

## STAR SWAMP RESERVE AND ADJACENT BUSHLAND, NORTH BEACH/WATERMAN

**Boundary Definition:** protected area boundary

### **SECTION 1: LOCATION INFORMATION**

**Bush Forever Site no.** 204

**Area (ha):** bushland 94.4 (Site also includes open water.)

**Map no.** 33, 39

**Map sheet series ref. no.** 2034-II NW

**Other Names:** not known

**Local Authorities (Suburb):** City of Stirling (Waterman, North Beach)

**System 6 (1983):** M35 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)

##### **Wetlands (within the Spearwood Dunes)**

Holocene Swamp Deposits (Qhw: Cps)

#### **VEGETATION AND FLORA**

##### **Vegetation Complexes**

###### **Spearwood Dunes**

Cottesloe Complex — Central and South

###### **Quindalup Dunes**

Quindalup Complex

##### **Floristic Community Types**

###### **Supergroup 2: Seasonal Wetlands**

###### **Supergroup 4: Uplands centred on Spearwood and Quindalup Dunes**

24 Northern Spearwood shrublands and woodlands

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

#### **WETLANDS**

**Wetland Types:** sumpland

##### **Natural Wetland Groups**

###### **Spearwood Dunes**

Balcatta (S.2)

**Wetland Management Objectives:** Conservation (3.1ha)

**Swan Coastal Plain Lakes EPP:** 3.1ha

#### **THREATENED ECOLOGICAL COMMUNITIES**

Not assessed

### **SECTION 3: SPECIFIC SITE DETAIL**

**Landscape Features:** limestone ridge, open water, vegetated wetland, vegetated uplands

**Vegetation and Flora:** limited survey (part Site — DEP 1996 (Star 01-03), EPA and WAWA 1990); detailed survey (Bell *et al.* 1979, Loneragan *et al.* 1984, Loneragan 1987, Pigott 1994, part Site — Watson and Bell 1981)

**Structural Units:** mapping (Bell *et al.* 1979, Loneragan 1987, EPA and WAWA 1990, DEP 1996 (Star 01-03))

Uplands — Sands derived from Tamala Limestone: *Eucalyptus gomphocephala* Tall Open Forest to Open Woodland; *Eucalyptus marginata* and *E. gomphocephala* Open Forest to Woodland (in NW corner); *Banksia attenuata*, *B. menziesii*, *Allocasuarina fraseriana* Low Open Forest to Low Open Woodland

Uplands — Tamala Limestone: *Melaleuca huegelii* and *Dryandra sessilis* var. *cygnorum* Open Heath to Low

Open Heath

Wetlands: *Melaleuca rhapsiophylla* Low Closed Forest

**Scattered Native Plants:** (canopy only) not assessed (probably <10%)

**Vegetation Condition:** >50% Very Good to Good, <50% Good to Degraded, with areas of severe localised disturbance

**Total Flora:** 247 native taxa, 105 weed taxa (Loneragan 1987, plus P. Pigott and D. Pike pers. comm. and part Site records DEP 1996 D (Star 01-03)) (estimated >90% expected flora)

**Significant Flora:** *Jacksonia sericea* (3), *Conostephium minus* (4); *Glischrocaryon aureum*, *Pimelea calcicola*, *Ricinocarpos glaucus*, *Lechenaultia linarioides*, *Astroloma microcalyx*, *Trachymene coerulea*, *Trichocline spathulata*; typical Tamala Limestone taxa — *Grevillea preissii*, *Trymalium ledifolium* var. *ledifolium*, *Melaleuca huegelii*, *Petrophile serruriae* subsp. nov. (GJK 11421), *Pimelea calcicola* (pink)

**Fauna:** multiple surveys for birds (66 species), reptiles (11 species) and amphibians (4 species) (Loneragan 1987; RAOU 1996 D, 21 visits). Good assemblage of small insectivores including Splendid Fairy-wren, White-winged Fairy-wren, Weebill, Broad-tailed, Western and Yellow-rumped Thornbills. Significant bird species: category 1 (1), category 3 (9) and category 4 (4). Significant reptile species: Bardick (*Echiopsis curtus*), Carpet Python (*Morelia spilota*). High number of Jewel Beetles (Buprestidae) (Loneragan 1987)

**Linkage:** adjacent bushland to the south (across road); part of Greenways 3, 9, 33 (Tingay, Alan & Associates 1998a); part of fragmented and potential bushland/wetland linkages (Part A, Map 7)

**Other Special Attributes:** The National Trust of Australia (WA) Classification; noted as 'a valuable ecological remnant of...the Spearwood Dune Systems...also an important link in a series of wetland Nature Reserves' (Loneragan 1987)

#### ***SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE***

Entered in the Register of the National Estate (Star Swamp Reserve); subject to protection under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

#### ***SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS***

**Criteria:** Representation of ecological communities, Rarity, Scientific or evolutionary importance, General criteria for the protection of wetland, streamline and estuarine fringing 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).

**STAR SWAMP RESERVE AND ADJACENT BUSHLAND, NORTH BEACH/WATERMAN**

**Boundary Definition:** protected area boundary

**SECTION 1: CADASTRAL INFORMATION**

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

**Bushplan Site no.** 204      **Map no.** 44      **Map sheet series ref. no.** 2034-II NW  
**System 6 (1983):** M35 area of bushland goes beyond System area boundaries, all bushland described

**Other Names:** not known

**Area (ha):** total 96.8 (includes open water); bushland 94.4

**Local Authorities (Suburb)**  
 City of Stirling (Waterman, North Beach)

**Zoning**  
**MRS:** Parks and Recreation  
**TPS:** Landscape, Public Use Reserves

**Ownership Categories**  
 State Government, Not identified

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

4, 16, 17, 19 Marmion Ave; 709 Hope St; 710, 711, 712 North Beach Rd; 2 Beach Rd  
 Crown Reserve

**SECTION 2: REGIONAL INFORMATION**

**LANDFORMS AND SOILS**

**Spearwood Dunes**

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 Tamala Limestone (Qtl: LS1)

**Wetlands (within the Spearwood Dunes)**

Holocene Swamp Deposits (Qhw: Cps)

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**Structural Units:** mapping (Bell *et al.* 1979; Loneragan 1987; EPA and WAWA 1990; DEP 1996 (Star 01-03))

Uplands - Sands derived from Tamala Limestone: *Eucalyptus gomphocephala* Tall Open Forest to Open Woodland; *Eucalyptus marginata* and *E. gomphocephala* Open Forest to Woodland (in NW corner); *Banksia attenuata*, *B. menziesii*, *Allocasuarina fraseriana* Low Open Forest to Low Open Woodland

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**Vegetation Condition:** >50% Very Good to Good, <50% Good to Degraded, with areas of severe localised disturbance



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**Significant Flora:** *Jacksonia sericea* (3), *Conostephium minus* (4); *Glischrocaryon aureum*, *Pimelea calcicola*, *Ricinocarpos glaucus*, *Lechenaultia linarioides*, *Astroloma microcalyx*, *Trachymene coerulea*, *Trichocline spathulata*; typical Tamala Limestone taxa — *Grevillea preissii*, *Trymalium ledifolium*, *Melaleuca huegelