i> <i>Hakea sp.</i>		1.0m - .5m	under .5m
10-20%	LIFE FORM						
2-10%	COVER CLASS (%)	10-20% / 10-20%		10-20%			
0% under 2%	BUNCH GRASSES	HERBS	SEDGES				
	LIFE FORM	under .5m 	under .5m (except creepers) 	over .5m 	under .5m 		
	COVER CLASS (%)						

1. LOCATION of the QUADRAT

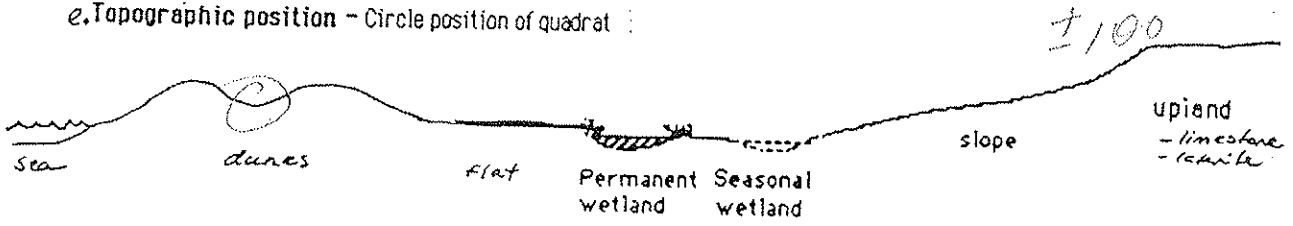
TRIA-6

a. Mud Map Draw a sketch of the location of the quadrat



b Road Location	c. Latitude	Longitude
	31 52 29.81	115 45 31.8
d. Photograph Photographer's name	Photo No	Altitude
		10m

e. Topographic position - Circle position of quadrat



2. SITE DATA - Circle the correct response

Slope flat gentle steep

Aspect

N	NE	E	SE	S	SW	W	NW
---	----	---	----	---	----	---	----

Surface soil ORANGE | SAND

Sub-surface soil LIMESTONE

Drainage well mod poor

Wet All year winter/spring

Litter (% cover) > 70%

% Bare ground 22%

4. VEGETATION CONDITION

EXCELLANT		COMMENTS STRUCTURE INTACT SOME INVASIVE WEEDS of Polargonium capitatum weeds replacing grasses
VERY GOOD	3	
GOOD		
POOR		
VERY POOR		

BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	24	TRIG-5	Acacia	pulchella				
308	24	TRIG-5	Austrostipa	flavescens				
308	24	TRIG-5	Caladenia	flava		subsp. flava		
308	24	TRIG-5	Calothamnus	quadrifidus				
308	24	TRIG-5	Clematis	linearifolia				
308	24	TRIG-5	Conostylis	aculeata				
308	24	TRIG-5	Crassula	exserta				
308	24	TRIG-5	Desmocladius	fasciculatus				
308	24	TRIG-5	Dianella	revoluta		var. divaricata		
308	24	TRIG-5	Drosera	menziesii		subsp. penicillaris		
308	24	TRIG-5	Dryandra	lindleyana				
308	24	TRIG-5	Gompholobium	tomentosum				
308	24	TRIG-5	Grevillea	preissii		subsp. preissii		
308	24	TRIG-5	Hibbertia	hypericoides				
308	24	TRIG-5	Hybanthus	calycinus				
308	24	TRIG-5	Kennedia	prostrata				
308	24	TRIG-5	Lechenaultia	linarioides				
308	24	TRIG-5	Lepidosperma	squamatum				
308	24	TRIG-5	Lomandra	maritima				
308	24	TRIG-5	Melaleuca	huegelii		subsp. huegelii		
308	24	TRIG-5	Mesomelaena	pseudostygia				
308	24	TRIG-5	Opercularia	hispidula				
308	24	TRIG-5	Phyllanthus	calycinus				
308	24	TRIG-5	Santalum	acuminatum				
308	24	TRIG-5	Scaevola	anchusifolia				
308	24	TRIG-5	Scaevola	canescens				
308	24	TRIG-5	Schoenus	grandiflorus				
308	24	TRIG-5	Thysanotus	manglesianus/patersonii complex				
308	24	TRIG-5	Tricoryne	elatior				
308	24	TRIG-5	Xanthorrhoea	preissii				
308	24	TRIG-5	* Anagallis	arvensis				
308	24	TRIG-5	* Briza	maxima				
308	24	TRIG-5	* Ehrharta	calycina				
308	24	TRIG-5	* Gladiolus	caryophyllaceus				
308	24	TRIG-5	* Heliophila	pusilla				
308	24	TRIG-5	* Hypochaeris	glabra				
308	24	TRIG-5	* Isolepis	marginata				
308	24	TRIG-5	* Lagurus	ovatus				
308	24	TRIG-5	* Moraea	flaccida				
308	24	TRIG-5	* Pelargonium	capitatum				
308	24	TRIG-5	* Petrorhagia	dubia				
308	24	TRIG-5	* Sonchus	oleraceus				
308	24	TRIG-5	* Trifolium	dubium				
308	24	TRIG-5	* Tripteris	clandestina				
308	24	TRIG-5	* Urospermum	picroides				
308	24	TRIG-5	* Ursinia	anthemoides				

BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	24	TRIG-6	Acacia	saligna				
308	24	TRIG-6	Acacia	willdenowiana				
308	24	TRIG-6	Allocasuarina	humilis				
308	24	TRIG-6	Clematis	pubescens				
308	24	TRIG-6	Conostylis	aculeata				
308	24	TRIG-6	Corynotheca	micrantha	var.	micrantha		
308	24	TRIG-6	Desmocladus	fasciculatus				
308	24	TRIG-6	Dianella	revoluta	var.	divaricata		
308	24	TRIG-6	Dryandra	lindleyana				
308	24	TRIG-6	Eucalyptus	gomphocephala	var.	gomphocephala		
308	24	TRIG-6	Hakea	lissocarpha				
308	24	TRIG-6	Hardenbergia	comptoniana				
308	24	TRIG-6	Hibbertia	hypericoides				
308	24	TRIG-6	Hovea	trisperma	var.	trisperma		
308	24	TRIG-6	Jacksonia	sternbergiana				
308	24	TRIG-6	Kennedia	prostrata				
308	24	TRIG-6	Lomandra	maritima				
308	24	TRIG-6	Macrozamia	riedlei				
308	24	TRIG-6	Melaleuca	systema				
308	24	TRIG-6	Olearia	axillaris				
308	24	TRIG-6	Ozothamnus	cordatus				
308	24	TRIG-6	Poa	porphyroclados				
308	24	TRIG-6	Rhagodia	baccata	subsp.	baccata		
308	24	TRIG-6	Scaevola	repens	var.	repens		
308	24	TRIG-6	Xanthorrhoea	preissii				
308	24	TRIG-6	* Anagallis	arvensis				
308	24	TRIG-6	* Briza	maxima				
308	24	TRIG-6	* Briza	minor				
308	24	TRIG-6	* Bromus	diandrus				
308	24	TRIG-6	* Conyza	sumatrensis				
308	24	TRIG-6	* Ehrharta	longiflora				
308	24	TRIG-6	* Lagurus	ovatus				
308	24	TRIG-6	* Pelargonium	capitatum				
308	24	TRIG-6	* Solanum	nigrum				
308	24	TRIG-6	* Sonchus	oleraceus				
308	24	TRIG-6	* Sparaxis	bulbifera				
308	24	TRIG-6	* Vicia	sativa				

BFS308Trigg

BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	s15	trigg08	Acacia	pulchella				
308	s15	trigg08	Acacia	saligna				
308	s15	trigg08	Carex	preissii				
308	s15	trigg08	Desmocladius	fasciculatus				
308	s15	trigg08	Dianella	revoluta	var.	divaricata		
308	s15	trigg08	Eucalyptus	gomphocephala	var.	gomphocephala		
308	s15	trigg08	Grevillea	preissii	subsp.	preissii		
308	s15	trigg08	Hardenbergia	comptoniana				
308	s15	trigg08	Hibbertia	hypericoides				
308	s15	trigg08	Jacksonia	sternbergiana				
308	s15	trigg08	Lepidosperma	gladiatum				
308	s15	trigg08	Lepidosperma	squamatum				
308	s15	trigg08	Mesomelaena	pseudostygia				
308	s15	trigg08	Olearia	axillaris				
308	s15	trigg08	Rhagodia	baccata	subsp.	dioica		
308	s15	trigg08	Xanthorrhoea	preissii				
308	s15	trigg08	* Asparagus	densiflorus				
308	s15	trigg08	* Avena	barbata				
308	s15	trigg08	* Ehrharta	longiflora				
308	s15	trigg08	* Euphorbia	peplus				
308	s15	trigg08	* Euphorbia	terraccina				

Plotsource	N	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
TRIG-5		Acacia	pulchella				
TRIG-5	*	Anagallis	arvensis				
TRIG-5		Austrostipa	flavescens				
TRIG-5	*	Briza	maxima				
TRIG-5		Caladenia	flava	subsp.	flava		
TRIG-5		Calothamnus	quadrifidus				
TRIG-5		Clematis	linearifolia				
TRIG-5		Conostylis	aculeata				
TRIG-5		Crassula	exserta				
TRIG-5		Desmocladius	fasciculatus				
TRIG-5		Dianella	revoluta	var.	divaricata		
TRIG-5		Drosera	menziesii	subsp.	penicillaris		
TRIG-5		Dryandra	lindleyana				
TRIG-5	*	Ehrharta	calycina				
TRIG-5	*	Gladiolus	caryophyllaceus				
TRIG-5		Gompholobium	tomentosum				
TRIG-5		Grevillea	preissii	subsp.	preissii		
TRIG-5	*	Heliophila	pusilla				
TRIG-5		Hibbertia	hypericoides				
TRIG-5		Hybanthus	calycinus				
TRIG-5	*	Hypochaeris	glabra				
TRIG-5	*	Isolepis	marginata				
TRIG-5		Kennedia	prostrata				
TRIG-5	*	Lagurus	ovatus				
TRIG-5		Lechenaultia	linarioides				
TRIG-5		Lepidosperma	squamatum				
TRIG-5		Lomandra	maritima				
TRIG-5		Melaleuca	huegelii	subsp.	huegelii		
TRIG-5		Mesomelaena	pseudostygia				
TRIG-5	*	Moraea	flaccida				
TRIG-5		Opercularia	hispidula				
TRIG-5	*	Pelargonium	capitatum				
TRIG-5	*	Petrorhagia	dubia				
TRIG-5		Phyllanthus	calycinus				
TRIG-5		Santalum	acuminatum				
TRIG-5		Scaevola	anchusifolia				
TRIG-5		Scaevola	canescens				
TRIG-5		Schoenus	grandiflorus				
TRIG-5	*	Sonchus	oleraceus				
TRIG-5		Thysanotus	manglesianus/patersonii complex				
TRIG-5		Tricoryne	elatior				
TRIG-5	*	Trifolium	dubium				
TRIG-5	*	Tripteris	clandestina				
TRIG-5	*	Urospermum	picroides				
TRIG-5	*	Ursinia	anthemoides				
TRIG-5		Xanthorrhoea	preissii				

PlotSource	No	Genus	Species	InfraspRank	InfraspName	Informal	ConsrvCode
TRIG-4		Allocasuarina	humilis				
TRIG-4	*	Anagallis	arvensis				
TRIG-4		Banksia	attenuata				
TRIG-4		Banksia	menziesii				
TRIG-4		Bossiaea	eriocarpa				
TRIG-4		Burchardia	congesta				
TRIG-4		Caesia	micrantha				
TRIG-4		Clematis	linearifolia				
TRIG-4		Conostephium	pendulum				
TRIG-4		Conostylis	aculeata				
TRIG-4		Corynotheca	micrantha	var.	micrantha		
TRIG-4		Desmocladius	fasciculatus				
TRIG-4		Dianella	revoluta	var.	divaricata		
TRIG-4		Drosera	erythrorhiza	subsp.	erythrorhiza		
TRIG-4	*	Ehrharta	calycina				
TRIG-4	*	Gladiolus	caryophyllaceus				
TRIG-4		Haemodorum	laxum				
TRIG-4		Hakea	lissocarpa				
TRIG-4		Hakea	prostrata				
TRIG-4		Hibbertia	hypericoides				
TRIG-4		Hovea	trisperma	var.	trisperma		
TRIG-4		Lepidosperma	squamatum				
TRIG-4		Lomandra	caespitosa				
TRIG-4		Lomandra	hermaphrodita				
TRIG-4		Mesomelaena	pseudostygia				
TRIG-4		Microlaena	stipoides				
TRIG-4	*	Moraea	flaccida				
TRIG-4	*	Pelargonium	capitatum				
TRIG-4		Pterostylis	vittata				
TRIG-4		Scaevola	canescens				
TRIG-4		Scaevola	repens	var.	repens		
TRIG-4		Schoenus	clandestinus				
TRIG-4	*	Sonchus	oleraceus				
TRIG-4		Sowerbaea	laxiflora				
TRIG-4		Stylidium	brunonianum	subsp.	brunonianum		
TRIG-4		Stylidium	repens				
TRIG-4		Thysanotus	arenarius				
TRIG-4		Thysanotus	triandrus				
TRIG-4		Xanthorrhoea	preissii				
TRIG-4		Xanthosia	huegelii	subsp.	huegelii	MS	

PlotSource	No	Genus	Species	InfraspRank	InfraspName	Informal	ConsCode
TRIG-3		Acacia	pulchella				
TRIG-3		Alexgeorgea	nitens				
TRIG-3	*	Anagallis	arvensis				
TRIG-3		Austrodanthonia	occidentalis				
TRIG-3		Austrostipa	flavescens				
TRIG-3	*	Avena	fatua				
TRIG-3		Banksia	attenuata				
TRIG-3		Bossiaea	ericarpa				
TRIG-3	*	Briza	maxima				
TRIG-3	*	Bromus	diandrus				
TRIG-3		Burchardia	congesta				
TRIG-3		Caesia	micrantha				
TRIG-3		Conostephium	pendulum				
TRIG-3		Conostylis	aculeata				
TRIG-3		Corynotheca	micrantha	var.	micrantha		
TRIG-3		Crassula	colorata	var.	colorata		
TRIG-3		Desmocladus	fasciculatus				
TRIG-3		Dianella	revoluta	var.	divaricata		
TRIG-3		Dichopogon	capillipes				
TRIG-3	*	Ehrharta	calycina				
TRIG-3	*	Ehrharta	longiflora				
TRIG-3		Eryngium	pinnatifidum	subsp.	pinnatifidum	MS	
TRIG-3		Eucalyptus	calophylla				
TRIG-3		Eucalyptus	gomphocephala	var.	gomphocephala		
TRIG-3		Eucalyptus	marginata	subsp.	marginata		
TRIG-3	*	Gladiolus	caryophyllaceus				
TRIG-3		Gompholobium	tomentosum				
TRIG-3		Haemodorum	paniculatum				
TRIG-3		Hardenbergia	comptoniana				
TRIG-3		Hibbertia	hypericoides				
TRIG-3		Hovea	trisperma	var.	trisperma		
TRIG-3		Hybanthus	calycinus				
TRIG-3	*	Hypochaeris	glabra				
TRIG-3		Isotropis	cuneifolia	subsp.	cuneifolia		
TRIG-3		Jacksonia	sternbergiana				
TRIG-3	*	Lagurus	ovatus				
TRIG-3		Lechenaultia	linarioides				
TRIG-3		Lepidosperma	squamatum				
TRIG-3		Leucopogon	parviflorus				
TRIG-3		Lomandra	caespitosa				
TRIG-3		Lomandra	hermaphrodita				
TRIG-3		Lomandra	maritima				
TRIG-3		Macrozamia	riedlei				
TRIG-3		Mesomelaena	pseudostygia				
TRIG-3		Microlaena	stipoides				
TRIG-3		Opercularia	vaginata				
TRIG-3		Orthrosanthus	laxus	var.	laxus		
TRIG-3	*	Pelargonium	capitatum				
TRIG-3	*	Petrorhagia	dubia				
TRIG-3		Phyllanthus	calycinus				
TRIG-3		Pimelea	rosea	subsp.	rosea		
TRIG-3		Podolepis	gracilis				
TRIG-3		Pterostylis	sanguinea				
TRIG-3		Ptilotus	drummondii	var.	drummondii		
TRIG-3		Ptilotus	polystachyus	var.	polystachyus		
TRIG-3		Scaevola	repens	var.	repens		
TRIG-3		Schoenus	clandestinus				
TRIG-3		Schoenus	grandiflorus				
TRIG-3	*	Silene	gallica				
TRIG-3		Thysanotus	manglesianus/patersonii complex				
TRIG-3		Trachymene	pilosa				
TRIG-3	*	Trifolium	arvense	var.	arvense		
TRIG-3	*	Ursinia	anthemoides				
TRIG-3		Xanthorrhoea	preissii				
TRIG-3		Xanthosia	huegelii	subsp.	huegelii	MS	

PlotSource	Genus	Species	InfrasRank	InfrasName	Informal	ConsrvCode
TRIG-2	Acacia	cyclops				
TRIG-2	Acanthocarpus	preissii				
TRIG-2	Acrotriche	cordata				
TRIG-2	* Aira	caryophyllea				
TRIG-2	* Briza	maxima				
TRIG-2	Caladenia	latifolia				
TRIG-2	Calandrinia	brevipedata				
TRIG-2	Callitris	preissii				
TRIG-2	* Cerastium	glomeratum				
TRIG-2	Conostylis	candicans	subsp.	candicans		
TRIG-2	* Crassula	glomerata				
TRIG-2	Daucus	giochidiatus				
TRIG-2	* Desmazeria	rigida				
TRIG-2	Eucalyptus	gomphocephala	var.	gomphocephala		
TRIG-2	* Galium	murale				
TRIG-2	Hardenbergia	comptoniana				
TRIG-2	* Lagurus	ovatus				
TRIG-2	Leucopogon	parviflorus				
TRIG-2	* Pelargonium	capitatum				
TRIG-2	Rhagodia	baccata	subsp.	baccata		
TRIG-2	Senecio	lautus	subsp.	dissectifolius		
TRIG-2	* Solanum	nigrum				
TRIG-2	* Sonchus	oleraceus				
TRIG-2	Spyridium	globulosum				
TRIG-2	* Stellaria	media				

Plotorsource	No	Genus	Species	InfraspRank	InfraspName	Informal	ConsyCode
TRIG-1		Acacia	lasiocarpa				
TRIG-1		Acacia	rostellifera				
TRIG-1		Acanthocarpus	preissii				
TRIG-1	*	Anagallis	arvensis				
TRIG-1		Anthocercis	ilicifolia				
TRIG-1		Austrodanthonia	occidentalis				
TRIG-1		Austrostipa	flavescens				
TRIG-1	*	Brassica	tournefortii				
TRIG-1		Calandrinia	brevipedata				
TRIG-1		Calothamnus	quadrifidus				
TRIG-1		Clematis	linearifolia				
TRIG-1		Conostylis	candicans	subsp.	candicans		
TRIG-1		Desmocladus	fasciculatus				
TRIG-1	*	Ehrharta	longiflora				
TRIG-1		Gompholobium	tomentosum				
TRIG-1		Hemiandra	pungens				
TRIG-1		Hibbertia	racemosa				
TRIG-1		Melaleuca	systema				
TRIG-1	*	Pelargonium	capitatum				
TRIG-1		Phyllanthus	calycinus				
TRIG-1		Rhagodia	baccata	subsp.	baccata		
TRIG-1		Santalum	acuminatum				
TRIG-1		Schoenus	grandiflorus				
TRIG-1	*	Sonchus	oleraceus				

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Plotorsource	N	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
trigg08		Acacia	pulchella				
trigg08		Acacia	saligna				
trigg08	*	Asparagus	densiflorus				
trigg08	*	Avena	barbata				
trigg08		Carex	preissii				
trigg08		Desmocladius	fasciculatus				
trigg08		Dianella	revoluta	var.	divaricata		
trigg08	*	Ehrharta	longiflora				
trigg08		Eucalyptus	gomphocephala	var.	gomphocephala		
trigg08	*	Euphorbia	peplus				
trigg08	*	Euphorbia	terraccina				
trigg08		Grevillea	preissii	subsp.	preissii		
trigg08		Hardenbergia	comptoniana				
trigg08		Hibbertia	hypericoides				
trigg08		Jacksonia	sternbergiana				
trigg08		Lepidosperma	gladiatum				
trigg08		Lepidosperma	squamatum				
trigg08		Mesomelaena	pseudostygia				
trigg08		Olearia	axillaris				
trigg08		Rhagodia	baccata	subsp.	dioica		
trigg08		Xanthorrhoea	preissii				

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BFS No	FCT	Plot Name	*	Genus	Species	Infrasp Rank	InfraspName	Informal	Consv. Code
308	s14	TR01		Senecio	lautus		subsp. dissectifolius		
308	s14	TR01		Spinifex	hirsutus				
308	s14	TR01		Spinifex	longifolius				
308	s14	TR01	*	Cakile	maritima				

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BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	s14	TR02	Enchylaena	tomentosa	var.	tomentosa		
308	s14	TR02	Olearia	axillaris				
308	s14	TR02	Rhagodia	baccata	subsp.	baccata		
308	s14	TR02	Scaevola	crassifolia				
308	s14	TR02	Senecio	lautus	subsp.	dissectifolius		
308	s14	TR02	Spinifex	hirsutus				
308	s14	TR02	* Crassula	glomerata				
308	s14	TR02	* Lagurus	ovatus				
308	s14	TR02	* Oenothera	drummondii				
308	s14	TR02	* Pelargonium	capitatum				
308	s14	TR02	* Tetragonia	decumbens				
308	s14	TR02	* Trachyandra	divaricata				

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BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	s13	TR03	Acacia	cyclops				
308	s13	TR03	Acanthocarpus	preissii				
308	s13	TR03	Clematis	linearifolia				
308	s13	TR03	Conostylis	candicans	subsp.	candicans		
308	s13	TR03	Enchylaena	tomentosa	var.	tomentosa		
308	s13	TR03	Exocarpos	aphyllus				
308	s13	TR03	Ficinia	nodosa				
308	s13	TR03	Hardenbergia	comptoniana				
308	s13	TR03	Lepidosperma	gladiatum				
308	s13	TR03	Myoporum	insulare				
308	s13	TR03	Olearia	axillaris				
308	s13	TR03	Rhagodia	baccata	subsp.	baccata		
308	s13	TR03	Santalum	acuminatum				
308	s13	TR03	Scaevola	crassifolia				
308	s13	TR03	Senecio	lautus	subsp.	dissectifolius		
308	s13	TR03	* Avena	barbata				
308	s13	TR03	* Bromus	diandrus				
308	s13	TR03	* Ehrharta	brevifolia	var.	cuspidata		
308	s13	TR03	* Lagurus	ovatus				
308	s13	TR03	* Pelargonium	capitatum				
308	s13	TR03	* Raphanus	raphanistrum				
308	s13	TR03	* Trachyandra	divaricata				

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BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	s13	TR04	Acacia	cyclops				
308	s13	TR04	Acacia	lasiocarpa	var.	lasiocarpa		
308	s13	TR04	Acrotriche	cordata				
308	s13	TR04	Callitris	preissii				
308	s13	TR04	Crassula	colorata	var.	colorata		
308	s13	TR04	Cuscuta	australis				
308	s13	TR04	Hardenbergia	comptoniana				
308	s13	TR04	Leucopogon	parviflorus				
308	s13	TR04	Olearia	axillaris				
308	s13	TR04	Rhagodia	baccata	subsp.	baccata		
308	s13	TR04	Santalum	acuminatum				
308	s13	TR04	Spyridium	globulosum				
308	s13	TR04	* Anagallis	arvensis	var.	caerulea		
308	s13	TR04	* Boerhavia	coccinea				
308	s13	TR04	* Cerastium	glomeratum				
308	s13	TR04	* Crassula	glomerata				
308	s13	TR04	* Dischisma	arenarium				
308	s13	TR04	* Lagurus	ovatus				
308	s13	TR04	* Trachyandra	divaricata				

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BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	s13	TR05	Allocasuarina	lehmanniana		subsp. lehmanniana		
308	s13	TR05	Callitris	preissii				
308	s13	TR05	Daucus	glochidiatus				
308	s13	TR05	Santalum	acuminatum				
308	s13	TR05	Spyridium	globulosum				
308	s13	TR05	Templetonia	retusa				
308	s13	TR05	* Cerastium	glomeratum				
308	s13	TR05	* Crassula	glomerata				
308	s13	TR05	* Dischisma	arenarium				
308	s13	TR05	* Ehrharta	brevifolia	var.	cuspidata		
308	s13	TR05	* Lagurus	ovatus				
308	s13	TR05	* Sonchus	oleraceus				

BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	s11	TR06	Acacia	rostellifera				
308	s11	TR06	Anthocercis	littorea				
308	s11	TR06	Lepidosperma	squamatum				
308	s11	TR06	Lomandra	maritima				
308	s11	TR06	Melaleuca	systema				
308	s11	TR06	Phyllanthus	calycinus				
308	s11	TR06	Poranthera	microphylla				
308	s11	TR06	Schoenus	grandiflorus				
308	s11	TR06	* Avena	barbata				
308	s11	TR06	* Boerhavia	coccinea				
308	s11	TR06	* Crassula	glomerata				
308	s11	TR06	* Ehrharta	brevifolia	var.	cuspidata		
308	s11	TR06	* Lagurus	ovatus				

BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	s11	TR07	Acacia	rostellifera				
308	s11	TR07	Acanthocarpus	preissii				
308	s11	TR07	Allocasuarina	lehmanniana	subsp.	lehmanniana		
308	s11	TR07	Anthocercis	littorea				
308	s11	TR07	Conostylis	candicans	subsp.	candicans		
308	s11	TR07	Conostylis	pauciflora	subsp.	euryrhipis		P3
308	s11	TR07	Eucalyptus	gomphocephala	var.	gomphocephala		
308	s11	TR07	Gompholobium	tomentosum				
308	s11	TR07	Hibbertia	racemosa				
308	s11	TR07	Melaleuca	systema				
308	s11	TR07	Ozothamnus	cordatus				
308	s11	TR07	Santalum	acuminatum				
308	s11	TR07	Scaevola	nitida				
308	s11	TR07	Schoenus	grandiflorus				
308	s11	TR07	* Pelargonium	capitatum				

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BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	s11	TR08	Acacia	rostellifera				
308	s11	TR08	Acanthocarpus	preissii				
308	s11	TR08	Austrostipa	flavescens				
308	s11	TR08	Conostylis	candicans		subsp. candicans		
308	s11	TR08	Desmocladus	fasciculatus				
308	s11	TR08	Gompholobium	tomentosum				
308	s11	TR08	Hardenbergia	comptoniana				
308	s11	TR08	Hibbertia	racemosa				
308	s11	TR08	Lepidosperma	squamatum				
308	s11	TR08	Leucopogon	parviflorus				
308	s11	TR08	Lomandra	maritima				
308	s11	TR08	Melaleuca	systema				
308	s11	TR08	Ozothamnus	cordatus				
308	s11	TR08	Phyllanthus	calycinus				
308	s11	TR08	Poa	poiformis				
308	s11	TR08	Podolepis	gracilis				
308	s11	TR08	Thysanotus	patersonii				
308	s11	TR08	* Anagallis	arvensis	var.	caerulea		
308	s11	TR08	* Boerhavia	coccinea				
308	s11	TR08	* Crassula	glomerata				
308	s11	TR08	* Dischisma	arenarium				
308	s11	TR08	* Raphanus	raphanistrum				
308	s11	TR08	* Romulea	rosea	var.	australis		

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BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	29b	TRIG-1	Acacia	lasiocarpa				
308	29b	TRIG-1	Acacia	rostelifera				
308	29b	TRIG-1	Acanthocarpus	preissii				
308	29b	TRIG-1	Anthocercis	ilicifolia				
308	29b	TRIG-1	Austrodanthonia	occidentalis				
308	29b	TRIG-1	Austrostipa	flavescens				
308	29b	TRIG-1	Calandrinia	brevipedata				
308	29b	TRIG-1	Calothamnus	quadrifidus				
308	29b	TRIG-1	Clematis	linearifolia				
308	29b	TRIG-1	Conostylis	candicans		subsp. candicans		
308	29b	TRIG-1	Desmodadus	fasciculatus				
308	29b	TRIG-1	Gompholobium	tomentosum				
308	29b	TRIG-1	Hemiandra	pungens				
308	29b	TRIG-1	Hibbertia	racemosa				
308	29b	TRIG-1	Melaleuca	systema				
308	29b	TRIG-1	Phyllanthus	calycinus				
308	29b	TRIG-1	Rhagodia	baccata		subsp. baccata		
308	29b	TRIG-1	Santalum	acuminatum				
308	29b	TRIG-1	Schoenus	grandiflorus				
308	29b	TRIG-1	* Anagallis	arvensis				
308	29b	TRIG-1	* Brassica	tournefortii				
308	29b	TRIG-1	* Ehrharta	longiflora				
308	29b	TRIG-1	* Pelargonium	capitatum				
308	29b	TRIG-1	* Sonchus	oleraceus				

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BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	29a	TRIG-2	Acacia	cyclops				
308	29a	TRIG-2	Acanthocarpus	preissii				
308	29a	TRIG-2	Acrotriche	cordata				
308	29a	TRIG-2	Caladenia	latifolia				
308	29a	TRIG-2	Calandrinia	brevipedata				
308	29a	TRIG-2	Callitris	preissii				
308	29a	TRIG-2	Conostylis	candicans	subsp.	candicans		
308	29a	TRIG-2	Daucus	glochidiatus				
308	29a	TRIG-2	Eucalyptus	gomphocephala	var.	gomphocephala		
308	29a	TRIG-2	Hardenbergia	comptoniana				
308	29a	TRIG-2	Leucopogon	parviflorus				
308	29a	TRIG-2	Rhagodia	baccata	subsp.	baccata		
308	29a	TRIG-2	Senecio	lautus	subsp.	dissectifolius		
308	29a	TRIG-2	Spyridium	globulosum				
308	29a	TRIG-2	* Aira	caryophyllea				
308	29a	TRIG-2	* Briza	maxima				
308	29a	TRIG-2	* Cerastium	glomeratum				
308	29a	TRIG-2	* Crassula	glomerata				
308	29a	TRIG-2	* Desmazeria	rigida				
308	29a	TRIG-2	* Galium	murale				
308	29a	TRIG-2	* Lagurus	ovatus				
308	29a	TRIG-2	* Pelargonium	capitatum				
308	29a	TRIG-2	* Solanum	nigrum				
308	29a	TRIG-2	* Sonchus	oleraceus				
308	29a	TRIG-2	* Stellaria	media				

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BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	28	TRIG-3	Acacia	pulchella				
308	28	TRIG-3	Alexgeorgea	nitens				
308	28	TRIG-3	Arthropodium	capillipes				
308	28	TRIG-3	Austrodanthonia	occidentalis				
308	28	TRIG-3	Austrostipa	flavescens				
308	28	TRIG-3	Banksia	attenuata				
308	28	TRIG-3	Bossiaea	eriocarpa				
308	28	TRIG-3	Burchardia	congesta				
308	28	TRIG-3	Caesia	micrantha				
308	28	TRIG-3	Conostephium	pendulum				
308	28	TRIG-3	Conostylis	aculeata				
308	28	TRIG-3	Corynotheca	micrantha	var.	micrantha		
308	28	TRIG-3	Crassula	colorata	var.	colorata		
308	28	TRIG-3	Desmocladus	fasciculatus				
308	28	TRIG-3	Dianella	revoluta	var.	divaricata		
308	28	TRIG-3	Eryngium	pinnatifidum	subsp.	pinnatifidum	MS	
308	28	TRIG-3	Eucalyptus	calophylla				
308	28	TRIG-3	Eucalyptus	gomphocephala	var.	gomphocephala		
308	28	TRIG-3	Eucalyptus	marginata	subsp.	marginata		
308	28	TRIG-3	Gompholobium	tomentosum				
308	28	TRIG-3	Haemodorum	paniculatum				
308	28	TRIG-3	Hardenbergia	comptoniana				
308	28	TRIG-3	Hibbertia	hypericoides				
308	28	TRIG-3	Hovea	trisperma	var.	trisperma		
308	28	TRIG-3	Hybanthus	calycinus				
308	28	TRIG-3	Isotropis	cuneifolia	subsp.	cuneifolia		
308	28	TRIG-3	Jacksonia	sternbergiana				
308	28	TRIG-3	Lechenaultia	linarioides				
308	28	TRIG-3	Lepidosperma	squamatum				
308	28	TRIG-3	Leucopogon	parviflorus				
308	28	TRIG-3	Lomandra	caespitosa				
308	28	TRIG-3	Lomandra	hermaphrodita				
308	28	TRIG-3	Lomandra	maritima				
308	28	TRIG-3	Macrozamia	riedlei				
308	28	TRIG-3	Mesomelaena	pseudostygia				
308	28	TRIG-3	Microlaena	stipoides				
308	28	TRIG-3	Opercularia	vaginata				
308	28	TRIG-3	Orthrosanthus	laxus	var.	laxus		
308	28	TRIG-3	Phyllanthus	calycinus				
308	28	TRIG-3	Pimelea	rosea	subsp.	rosea		
308	28	TRIG-3	Podolepis	gracilis				
308	28	TRIG-3	Pterostylis	sanguinea				
308	28	TRIG-3	Ptilotus	drummondii	var.	drummondii		
308	28	TRIG-3	Ptilotus	polystachyus	var.	polystachyus		
308	28	TRIG-3	Scaevola	repens	var.	repens		
308	28	TRIG-3	Schoenus	clandestinus				
308	28	TRIG-3	Schoenus	grandiflorus				
308	28	TRIG-3	Thysanotus	manglesianus/patersonii				
				complex				
308	28	TRIG-3	Trachymene	pilosa				
308	28	TRIG-3	Xanthorrhoea	preissii				
308	28	TRIG-3	Xanthosia	huegelii	subsp.	huegelii	MS	

BFS308Trigg

BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	28	TRIG-3	* Anagallis	arvensis				
308	28	TRIG-3	* Avena	fatua				
308	28	TRIG-3	* Briza	maxima				
308	28	TRIG-3	* Bromus	diandrus				
308	28	TRIG-3	* Ehrharta	calycina				
308	28	TRIG-3	* Ehrharta	longiflora				
308	28	TRIG-3	* Gladiolus	caryophyllaceus				
308	28	TRIG-3	* Hypochaeris	glabra				
308	28	TRIG-3	* Lagurus	ovatus				
308	28	TRIG-3	* Pelargonium	capitatum				
308	28	TRIG-3	* Petrorhagia	dubia				
308	28	TRIG-3	* Silene	gallica				
308	28	TRIG-3	* Trifolium	arvense	var.	arvense		
308	28	TRIG-3	* Ursinia	anthemoides				

BFS No	FCT	Plot Name	* Genus	Species	Infrasp Rank	InfraspName	Informal	Consv Code
308	28	TRIG-4	Allocasuarina	humilis				
308	28	TRIG-4	Banksia	attenuata				
308	28	TRIG-4	Banksia	menziesii				
308	28	TRIG-4	Bossiaea	eriocarpa				
308	28	TRIG-4	Burchardia	congesta				
308	28	TRIG-4	Caesia	micrantha				
308	28	TRIG-4	Clematis	linearifolia				
308	28	TRIG-4	Conostephium	pendulum				
308	28	TRIG-4	Conostylis	aculeata				
308	28	TRIG-4	Corynotheca	micrantha	var.	micrantha		
308	28	TRIG-4	Desmocladius	fasciculatus				
308	28	TRIG-4	Dianella	revoluta	var.	divaricata		
308	28	TRIG-4	Drosera	erythrorhiza	subsp.	erythrorhiza		
308	28	TRIG-4	Haemodorum	laxum				
308	28	TRIG-4	Hakea	lissocarpa				
308	28	TRIG-4	Hakea	prostrata				
308	28	TRIG-4	Hibbertia	hypericoides				
308	28	TRIG-4	Hovea	trisperma	var.	trisperma		
308	28	TRIG-4	Lepidosperma	squamatum				
308	28	TRIG-4	Lomandra	caespitosa				
308	28	TRIG-4	Lomandra	hermaphrodita				
308	28	TRIG-4	Mesomelaena	pseudostygia				
308	28	TRIG-4	Microlaena	stipoides				
308	28	TRIG-4	Pterostylis	vittata				
308	28	TRIG-4	Scaevola	canescens				
308	28	TRIG-4	Scaevola	repens	var.	repens		
308	28	TRIG-4	Schoenus	clandestinus				
308	28	TRIG-4	Sowerbaea	laxiflora				
308	28	TRIG-4	Stylidium	brunonianum	subsp.	brunonianum		
308	28	TRIG-4	Stylidium	repens				
308	28	TRIG-4	Thysanotus	arenarius				
308	28	TRIG-4	Thysanotus	triandrus				
308	28	TRIG-4	Xanthorrhoea	preissii				
308	28	TRIG-4	Xanthosia	huegelii	subsp.	huegelii	MS	
308	28	TRIG-4	* Anagallis	arvensis				
308	28	TRIG-4	* Ehrharta	calycina				
308	28	TRIG-4	* Gladiolus	caryophyllaceus				
308	28	TRIG-4	* Moraea	flaccida				
308	28	TRIG-4	* Pelargonium	capitatum				
308	28	TRIG-4	* Sonchus	oleraceus				

AREA INFORMATION

System 6 Area (C or M) or Update Area (Update)

Conservation Area	
Nature Reserve	
Reserve No	
National Park	
Reserve No	
Local Government	
Reserve No	
Other	
Proposed Conservation Areas	
Local Government	
Reserve No	
Other	

Conservation Area

Nature Reserve	
Reserve No	
National Park	
Reserve No	
Local Government	
Reserve No	
Other	

AREA

Total Area	hectares
Completely Degraded	hectares
comments:	

AREA MAPPED FLORISTIC UNITS

Boundaries: System6 CALM

Units	Site (Condition)	Code	Bound	Area (ha)	Area(ha)

Boundaries determined by use of

aerial photograph	MLA Run Y 505R 10/12/92
orthophoto	
vegetation map	
soil map	

M36
Amg_e: 382,469.66 Amg-n: 6,472,229.34 Zone: 50
Study: QUI Site: TR07 Fe: F Ty: 2 Abt: 3
Date: 25.11.91 Observers: EA Griffin
Bare: 20 Litter: 30 Weeds: 0 Condition: G
Slope: 15 Aspect: 300 Wet: 1 Drainage: 1 Fire: M
Spec1: MIMACAROS Spec2: GOOSCANIT Spec3: DASACAPRE
Surface soil type: cap Colour: p g Texture: S
Sub-soil type: sil Colour: y Texture: S
Geol. rock type: Geo1: Geo2:
Landform: DUS Topography: DSL Q: M
Location1: near coast
Location2: Trigg Beach
Reserve: 32559
Latitude: 315246S Longitude: 1154527E
Treesa: Tb: T1: T2: Malleet: Ms:
Shrubs: Sa: Sb: 2 Sc: Sd: 3
Mat plants: Bunch grass: Herbs: SedgesT: SedgesL: 3
S_gc: S_gp: D_gp: B_gc: B_gp: Q_gc: 29d1 Q_gp: 96
N_gp20: N_gp50: N_gp100: N_gp200: N_gp500:

M36
Amg_e: 382,224.50 Amg-n: 6,472,112.59 Zone: 50
Study: QUI Site: TR08 Fe: F Ty: 2 Abt: 3
Date: 25.11.91 Observers: EA Griffin
Bare: 15 Litter: 10 Weeds: 1 Condition: E
Slope: 4 Aspect: 270 Wet: 1 Drainage: 1 Fire: M
Spec1: DASLOMMAR Spec2: MYRMELACE Spec3: MIMACAROS
Surface soil type: cal Colour: g Texture: S
Sub-soil type: cal Colour: p g Texture: S
Geol. rock type: lit Geo1: Geo2:
Landform: PL Topography: THL Q: M
Location1: near coast
Location2: Trigg Beach
Reserve: 32559
Latitude: 315250S Longitude: 1154517E
Treesa: Tb: T1: T2: Malleet: Ms:
Shrubs: Sa: Sb: 4 Sc: Sd: 2
Mat plants: Bunch grass: Herbs: SedgesT: SedgesL: 2
S_gc: S_gp: D_gp: B_gc: B_gp: Q_gc: 43c1 Q_gp: 92
N_gp20: N_gp50: N_gp100: N_gp200: N_gp500:

M36
Amg_e: 382,013.34 Amg-n: 6,471,602.34 Zone: 50
Study: QUI Site: TR01 Fe: F Ty: 2 Abt: 3
Date: 25.11.91 Observers: EA Griffin
Bare: 25 Litter: 0 Weeds: 0 Condition: E
Slope: 10 Aspect: 270 Wet: 1 Drainage: 1 Fire: O
Spec1: POASPIHIR Spec2: BRACAKMAR Spec3: POASPILON
Surface soil type: cal Colour: p g Texture: S
Sub-soil type: Colour: Texture:
Geol. rock type: Geo1: Geo2:
Landform: DFI Topography: WB Q: Y
Location1: on coast
Location2: Trigg Beach
Reserve: 12992
Latitude: 315307S Longitude: 1154509E
Treesa: Tb: T1: T2: Malleet: Ms:
Shrubs: Sa: Sb: Sc: Sd:
Mat plants: Bunch grass: Herbs: SedgesT: SedgesL: 2
S_gc: S_gp: D_gp: B_gc: B_gp: Q_gc: 4 Q_gp: 4
N_gp20: N_gp50: N_gp100: N_gp200: N_gp500:

M36
Amg_e: 382,033.28 Amg-n: 6,471,598.06 Zone: 50
Study: QUI Site: TR02 Fe: F Ty: 2 Abt: 3
Date: 25.11.91 Observers: EA Griffin
Bare: 30 Litter: 5 Weeds: 10 Condition: F
Slope: 10 Aspect: 0 Wet: 1 Drainage: 1 Fire: O
Spec1: ASTOLEAXI Spec2: GOOSCACRA Spec3: AIZTETDEC
Surface soil type: cal Colour: p g Texture: S
Sub-soil type: Colour: Texture:
Geol. rock type: Geo1: Geo2:
Landform: DUC Topography: DC Q: Y
Location1: on coast
Location2: Trigg Beach
Reserve: 12992
Latitude: 315307S Longitude: 1154510E
Treesa: Tb: T1: T2: Malleet: Ms:
Shrubs: Sa: Sb: Sc: 3 Sd: 3
Mat plants: Bunch grass: Herbs: 4 SedgesT: SedgesL: 3
S_gc: S_gp: D_gp: B_gc: B_gp: Q_gc: 20b1 Q_gp: 13
N_gp20: N_gp50: N_gp100: N_gp200: N_gp500:

M36
Amg_e: 382,153.88 Amg-n: 6,471,765.97 Zone: 50
Study: QUI Site: TR03 Fe: F Ty: 2 Abt: 3
Date: 25.11.91 Observers: EA Griffin
Bare: 20 Litter: 10 Weeds: 10 Condition: G
Slope: 30 Aspect: 0 Wet: 1 Drainage: 1 Fire: M
Spec1: DASACAPRE Spec2: GOOSCACRA Spec3: ASTOLEAXI
Surface soil type: cap Colour: p g Texture: S
Sub-soil type: Colour: Texture:
Geol. rock type: Geo1: Geo2:
Landform: DUS Topography: DSW Q: Y
Location1: near coast
Location2: Trigg Beach
Reserve: 32559
Latitude: 315301S Longitude: 1154514E
Treesa: Tb: T1: T2: Malleet: Ms:
Shrubs: Sa: Sb: Sc: 3 Sd: 3
Mat plants: Bunch grass: Herbs: 3 SedgesT: SedgesL: 3
S_gc: S_gp: D_gp: B_gc: B_gp: Q_gc: 24a2 Q_gp: 20
N_gp20: N_gp50: N_gp100: N_gp200: N_gp500:

M36
Amg_e: 382,249.19 Amg-n: 6,471,812.22 Zone: 50
Study: QUI Site: TR04 Fe: F Ty: 2 Abt: 3
Date: 25.11.91 Observers: EA Griffin
Bare: 20 Litter: 40 Weeds: 2 Condition: G
Slope: 1 Aspect: 60 Wet: 1 Drainage: 1 Fire: O
Spec1: CUPCALPREP Spec2: EPAACRCOR Spec3: RHASPYGLO
Surface soil type: cap Colour: p g Texture: S
Sub-soil type: sil Colour: y Texture: S
Geol. rock type: Geo1: Geo2:
Landform: PL Topography: TS Q: Y
Location1: near coast
Location2: Trigg Beach
Reserve: 32559
Latitude: 315300S Longitude: 1154518E
Treesa: Tb: T1: T2: Malleet: Ms:
Shrubs: 2 Sa: Sb: Sc: Sd: 4
Mat plants: Bunch grass: Herbs: SedgesT: SedgesL:
S_gc: S_gp: D_gp: B_gc: B_gp: Q_gc: 13 Q_gp: 100
N_gp20: N_gp50: N_gp100: N_gp200: N_gp500:

M36
Amg_e: 382,328.41 Amg-n: 6,471,876.41 Zone: 50
Study: QUI Site: TR05 Fe: F Ty: 2 Abt: 3
Date: 25.11.91 Observers: EA Griffin
Bare: 15 Litter: 80 Weeds: 1 Condition: E
Slope: 8 Aspect: 180 Wet: 1 Drainage: 1 Fire: O
Spec1: CUPCALPREP Spec2: SANSANACU Spec3: RHASPYGLO
Surface soil type: cal Colour: p g Texture: S
Sub-soil type: Colour: Texture:
Geol. rock type: Geo1: Geo2:
Landform: PL Topography: TS Q: Y
Location1: near coast
Location2: Trigg Beach
Reserve: 32559
Latitude: 315258S Longitude: 1154521E
Treesa: Tb: T1: T2: 2 Malleet: Ms:
Shrubs: Sa: Sb: Sc: 4 Sd:
Mat plants: Bunch grass: Herbs: SedgesT: SedgesL:
S_gc: S_gp: D_gp: B_gc: B_gp: Q_gc: 13 Q_gp: 100
N_gp20: N_gp50: N_gp100: N_gp200: N_gp500:

M36
Amg_e: 382,608.31 Amg-n: 6,472,003.47 Zone: 50
Study: QUI Site: TR06 Fe: F Ty: 2 Abt: 3
Date: 25.11.91 Observers: EA Griffin
Bare: 20 Litter: 35 Weeds: 5 Condition: G
Slope: 5 Aspect: 270 Wet: 1 Drainage: 1 Fire: M
Spec1: MIMACAROS Spec2: CYPLEPANG Spec3: EUPPHYCAL
Surface soil type: cap Colour: d g Texture: S
Sub-soil type: cap Colour: g Texture: S
Geol. rock type: Geo1: Geo2:
Landform: DUS Topography: DSW Q: M
Location1: near coast
Location2: Trigg Beach
Reserve: 32559
Latitude: 315254S Longitude: 1154532E
Treesa: Tb: T1: T2: Malleet: Ms:
Shrubs: Sa: 3 Sb: 3 Sc: 3 Sd:
Mat plants: Bunch grass: Herbs: 4 SedgesT: SedgesL: 3
S_gc: S_gp: D_gp: B_gc: B_gp: Q_gc: 29a1 Q_gp: 96
N_gp20: N_gp50: N_gp100: N_gp200: N_gp500:



M36 Reserves Near Karrinyup

Trigg Dune Reserve
City of Stirling Management Plan
Bulletin 255 (West Coast Hwy)

Friends Advocate Management

Other Names:

Specific Study/studies Miscellaneous studies

Flora

Vegetation Map	1	<u>2</u>	3	
Flora list	<u>1</u>	2	3	4
Significant Taxa		<u>done / suitable</u> / doubtful		

?

Fauna

Mammals	1	2	
Birds	1	2	RAOU
Reptiles and Amphibia	1	2	
Invertebrates	1	2	

Vegetation Condition Map Sites Comment

Disturbance Factors Comment Management

Swan Coastal Plain Floristic Survey

AHC: National Estate- Listed / Interim / Nominated / Notified NT (WA): Heritage Classification

Notes
<i>Friends of Trigg</i>

M36 Reserves Near Karrinyup Trigg Dune reserve City of Stirling Management Plan Bulletin 255 (West Coast Hwy)		
M36.1 Purpose of Reserves C27471, C33697 and C33680 be amended to Parkland.	Implemented	The area is now a Reserve for Conservation of Dunes, Education and Passive Recreation.
M36.2 Reserves C27471 and C33679 be vested in the City of Stirling.	Implemented	The area is vested in the City of Stirling.
M36.3 Stirling City Council Prepare a management plan in consultation with CALM and EPA, giving consideration to the effect of proposed sewerage works and road links on the conservation value of the Reserve.	Implemented	<p>The City of Stirling has a management plan for the System 6 area and adjoining Crown land.</p> <p>Friends of Trigg Dunes has an interest in this area.</p>



City of Stirling

**MANAGEMENT PLAN
TRIGG BUSHLAND RESERVE
(TRIGG REGIONAL OPEN SPACE)**

**DEPARTMENT OF PARKS & RESERVES
APRIL 1991**



4.1.5 North (Karrinyup Road - Duart Road)	.....
4.2 Impact of Recent Human Usage	.....
4.3 Introduction of Weed Species	.....
4.4 Introduction of Feral Animals	.....
4.5 Fire	.....

PART 2 MANAGEMENT PLAN

1.0 MANAGEMENT	.....
1.1 Introduction and Management Aims	.....
1.2 Management Issues	.....
2.0 FIRE MANAGEMENT	.....
2.1 Rationale	.....
2.2 Objectives	.....
2.3 Strategy	.....
3.0 WEEDS	.....
3.1 Rationale	.....
3.2 Objectives	.....
3.3 Strategy	.....
4.0 FERAL ANIMALS	.....
4.1 Rationale	.....
4.2 Objectives	.....
4.3 Strategy	.....
5.0 REHABILITATION	.....
5.1 Rationale	.....
5.2 Objectives	.....
5.3 Strategy	.....
6.0 HUMAN USAGE	.....
6.1 Rationale	.....
6.2 Objectives	.....
6.3 Strategy	.....
7.0 RECOMMENDATIONS FOR SPECIFIC AREAS	.....
7.1 South (West Coast Highway - Bournemouth Parade- Peet Crescent)	.....
7.2 North-west (West Coast Highway - Marmion Ave - Elliot Rd)	.....
7.3 Central (Elliot Road - Karrinyup Road)
7.4 East (Karrinyup Road - Jeanes Road)
7.5 North (Karrinyup Road - Duart Road)

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interdune swales exhibit further development in that there is additional accumulation of organic matter, and this may be interlayered and mixed with accumulating sand.

This pattern is repeated through the older Quindalup dune phases with organic accumulation and hence a gradual colour change from cream through to dark grey, occurring to increasing depth as the dunes become progressively older. Such accumulation does not appear to exceed 5 cm in depth and is generally much less. Localised disturbance and erosion may lead to rapid loss of the surface soil layers, frequently down to the original cream sand surface. In the deeper depressions which occur between the older phases of Quindalup dune development, the grey and white sands in places shallowly overlie the brown sands of the Spearwood dune system.

2.4 Vegetation

The flora of the Trigg Bushland Reserve has been mapped by Beard (1979) as part of a general survey of the flora of Western Australia. At the mapped scale of 1:250 000, Beard recognised two vegetation categories, **Coastal heath and thicket** in the younger Quindalup dunes and **Tuart woodland** which occurs in the older phases of the Quindalup and parts of the Spearwood dune systems.

The western part of the Trigg Bushland Reserve was mapped in greater detail by Scott & Furphy Engineers Pty Ltd (1976) as part of their West Coast Highway-Swanbourne area study. Four vegetation types were recognised with some intergradational areas noted. The main components recognised were **mobile and stable dune formations**, **Tuart woodland with a shrubby understorey**, and an area of **closed scrub** dominated by **Rottnest Island pine (*Callitris preissii*)**.

Some additional notes on species present in the area and on their distribution were incorporated in the assessment of the area in the "System 6" report, however no additional vegetation mapping was carried out.

As part of the investigations carried out to consider the impact of the construction of the Marmion Avenue-West Coast Highway link road the area was re-mapped in greater detail (LSC, 1985). The revised map more clearly showed the close relationship between vegetation patterns and physical features of the environment including elevation, exposure to prevailing winds and soil type. Detailed floristic surveys of 24 selected sites within the Reserve system were made by Thompson (1987).

The flora is diverse with a distribution of assemblages which is clearly linked to the several habitats available in the reserve. Fire may have also contributed to the composition of the

present assemblage types and their distribution. Although the assemblages which have been identified are described as discrete entities, several assemblages arise as a result of a gradational contact between adjacent assemblages where habitat parameters mix, one example is where calcareous sand overlies limestone.

Significant species present within the Trigg Bushland Reserve include the Rottneest Island pine (*Callitris preissii*), the corky barked tree (*Gyrostemon ramulosus*) and the sheoak, (*Allocasuarina lehmanniana*). Seddon (1972) states that the Rottneest Island pine, once widespread along the coast, is in danger of becoming extinct by the end of the century, a reflection of the susceptibility of this species to fire, and the general impact of clearing and development. The corky-barked tree, widely distributed through central Australia, is an uncommon species on the Swan Coastal Plain and is here found at the extreme edge of its distribution.

Allocasuarina lehmanniana is also described as being uncommon in the metropolitan area although its distribution ranges from the Murchison River to Israelite Bay in near coastal areas (Marchant *et al.*, 1987).

The vegetation may be described as floristically diverse with a complex distribution which is a product of both landform/habitat variation and disturbance. Most species have a wide distribution within the Reserve and are present within several of the assemblages described. Disturbance due to fire and human activity has tended to de-stabilise the natural distribution of species and has also assisted the spread of a number of exotic species within the Trigg Bushland Reserve.

The distribution of the various vegetation assemblages which have been identified are shown in Figure 5 and described below.

(1) *Tetragonia decumbens/Spinifex longifolius* Assemblage

This unit occurs on the poorly developed and strongly marine-influenced soils of the linear foredunes and mobile dunes at the seaward edge of the study area, thus forming the western most assemblage of terrestrial vegetation. The distribution of the various sub-units typically found within this assemblage is described in detail in Smith (1973). In this locality heavy usage has severely degraded the dunes and the exposed areas have been invaded by a number of naturalised exotics including *Oenothera drummondii** (evening primrose), *Trachyandra divaricata** (strapweed) and *Pelargonium capitatum** (wild geranium) at this point along the coast.

(2) *Olearia axillaris/Scaevola crassifolia* Assemblage

This assemblage, which occurs extensively in the southwestern part of the Reserve adjacent to West Coast Highway, is found on the white calcareous soils of steep slopes and sand ridge crests. The unit consists of a heath to low open shrubland (1m tall) of *Olearia axillaris* (native rosemary), *Scaevola crassifolia*, *Santalum acuminatum* (quandong), *Spyridium globulosum* and *Rhagodia baccata* (berry saltbush), with scattered *Myoporum insulare* (blueberry tree), *Acacia cyclops* (red-eyed wattle) and *Exocarpos sparteus*, and a ground cover of *Acanthocarpus preissii* (prickle lily), *Conostylis candicans*, *Hardenbergia comptoniana* (native wistaria), *Lepidosperma gladiatum* (coastal sword sedge) and occasional *Isolepis nodosus* (knotted club rush), *Phyllanthus calycinus* (false boronia) and wild geranium*. *Hemiandra pungens* (snakebush), *Leucopogon parviflorus* and *Eremophila glabra* (tar bush) also occur.

(3) *Callitris preissii* Assemblage

The Rottneest Island pine assemblage is confined to the white calcareous soils and steeply sloping sand ridges in the southwest corner of the study area. Individual Rottneest Island pine trees occur scattered throughout this area, however due to the fact that this occurrence of the species is highly significant, the denser stands have been identified as a distinct vegetation unit. It consists of an open shrubland to low woodland of trees up to 6 m tall, many apparently having regenerated since the fire which occurred in the area some 10 years ago. Few other species occur within the Rottneest Island pine shrubland, possibly due to the extensive surface root systems developed by the Rottneest Island pines, although scattered individuals of quandong, prickle lily, *Conostylis candicans* and other ground cover species of the *Olearia axillaris/Scaevola crassifolia* assemblage do occur. An extensive moss sward is present in parts of the Rottneest Island pine grove and this, combined with the extensive leaf litter found beneath the trees, assists in binding the poorly consolidated sands. There is photographic evidence that the Rottneest Island pine was more widely spread in the western parts of the Reserve than it is today.

(4) *Acacia rostellifera/Melaleuca acerosa* Assemblage

This unit consists of a closed heath (1m tall) of *Acacia rostellifera* (summer-scented wattle) with *Melaleuca acerosa*, *Acacia lasiocarpa*, and scattered *Spyridium globulosum* and berry saltbush, with a sparse ground cover of *Loxocarya flexuosa*, prickle lily, *Conostylis candicans* and *Gompholobium tomentosum*. This unit combines the dominant species of the *Acacia rostellifera/Eucalyptus gomphocephala* Assemblages, and occurs at the seaward edge of the grey calcareous sands on the undulating sand ridge system.

(5) *Acacia lasiocarpa/Calothamnus quadrifidus* Assemblage

This assemblage occurs on the brown calcareous sand which generally overlies limestone. It consists of a heath of *Acacia lasiocarpa*, *Calothamnus quadrifidus* (one-sided bottlebrush) and summer-scented wattle, with *Melaleuca acerosa*, quandong and scattered *Templetonia retusa* (cockies tongues), *Scaevola crassifolia* and berry saltbush. Prickle lily, *Grevillia thelemanniana* (spider-net grevillea), *Allocasuarina humilis* (scrub sheoak) and *Thomasia triphylla* often also occur. *Dryandra sessilis* (parrot bush) occurs in small thickets, usually where limestone outcrops are present. *Cassytha* sp. is usually present. Monocots, including weeds such as *Lagurus ovatus** (hare's tail grass), and *Loxocarya flexuosa* and mosses form a ground cover.

(6) *Pelargonium** Assemblage

The *Pelargonium* Assemblage may be considered a degraded form of the *Olearia axillaris/Scaevola crassifolia* assemblage formed by the introduction of the exotic species wild rosemary*. It consists of an open heath of wild rosemary* with *Scaevola crassifolia*, prickly lily and coastal sword sedge forming the other major components. It is a product of disturbance and although it is not widespread throughout the reserve, is locally abundant in the south-west part of the reserve which has been markedly affected by earthworks.

(7) *Santalum acuminatum/Dryandra sessilis* Assemblage

This assemblage occurs on the brown quartz sand of the Cottlesloe Soil Association where it shallowly overlies limestone. It consists of a closed scrub (to 1.5m) of parrot bush, quandong and summer-scented wattle. Spider-net grevillea, *Melaleuca acerosa*, *M. huegelii* and one-sided bottlebrush also occur.

(8) *Eucalyptus gomphocephala/Acacia rostellifera* Assemblage

The most widespread unit in the study area, the *Eucalyptus gomphocephala/Acacia rostellifera* assemblage occurs on the grey calcareous/quartz soils of the undulating sand ridges to the west of Elliot Road. The unit is variable, consisting of a low closed (1.5 - 2m) scrub of summer-scented wattle with scattered emergent understorey of prickly lily, *Loxocarya flexuosa*, false boronia and wild geranium*. Scattered quandong also

occurs as a shrub component, particularly in the northeast corner of the unit, where it appears to be actively regenerating, probably following fire disturbance.

(9) *Allocasuarina lehmanniana/Santalum acuminatum* Assemblage

This unit consists of shrubland (to 2m) of *Allocasuarina lehmanniana* with some scrub sheoak, quandong and scattered shrub species and occurs as a small patch on poorly-developed white calcareous quartz sandy soils in the central north of the study area. The corky-barked tree also occurs here.

(10) *Eucalyptus gomphocephala/Acacia lasiocarpa* Assemblage

Also described as Tuart woodland, this unit occurs on the brown calcareous soils of the broad slope and depression system of the Reserve centre. It consists of an open woodland of tuart with a mixed understorey. This area has been quite badly disturbed and consequently it appears that the distribution of understorey species does not reflect edaphic differences, but rather the effects of disturbance. Understorey species include *Anthocercis littorea* (yellowtails), quandong, wild geranium*, one-sided bottlebrush, *Acacia lasiocarpa* and scattered *Acacia saligna* (coojong wattle) with native wistaria, *Conostylis candicans* and coastal sword sedge, and many introduced grasses and herbs. The corky-barked tree occurs within this assemblage as scattered individuals generally found on north-facing slopes.

(11) *Acacia pulchella/Xanthorrhoea preissii* Assemblage

This unit is restricted in area occurring on the brown quartz/calcareous sand overlying limestone at the periphery of the study area where it abuts Karrynyup Road. The assemblage consists of a closed heath (1m tall) of *Acacia pulchella* (prickly moses), parrot bush, *Hakea prostrata* and *Hakea trifurcata*, with emergent *Banksia attenuata* (candlestick banksia), *Banksia menziesii* (firewood banksia) and *Xanthorrhoea preissii* (blackboy).

(12) *Allocasuarina lehmanniana/Acacia lasiocarpa* Assemblage

The *Allocasuarina/Acacia* assemblage occurs on the northern flank of the major dune ridge, adjacent to Karrynyup Road. It consists of an open shrubland of *Allocasuarina*

lehmanniana with an understorey similar to that occurring in the *Eucalyptus gomphocephala*/*Acacia lasiocarpa* assemblage described above.

2.5 Vegetation of Conservation Reserve Sectors

2.5.1 South (West Coast Highway- Bournemouth Parade - Peet Crescent)

Specific elements of importance in the vegetation are the stands of Rottnest Island pine in the south which occupy an area of approximately 5ha. The quandong, is frequently found in association with the Rottnest Island pine, although it is also found in a number of other plant associations within the Reserve. Small stands of tuart, banksia and a small number of the corky-barked tree, also occur. Most of the southern part of the reserve is dominated by dune heath and shrubland assemblages

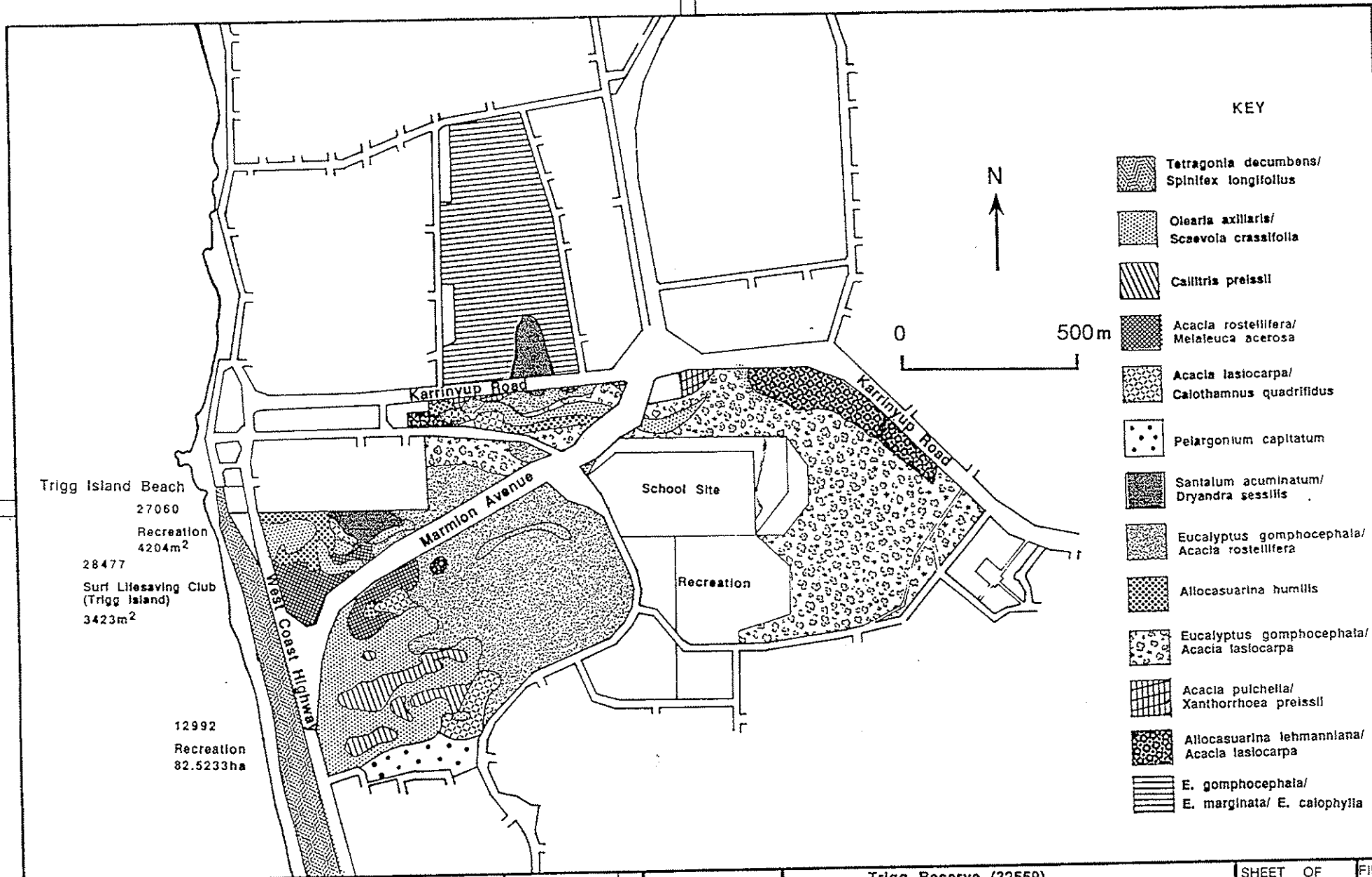
2.5.2 North-West (West Coast Highway - Marmion Ave - Elliot Rd)

The vegetation closely reflects the underlying soil type although the extent of disturbance is high along established road and residential boundaries with some incursion of naturalised exotics and re-establishment of colonising species in these areas. The western triangle contains a narrow (less than 50m) wide band of mobile dune vegetation at the western boundary which grades into a stable dune heath and subsequently to a taller shrubland in the eastern sector.














The valley walls of the eastern triangle support a tall shrubland with emergent tuarts which become more common towards Elliot Road. The valley bottom, with its different soil type, supports a vegetation assemblage which includes *Macrozamia riedlei* (zamia), and parrot bush.

2.5.3 Central (Elliot Road-Karrinyup Road)

The vegetation comprises a sparse tuart woodland with an understorey which ranges from low trees of *Allocasuarina lehmanniana* and occasionally corky-barked tree to shrubland and heathland.



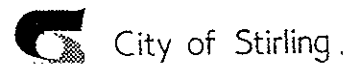
KEY

-  *Tetragonia decumbens/ Spinifex longifolius*
-  *Olearia axillaris/ Scaevola crassifolia*
-  *Callitris preissii*
-  *Acacia rostellifera/ Melaleuca acerosa*
-  *Acacia lasiocarpa/ Calothamnus quadrifidus*
-  *Pelargonium capitatum*
-  *Santalum acuminatum/ Dryandra sessilis*
-  *Eucalyptus gomphocephala/ Acacia rostellifera*
-  *Allocasuarina humilis*
-  *Eucalyptus gomphocephala/ Acacia lasiocarpa*
-  *Acacia pulchella/ Xanthorrhoea preissii*
-  *Allocasuarina lehmanniana/ Acacia lasiocarpa*
-  *E. gomphocephala/ E. marginata/ E. calophylla*



Trigg Island Beach
27060
Recreation
4204m²
28477
Surf Lifesaving Club
(Trigg Island)
3423m²
12992
Recreation
82.5233ha

VESTING No	
AREA	
PURPOSE	



DESIGNED	DATUM June 1990
DRAWN K. Meney	SCALE
CHECKED	APPROVED

Trigg Reserve (32559)
VEGETATION

SHEET OF	FILE
DRAWING No.	
Fig. 5	

2.5.4 East (Karrinyup Road - Jeanes Road)

The vegetation of this area is strongly influenced by landform. The inner rim and depression contains sparse open tuart woodland with a shrub and heath understorey which includes one-sided bottlebrush, prickly moses, wild geranium and prickly lily. The outer wall of the southern rim also supports an open tuart woodland but the understorey is more commonly dominated by coastal sword sedge.

The outer wall of the northern rim in contrast supports a tall closed shrub understorey of *Allocasuarina lehmanniana* and scattered corky-barked tree. The *Allocasuarina* also dominates a narrow valley at the eastern end of the reserve, formed when the blowout became partially stabilised and subsequently progressed on two fronts.

A small sheltered valley east of the main dune rim supports a regenerating woodland of tuart and *Banksia prionotes* (acorn banksia). An unpublished listing of the species from this area (Robert Powell, pers. comm.) suggests that the valley has closer floristic affinities with the northern part of the Reserve (see 2.5.5) than with its adjoining parts.

2.5.5 North (Karrinyup Road - Duart Road)

The vegetation is comprised largely of a woodland of tuart and marri. The tuart is generally more dominant in the south and west of the area and *Eucalyptus calophylla* (marri), with some *Eucalyptus marginata* (jarrah), more dominant in the north and east. The north eastern part of the reserve in particular has a good regrowth of marri. Understorey species include *Allocasuarina fraseriana*, *Banksia grandis* (bull banksia) and zamia.

The limestone ridge area supports a shrub cover of quandong, cockies' tongues and parrot bush. The deeper soil margins of the ridge support a low woodland of banksia. The disturbed, calcareous sand at the southern end of the reserve supports a range of colonising species including *Scaevola*, yellowtails, and strapweed.

The road verges have become colonised by grasses which have now invaded the reserve around much of the perimeter. In places the grass surrounds small islands of native vegetation. A variety of native species which do not naturally occur in this area, e.g. *Chamelaucium uncinatum* (Geraldton wax), and *Agonis flexuosa* (native peppermint), have been planted around the perimeter of the bushland area and a variety of exotic species have been planted around the edges of the residential development.

In addition a number of species have become established in the reserve from the dumping of garden refuse.

2.6 Fauna

Faunal assessments are currently inadequate although preliminary data suggests the reserve is important as a breeding and refuge site for a wide range of birds, and contains a significant remnant population of coastal reptile species which are under pressure as a result of development in coastal areas. Native mammal species, however, appear poorly represented in the Trigg Bushland Reserve although further assessment is necessary.

Limited field surveys have identified 30 species of bird within the reserve south of Karrynyup Road. A number of other species, particularly seasonal migrants, are also expected to use the reserve area at various times.

The recorded bird fauna is considered to typify a relatively large area of Regional Open Space not containing any wetlands and surrounded by suburban development. Approximately 75% of the species recorded or expected to utilise the reserve area are able to persist after development that does not include broad-scale clearing, and most in fact can be seen in outer-suburban gardens or inner-city Reserves such as King's Park. Typical examples are the Ring-necked parrot (*Platycercus zonarius*), Laughing Kookaburra (*Dacelo gigas*), Black-faced cuckoo-shrike (*Coracina novaehollandiae*), Western Flyeater (*Gerygone fusca*), Striated Pardalote (*Pardalotus striatus*), Grey-breasted White-eye (*Zosterops lateralis*), Brown Honeyeater (*Lichmera indistincta*), Singing Honeyeater (*Meliphaga virescens*), Red Wattlebird (*Anthochaera carunculata*) and the Australian Magpie (*Cracticus tibicen*). Most of these species are opportunistic feeders, relatively unspecialised in their habitat requirements, and which tend to show patterns of seasonal movements in response to food supplies and breeding activity. They are therefore not wholly dependent on the Trigg Bushland Reserve for their continued existence in the area.

Others such as the Banded Plover (*Vanellus tricolor*), Horsfield's Bronze Cuckoo (*Chrysococcyx basalis*), Weebill (*Smicrornis brevirostris*), Yellow-rumped Thornbill (*Acanthiza chrysorrhoa*) and Spotted Pardalote (*Pardalotus punctatus*) are occasional visitors or are present because they utilise the stands of tuart and the more open country under these trees.

The final group of bird species are those which can be viewed as being locally dependent on the Trigg Bushland Reserve as a relatively undisturbed sanctuary. These are species which, while regionally fairly common, are much less able than the previous groups to tolerate the types of development which are a feature of the metropolitan coastline. They have undergone a significant decline in numbers in the extreme western portions of the northern Swan Coastal Plain over the past thirty years and are subject to increasing pressure. Examples of these birds are the Common Bronze-wing (*Phaps chalcoptera*), White-browed Scrub-wren (*Sericornis frontalis*), Broad-tailed Thornbill (*Acanthiza apicalis*), Variegated Fairy-wren (*Malurus*

lamberti), White-winged Fairy-wren (*M.leucopterus*) and the Splendid Fairy-wren (*M.splendens*).

The presence of numbers of introduced predators within the open space, particularly foxes and cats, and lack of sightings during field surveys suggests that any native mammal species still persisting may only be present in low numbers. As yet no field surveys have been conducted to confirm this observation.

In contrast, the number of reptile species recorded suggests that the Trigg Bushland Reserve has the potential for supporting a rich reptile fauna (Ninox Wildlife Consulting, 1985).

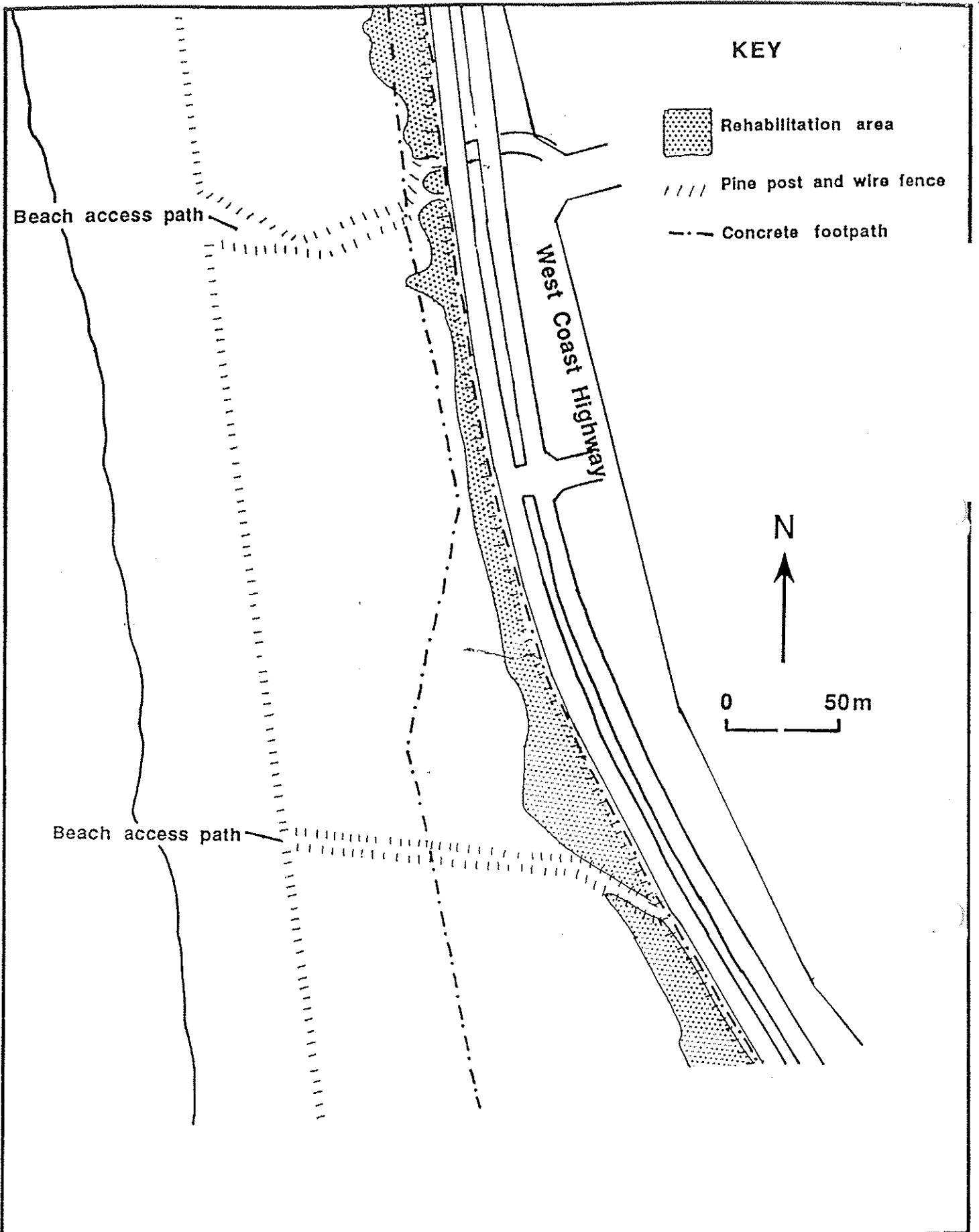
3.0 CONSERVATION VALUE


Management of the Trigg Bushland Reserve should place emphasis on the area as a whole rather than highlighting it as a series of separate units. This will avoid replication of provisions and facilities which would reduce the conservation value of the Reserve, although it is recognised that some practical aspects of management will require specific techniques for different areas. The Reserve is important in both a metropolitan and regional context in providing a belt of remnant vegetation comprising both coastal and tuart woodland vegetation types and associated landforms. It contains a number of significant species which are uncommon in the metropolitan area including *Callitris preissii* (Rottnest Island pine), *Gyrostemon ramulosus* (corky-barked tree) and a sheoak, *Allocasuarina lehmanniana*. It is also a breeding and refuge area for a wide range of resident and migratory bird species, and a good remnant population of coastal reptile species which are under pressure as a result of development in coastal areas. Hence, management must proceed in sympathy with the conservation values of the Reserve.

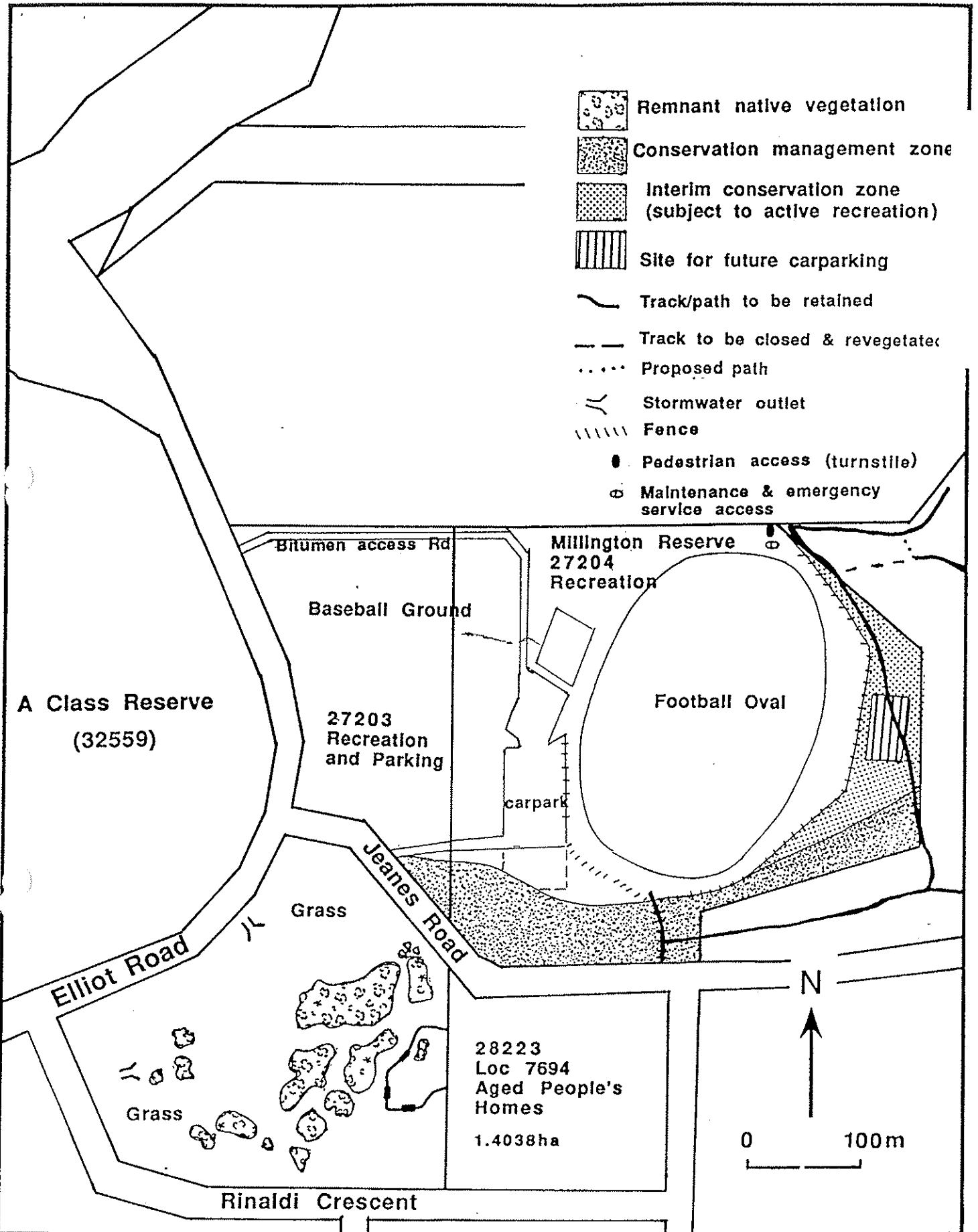
3.1 South (West Coast Highway- Bournemouth Pde - Peet Cresc)

The southern open space contains an area of special floral significance, the stands of Rottnest Island pine, which are now uncommon along the mainland coastline. It also contains significant heath and shrubland which, because of their inland extent, have become rare because of the trend toward coastal development. Several of the older and more impressive specimens of *Gyrostemon* are found in the northern part of the Reserve.

This area also comprises the largest consolidated fauna habitat within the open space system and with its large area of closed heath and shrubland is also considered the most valuable to fauna.



		Adjacent Reserve 12992	
		MANAGEMENT STRATEGY	COASTAL
Adapted from Leprovost, Semenluk & Chalmer Environmental Consultants, 1987			
DESIGNED		SCALE	APPROVED
DRAWN K. Menev		SURVEY June 1990	SMALL PLAN No.
			Fig. 10



City of Stirling

Adjacent Reserve 27203 & 27204
MANAGEMENT STRATEGY
 Millington Reserve/Reserve 27203 Herb Elliot Oval

mixed group plantings of local native species designed to complement the adjacent natural bushland while providing for a more intensive level of utilisation and improved accessibility. This would provide the following features:

- An educational facility to assist users of the adjacent Reserves to become familiar with some of the more conspicuous species of the bushland.
- An appropriate setting for a future educational resource centre to provide information and education resources to users of the Reserves.
- A source of seed for future rehabilitation within the Reserve.
- Minimum alteration to the existing landform.
- Low maintenance requirement once established. Construction of pathways where practicable can be used to prevent grass invading from the garden areas.
- Low water requirement. Reticulation should be confined to the residual grassed areas.
- Drainage outlets can be incorporated within landscaped areas and be surrounded by taller shrubs natural to the site to minimise their visibility.

5.3 Millington Reserve and Reserve 27203

Millington Reserve and Reserve 27203 are utilised primarily for active recreation and their development reflects this usage.

The following recommendations relate only to those parts of the reserves which remain undeveloped, i.e. the eastern part of Millington Reserve between the present fenceline and the boundary of Reserve 33680 and the southern parts of both reserves between the playing fields, access road and Jeanes Road (Fig. 11).

- (1) The eastern (undeveloped) part of Millington Reserve should continue to be managed as part of the conservation area until required for active recreation or associated purposes.
- (2) The future management of the southern part of both reserves should be in accordance with the general recommendations for the management of the Trigg Bushland Reserve.
- (3) The ridge firebreak, to the east of the access path between Jeanes Road and Millington Reserve should be stabilised and access be provided from the existing path.

Appendix 1: Species of plants recorded in the Trigg Bushland Reserve

A = Closed scrub

B = Mobile dune vegetation

C = Stable dune vegetation

D = Tuart open woodland

SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION			
		A	B	C	D
ZAMIACEAE					
1 <i>Macrozamia riedlei</i>	Zamia				.
CUPRESSACEAE					
✓ <i>Callitris preissii</i>	Rottnest Island pine	.		.	
POACEAE					
* <i>Ammophila arenaria</i>	Marram grass		.		
* <i>Avena fatua</i>	Wild oats	.		.	.
* <i>Briza maxima</i>	Blowfly grass	.			.
* <i>Erharta villosa</i>	Veldt grass				.
* <i>Lagurus ovatus</i>	Pussy-tails	.	.	.	.
3 <i>Spinifex hirsutus</i>	Hairy spinifex		.		
4 <i>S. longifolius</i>	Long-leaf spinifex		.		
CYPERACEAE					
5 <i>Isolepis nodosa</i>	Knotted club-rush		.		
6 <i>Lepidosperma angustatum</i>					.
7 <i>L. costale</i>			.		.
8 <i>L. gladiatum</i>	Coastal sword sedge		.	.	.
9 <i>L. gracile</i>					.
10 <i>Mesomelaena pseudostygia</i>					.

SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION			
		A	B	C	D
1 <i>Schoenus grandiflorus</i>	Large flowered bog-rush			.	.
2 <i>Schoenus subfascicularis</i>			.		
RESTIONACEAE					
3 <i>Alexgeorgea nitens</i>					.
4 <i>Loxocarya flexuosa</i>					.
DASYPOGONACEAE					
5 <i>Acanthocarpus preissii</i>	prickle lily		.	.	
6 <i>Lomandra maritima</i>					.
XANTHORRHOEACEAE					
7 <i>Xanthorrhoea preissii</i>	Blackboy				.
AGAVACEAE					
* <i>Agave americana</i>	Century plant				.
PHORMIACEAE					
8 <i>Corynotheca micrantha</i>					.
ANTHERICACEAE					
9 <i>Dianella divaricata</i>				.	.
20 <i>Sowerbaea laxiflora</i>	Purple tassels			.	
1 <i>Thysanotus triandrus</i>					.
ASPHODELACEAE					
* <i>Trachyandra divaricata</i> *	strapweed		.		
HAEMODORACEAE					
3 <i>Anigozanthus manglesii</i>					.
4 <i>Conostylis aculeata</i>			.		
5 <i>Conostylis candicans</i>			.		

SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION			
		A	B	C	D
6 <i>Haemodorum spicatum</i>		.			
IRIDACEAE					
* <i>Freesia leichtlinii</i>	Freesia				.
* <i>Gladiolus caryophyllaceus</i>	Wild gladiolus				.
* <i>Romulea rosea</i>	Guildford grass				.
* <i>Watsonia bulbifera</i>	Wild watsonia				.
ORCHIDACEAE					
7 <i>Caladenia flava</i>	Cowslip				.
8 <i>C. hirta</i>	Sugar candy orchid				.
9 <i>C. latifolia</i>	Pink fairies	.		.	.
30 <i>Diuris longifolia</i>	Donkey orchid				.
1 <i>Pterostylis vittata</i>	Banded greenhood				.
CASUARINACEAE					
2 <i>Allocasuarina fraseriana</i>					.
3 <i>A. humilis</i>	Scrub sheoak				.
4 <i>A. lehmanniana</i>					.
PROTEACEAE					
5 <i>Banksia attenuata</i>	Candlestick banksia				.
6 <i>B. grandis</i>	Bull banksia				.
7 <i>B. menziesii</i>	Firewood banksia	.			.
8 <i>B. prionotes</i>					.
7 <i>Conospermum triplinervium</i>	Tree smokebush				.
40 <i>Dryandra nivea</i>	Couch honeypot				.

	SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION			
			A	B	C	D
1	<i>D. sessilis</i>	Parrot bush	.			.
2	<i>G. crithmifolia</i>					.
3	<i>G. thelemanniana</i>	Spider-net grevillea				.
4	<i>Hakea prostrata</i>					.
5	<i>Petrophile surruriae</i>					.
6	<i>Stirlingia latifolia</i>	Blueboy				.
SANTALACEAE						
7	<i>Anthobolus sp.</i>					.
8	<i>Exocarpos sparteus</i>					.
9	<i>Santalum acuminatum</i>	Quandong			.	.
CHENOPODIACEAE						
50	<i>Atriplex isatidea</i>	Coastal saltbush				.
1	<i>Rhagodia baccata</i>	Berry saltbush				.
*	<i>Threlkeldia diffusa</i>					.
GYROSTEMONACEAE						
2	<i>Gyrostemon ramulosus</i>	Corky-bark				.
3	<i>Tersonia cyathiflora</i>	Button runner				.
AIZOACEAE						
*	<i>Carpobrotus edulis*</i>	Pigface			.	.
4	<i>C. virescens</i>	Native pigface				.
*	<i>Tetragonia decumbens*</i>	Sea spinach				.
PORTULACACEAE						
5	<i>Calandrinia sp.</i>					.

SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION		
		A	B	C

CARYOPHYLLACEAE

- * *Cerastium glomeratum* Mouse-ear chickweed
- * *Silene gallica* German catchfly

RANUNCULACEAE

- 6 *Clematis microphylla*

LAURACEAE

- 1 *Cassytha glabella* Dodder

BRASSICACEAE

- * *Cakile maritima** Sea rocket
- * *Diplotaxis muralis** Wall rocket
- * *Heliophylla pusilla**
- * *Raphanus raphanistrum** Wild raddish

DROSERACEAE

- 8 *Drosera macrantha* Climbing sundew

CRASSULACEAE

- Crassula sp.*

MIMOSACEAE

- ↑ *Acacia cochlearis* Rigid wattle
- 60 *A. cyclops* Red-eyed wattle
- ! *A. lasiocarpa*
- ✓ *A. pulchella* Prickly moses

SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION			
		A	B	C	D
3 <i>A. rostellifera</i>	Summer-scented wattle	•		•	
4 <i>A. saligna</i>	Coojong wattle		•		
5 <i>A. truncata</i>			•		
PAPILIONACEAE					
6 <i>Daviesia gracilis</i>					•
7 <i>Gompholobium tomentosum</i>					•
8 <i>Hardenbergia comptoniana</i>	Native wisteria			•	•
9 <i>Hovea pungens</i>					•
10 <i>Hovea trisperma</i>					•
1 <i>Isotropis cuneifolia</i>	Lamb poison				•
2 <i>Jacksonia furcellata</i>					•
3 <i>J. sternbergiana</i>	Stinkwood				•
4 <i>Kennedia prostrata</i>	Red runner				•
* <i>Lupinus angustifolius</i> *	Blue lupin				•
* <i>Medicago polymorpha</i> *	Burr medic				•
5 <i>Oxylobium capitatum</i>	Bacon and eggs				•
6 <i>O. reticulatum</i>				•	•
7 <i>Templetonia retusa</i>	Cockies' tongues			•	•
* <i>Vicia sativa</i> *	Common vetch				•
GERANIACEAE					
* <i>Geranium molle</i> *				•	
* <i>Pelargonium capitatum</i> *	Wild geranium	•	•	•	•
EUPHORBIACEAE					
* <i>Euphorbia terracina</i>	Geraldton carnation weed			•	•
8 <i>Phyllanthus calycinus</i>	False boronia				•
9 <i>Ricinocarpus glaucus</i>	Wedding bush				•

SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION		
		A	B	C
* <i>Ricinus communis</i> *	Castor oil			
SAPINDACEAE				
80 <i>Diplopeltis huegelii</i>				
RHAMNACEAE				
1 <i>Spyridium globulosum</i>		.	.	
2 <i>Trymalium ledifolium</i>				
STERCULIACEAE				
3 <i>Thomasia cognata</i>				
4 <i>Thomasia triphylla</i>		.		
DILLENIACEAE				
5 <i>Hibbertia hypericoides</i>				
1 <i>H. racemosa</i>				
FRANKENIACEAE				
1 <i>Frankenia pauciflora</i>				
VIOLACEAE				
8 <i>Hybanthus calycinus</i>	Native Violet			
MYRTACEAE				
* <i>Agonis flexuosa</i> *	Native peppermint			
9 <i>Calothamnus quadrifidus</i>	One-sided bottlebrush		.	.
* <i>Chamelaucium uncinatum</i> *	Geraldton wax			.
90 <i>Eucalyptus gomphocephala</i>	Tuart			.
1 <i>E. calophylla</i>	Mari			.
2 <i>E. marginata</i>	Jarrah			.
3 <i>Melaleuca acerosa</i>				.
4 <i>M. cardiophylla</i>				.

SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION			
		A	B	C	D
5 <i>M. heugellii</i>	Chenille honey myrtle			•	
ONAGRACEAE					
* <i>Oenothera drummondii</i> *	Evening primrose		•	•	
APIACEAE					
6 <i>Trachymene caerulea</i>	Rottnest Daisy		•	•	
EPACRIDACEAE					
7 <i>Acrotriche cordata</i>			•	•	
8 <i>Leucopogon parviflorus</i>				•	•
9 <i>L. propinquus</i>				•	•
100 <i>Conostephium preissii</i>					•
PRIMULACEAE					
* <i>Anagallis arvensis</i> *	Blue pimpernel				•
LAMIACEAE					
1 <i>Hemiandra linearis</i>					•
<i>H. pungens</i>	Snake bush		•	•	•
2 <i>Westringia dampiera</i>				•	
SOLANACEAE					
3 <i>Anthocercis littorea</i>	Yellow tail flower				•
* <i>Solanum nigrum</i> *	Black nightshade				•
SCROPHULARIACEAE					
* <i>Kickxia spuria</i> *	Roundleaf toadflax				•

SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION			
		A	B	C	D
OROBANCHACEAE					
<i>Orobanche minor</i> *	Lesser broomrape				.
MYOPORACEAE					
4 <i>Eremophila glabra</i>	Tar bush				.
5 <i>Myoporum insulare</i>	Blueberry tree				.
RUBIACEAE					
6 <i>Opercularia floribunda</i>		.	.		
7 <i>O. vaginata</i>		.	.		
GOODENIACEAE					
8 <i>Lechenaultia linarioides</i>	Yellow leschenaultia				.
9 <i>Scaevola canescens</i>	Grey scaevola				.
110 <i>S. crassifolia</i>			.	.	
1 <i>S. holosericea</i>			.	.	
2 <i>S. nitida</i>			.	.	
3 <i>S. paludosa</i>					.
4 <i>S. thesioides</i>	Rats' tails				.
STYLIDACEAE					
5 <i>Stylidium junceum</i>					.
ASTERACEAE					
✓ <i>Arctotheca calendula</i> *	Capeweed				.
✗ <i>A. populifolia</i> *	Dune arctotheca		.		
✗ <i>Arctotis stoechadifolia</i>					.

	SCIENTIFIC NAME	COMMON NAME	VEGETATION ASSOCIATION			
			A	B	C	D
6	<i>Calocephalus brownii</i>			•		
7	<i>Helichrysum cordatum</i>	Tangle daisy			•	•
8	<i>Olearia axillaris</i>	Native rosemary	•	•	•	
9	<i>Senecio laetus*</i>	Variable groundsel	•			
120	<i>Sonchus oleraceus</i>		•	•		
	VALERIANACEAE					
1	<i>Kentranthus ruber*</i>				•	

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1

CONTACT DR N. GIBSON CALM WOODVALE for further information.

Flora list for M36 Reserves near Karrinyup (extracted from Swan Coastal Plain database, Trig03, 29/1/96).

Department of Environmental Protection System 6 Update: Site Based Flora List for M36 Reserves near Karrinyup

(extracted from the CALM Swan Coastal Plain database, Trig03, 29/1/96)

Amaranthaceae

Ptilotus drummondii
Ptilotus polystachyus

Anthericaceae

Caesia micrantha
Corynotheca micrantha
Dichopogon capillipes
Thysanotus sp. manglesianus/patersonii scps

Apiaceae

Eryngium pinnatifidum subsp. pinnatifidum scps
Trachymene pilosa
Xanthosia huegelii

Asteraceae

* Hypochaeris glabra
Podolepis gracilis
* Ursinia anthemoides

Caryophyllaceae

* Petrorhagia velutina
* Silene gallica

Colchicaceae

Burchardia umbellata

Crassulaceae

Crassula colorata

Cyperaceae

Lepidosperma angustatum
Mesomelaena pseudostygia
Schoenus clandestinus
Schoenus grandiflorus

Dasypogonaceae

Lomandra caespitosa

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2

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Flora list for M36 Reserves near Karrinyup (extracted from Swan Coastal Plain database, Trig03, 29/1/96).

Lomandra hermaphrodita
Lomandra maritima

Dilleniaceae

Hibbertia hypericoides

Epacridaceae

Conostephium pendulum
Leucopogon parviflorus

Euphorbiaceae

Phyllanthus calycinus

Geraniaceae

* Pelargonium capitatum

Goodeniaceae

Lechenaultia linarioides
Scaevola repens var. repens

Haemodoraceae

Conostylis aculeata
Haemodorum paniculatum

Iridaceae

* Gladiolus caryophyllaceus
Orthrosanthus laxus

Mimosaceae

Acacia pulchella

Myrtaceae

Eucalyptus calophylla
Eucalyptus gomphocephala
Eucalyptus marginata

Orchidaceae

Pterostylis aff. sanguinea scps

Papilionaceae

Bossiaea eriocarpa

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3

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Flora list for M36 Reserves near Karrinyup (extracted from Swan Coastal Plain database, Trig03, 29/1/96).

Gompholobium tomentosum
Hardenbergia comptoniana
Hovea trisperma var. trisperma
Isotropis cuneifolia
Jacksonia sternbergiana
* Trifolium arvense

Phormiaceae

Dianella revoluta

Poaceae

* Avena fatua
* Briza maxima
* Bromus diandrus
Danthonia occidentalis
* Ehrharta calycina
* Ehrharta longiflora
* Lagurus ovatus
Microlaena stipoides
Stipa flavescens

Primulaceae

* Anagallis arvensis

Proteaceae

Banksia attenuata

Restionaceae

Alexgeorgea nitens
Loxocarya flexuosa

Rubiaceae

Opercularia vaginata

Thymelaeaceae

Pimelea rosea

Violaceae

Hybanthus calycinus

Xanthorrhoeaceae

Xanthorrhoea preissii

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1

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Flora list for M36 Reserves near Karrinyup (extracted from Swan Coastal Plain database, Trig01, 29/1/96).

Department of Environmental Protection System 6 Update: Site Based Flora List for M36 Reserves near Karrinyup

(extracted from the CALM Swan Coastal Plain database, Trig01, 29/1/96)

Asteraceae

- * *Sonchus oleraceus*

Brassicaceae

- * *Brassica tournefortii*

Chenopodiaceae

- Rhagodia baccata* subsp. *baccata*

Cyperaceae

- Schoenus grandiflorus*

Dasypogonaceae

- Acanthocarpus preissii*

Dilleniaceae

- Hibbertia racemosa*

Euphorbiaceae

- Phyllanthus calycinus*

Geraniaceae

- * *Pelargonium capitatum*

Haemodoraceae

- Conostylis candicans*

Lamiaceae

- Hemiandra pungens*

Mimosaceae

- Acacia lasiocarpa*
- Acacia rostellifera*

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2

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Flora list for M36 Reserves near Karrinyup (extracted from Swan Coastal Plain database, Trig01, 29/1/96).

Myrtaceae

Calothamnus quadrifidus

Melaleuca acerosa

Papilionaceae

Gompholobium tomentosum

Poaceae

Danthonia occidentalis

* Ehrharta longiflora

Poa sp. scps

Stipa flavescens

Portulacaceae

Calandrinia brevipedata

Primulaceae

* Anagallis arvensis

Ranunculaceae

Clematis microphylla

Restionaceae

Loxocarya flexuosa

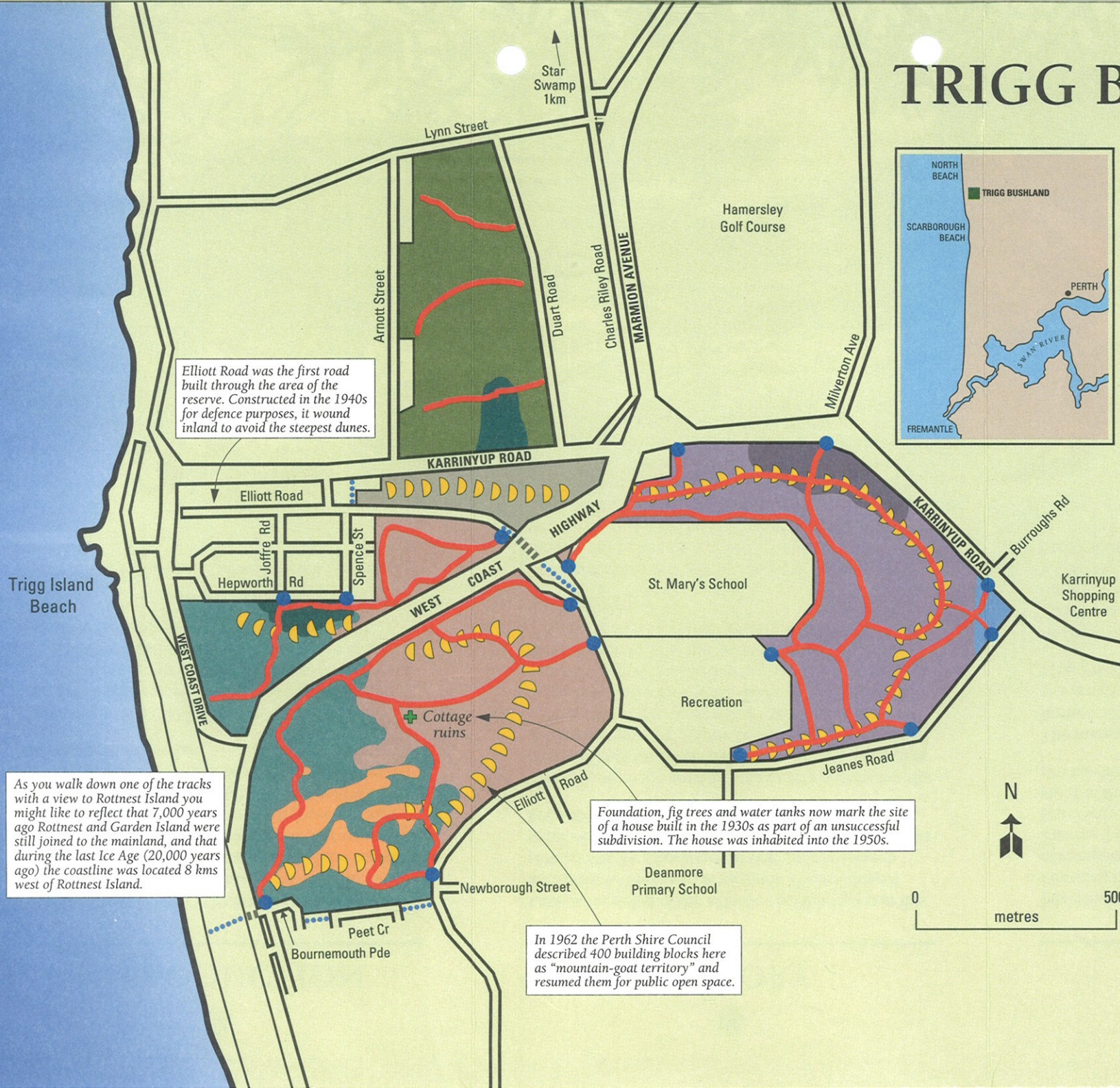
Santalaceae

Santalum acuminatum

Solanaceae

Anthocercis ilicifolia

TRIGG BUSHLAND

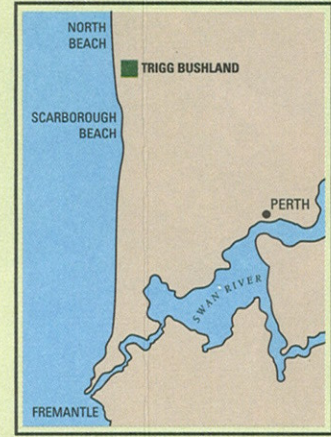


Elliott Road was the first road built through the area of the reserve. Constructed in the 1940s for defence purposes, it wound inland to avoid the steepest dunes.

As you walk down one of the tracks with a view to Rottnest Island you might like to reflect that 7,000 years ago Rottnest and Garden Island were still joined to the mainland, and that during the last Ice Age (20,000 years ago) the coastline was located 8 kms west of Rottnest Island.

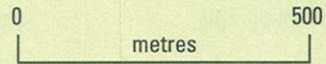
Foundation, fig trees and water tanks now mark the site of a house built in the 1930s as part of an unsuccessful subdivision. The house was inhabited into the 1950s.

In 1962 the Perth Shire Council described 400 building blocks here as "mountain-goat territory" and resumed them for public open space.



KEY

- established tracks
- pedestrian access gates
- pedestrian underpass
- connecting footpaths
- major dune ridges
- open woodland of tuart with acorn banksia
- thicket of dune sheoak
- woodland of tuart, jarrah
- woodland of tuart, marri and jarrah
- combination of open woodland of tuart and coastal shrubland
- shrubland on limestone
- thickets of summer-scented wattle with emergent tuart
- coastal shrubland
- thickets of Rottnest cypress





INTRODUCTION

Trigg Bushland is one of the few larger bushland reserves (122ha) in the inner suburbs of Perth. It preserves a range of vegetation typical of the coastal strip, and exhibits a progression of soil and vegetation types found in no other metropolitan reserve. Trigg Bushland is an important habitat for resident wildlife and it provides a sanctuary for birds moving from one bushland area to another.

The bushland is a Class A reserve vested in, and managed for the community by, the City of Stirling. Legislation preserves it for the purposes of conservation, passive recreation, and education. It is a living laboratory for studies by scientists, schools and amateur groups.

Discover Trigg Bushland. Take your time, explore, and enjoy.



HISTORY

Little is recorded of the activities of Aborigines in this area prior to European settlement. The traditional pattern was for Aborigines to visit coastal areas in summer after spending winter inland. Star Swamp has been identified as a campsite.

The soils were too poor to attract early settlers but the area was exploited from the 1850s onwards for timber-cutting and grazing. By the 1890s the area was part of a sheep and cattle reserve that extended inland from Trigg Beach and then northwards to Star Swamp, the southern end of the Old North Road (Geraldton-Perth stock route). In 1896 the cattle reserve included a quarantine area for camels imported to cart water to the Goldfields.

For many years, the reserve supported brumbies, rabbits, emus, kangaroos, and probably cattle from the nearest dairies. With better road access to Trigg in the 1930s holiday and fishing shacks sprang up along the coast. Suburban development reached present limits in the 1970s. Controversy surrounded the building through the reserve, in 1986, of the link between Marmion Avenue and West Coast Highway.

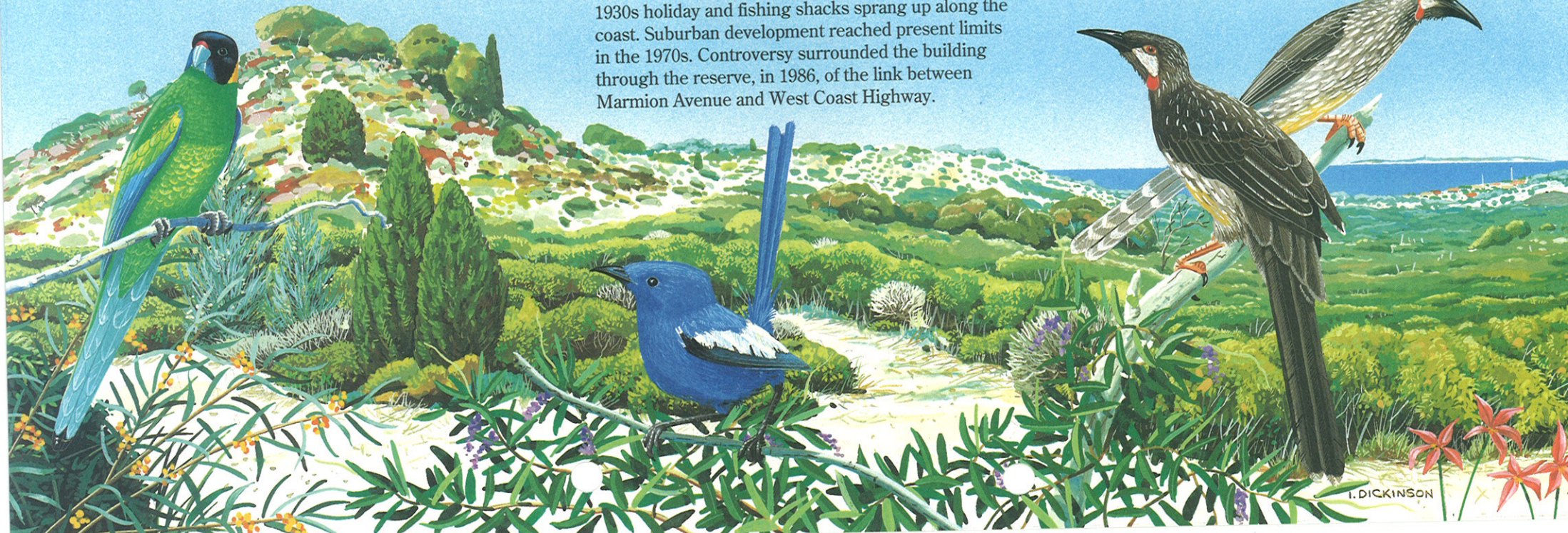


LANDSCAPE

Few examples of this type of landform, sand dune blowouts that have been stabilised by a long process of revegetation, remain within the metropolitan area. The northern rim of the major Trigg blowout borders Karrinyup Road and reaches its eastern extremity just short of the corner with Jeanes Road. The southern rim borders Jeanes Road.

The dunes are composed of white Quindalup sands formed within the last 6,000 years, during a period of rising and falling sea levels. A close examination will reveal shell fragments typical of beach sands.

As these dunes advanced they buried the limestone and yellow sands of the 100,000 years old Spearwood dune system. In some parts of the reserve, north of Karrinyup Road for example, Spearwood sands still occur at the surface.





MANAGING THE BUSHLAND

In 1991 the City of Stirling adopted a management plan for the bushland. The City's ongoing program includes the rehabilitation of vegetation, erosion and weed control, upgrading tracks to improve fire management and public access, and maintaining fences and signs.

Seed collected from the reserve is used to re-establish some native species that have declined as a result of fire, erosion or grazing by rabbits. In areas susceptible to erosion, such as the tops and sides of steep dunes, the placement of protective barriers or layers of brushwood helps plants to regenerate.



Marri

Fires, if too frequent or extensive, threaten the survival of many plant and animal species. The early detection of fire is assisted by volunteer fire spotters.

Pelargonium, veld grass, lupin, and bridal creeper are some of the weeds which seriously compete with native plants, especially orchids, and are difficult to control. The illegal dumping of garden rubbish aggravates the problem. Exotic plants, as well as Australian plants that would not naturally occur here (e.g. Geraldton wax), are gradually being removed.

A root-rotting fungus (*Armillaria luteobubalina*) is present in some areas and causes severe damage to vegetation. Developments in its control are awaited.



HOW YOU CAN HELP

Community action was largely responsible for placing Trigg Bushland on the Register of the National Estate in 1987 and for its upgrading from a Class C to a Class A reserve in 1989. Local residents and users of the reserve can help preserve the area's heritage by:

- *joining the Friends group*
- *observing and learning about the bushland*
- *keeping to designated paths and off fragile areas*
- *reporting misuse or vandalism*
- *reporting fires immediately [dial 000]*

Trigg Bushland belongs to you. Share in the responsibilities as well as the pleasures.

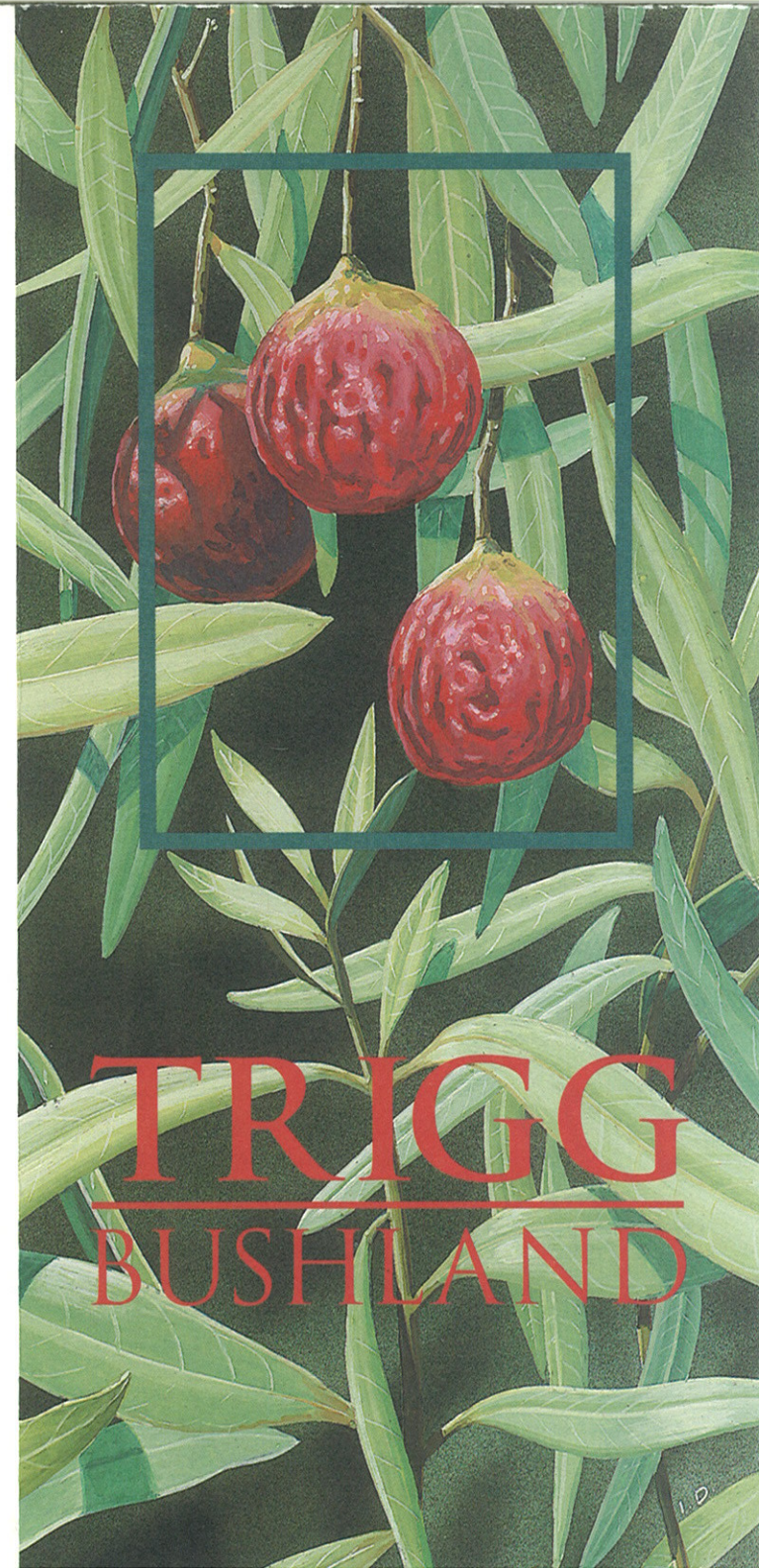
FRIENDS OF TRIGG BUSHLAND (INC.)

The Friends group, formed at a public meeting in 1990, actively contributes to the implementation of the Management Plan, and is represented on the City of Stirling's Management Advisory Committee for Star Swamp and Trigg Bushland Reserves.

The Friends conduct monthly guided walks through different parts of the reserve, collect seeds, remove weeds and rubbish, and assist with bush regeneration and fire-watch schemes.

The Group's committee meets monthly and produces a newsletter and a calendar of events. New members are encouraged. Urban bushland areas are under constant pressure and need your help.

Prepared by the Friends of Trigg Bushland (Inc.), with funds from the Australian National Parks and Wildlife Service (Save the Bush Grants Scheme), and the City of Stirling, 1993.



TRIGG BUSHLAND

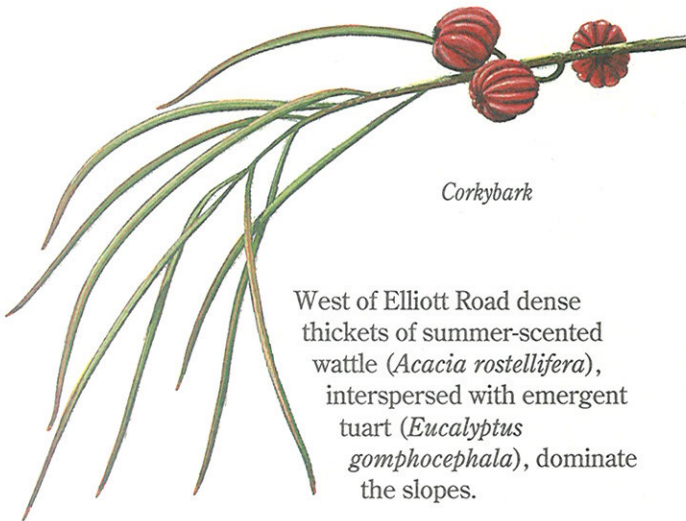
I.D.



VEGETATION

The reserve's unique progression of vegetation types becomes apparent if you start near the coast at the south-west corner of the reserve and walk inland. Away from the spinifex and other colonisers of the foredunes are low heaths featuring fan flowers (*Scaevola crassifolia*) and, with their pale blue leaves, coast daisy-bush (*Olearia axillaris*).

Further in are groves of Rottneest cypress (*Callitris preissii*). It is thought that thick forests of cypress were formerly quite common on the Swan Coastal Plain. The susceptibility of cypress to fire and the aboriginal practice conducted over thousands of years of burning the bush for hunting purposes may have reduced its distribution, but the effects of European settlement have had most impact. This is one of the last places in Perth where natural groves of Rottneest cypress are still found.



Corkybark

West of Elliott Road dense thickets of summer-scented wattle (*Acacia rostellifera*), interspersed with emergent tuart (*Eucalyptus gomphocephala*), dominate the slopes.

The eastern section of the reserve is mostly an open woodland of tuart and acorn banksia (*Banksia prionotes*) with an understorey that includes one-sided bottlebrush (*Calothamnus quadrifidus*) and dune Moses (*Acacia lasiocarpa*).



White-cheeked honeyeater on parrotbush

Other significant species, and uncommon in the metropolitan area, are dune sheoak (*Allocasuarina lehmanniana*) and corkybark (*Gyrostemon ramulosus*). Corkybark is usually a tree of the dry inland.

The northern section of the reserve is a woodland of tuart, marri, jarrah and banksia with a diverse understorey of blackboy, zamia, and species of peas, wattles and orchids.

Like the banksias, parrotbush (*Dryandra sessilis*) is very attractive to honeyeaters. Both parrotbush and quandong (*Santalum acuminatum*), with its conspicuous red fruits, occur where limestone is near the surface. Quandong is illustrated on the front cover.

Tuart has suffered throughout the reserve from too frequent fires, ecological imbalances (not enough cockatoos or parasitic wasps to control the tuart longicorn beetle), and canker fungi. However, in parts of the reserve, tuart shows good signs of recovery.



WILDLIFE

Trigg Bushland is an important breeding and feeding area for a variety of birds, reptiles, insects and spiders. Bats still occur, but other mammals have largely disappeared.

Sixty-five species of bird have been recorded. Some of the birds that live and breed in the bushland can also be seen foraging in surrounding suburban gardens. Others, such as the bronzewing pigeon and the white-winged fairy-wren, are found only in the bushland.

Birds likely to be seen include the white-cheeked honeyeater, Australian raven, magpie, ring-necked parrot, brown honeyeater, singing honeyeater, red wattlebird, and grey butcherbird. You may also see a black-shouldered kite or Australian kestrel hovering overhead. Harder to see are the small but colourful pardalotes, the white-browed scrubwren (rare in urban Perth), the varied sittella (often seen walking head-first down tree-trunks), the rufous whistler, and grey fantail.



Striped skink
(*Ctenotus fallens*)

The area is rich in reptiles. These include snakes, skinks, legless lizards, geckoes and dragon lizards.

Rabbits, which damage the reserve by eating young seedlings and regrowth, are kept in check by foxes and myxomatosis, but it would be preferable if both rabbits and foxes could be eradicated.

(12.03.88)
LEP

TRIGG REGIONAL OPEN SPACE
MANAGEMENT PLAN

**Full document
available
on request**

TRIGG
BS308^Q

Report to : City of Stirling,
Civic Place,
STIRLING WA 6021.

by : LeProvost, Semeniuk & Chalmer,
Environmental Consultants,
181 York Street,
SUBIACO WA 6008.

27th January, 1988.

LSC Ref: J117

**ENVIRONMENTAL PROTECTION AUTHORITY
71 HAY STREET, PERTH**

Report No. R183

TRIGG
BS 308

**Full document
available
on request**

**DRAFT MANAGEMENT PLAN
PROPOSED M 10 MARINE PARK**

Trigg Island to Burns
including Marmion Reef

**REPORT AND RECOMMENDATIONS
by the M 10 Marine Park Study Team**

Department of Conservation and Environment
Perth, Western Australia

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Department of Conservation and Environment
PERTH, WESTERN AUSTRALIA

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TRIGGER
CASE Q
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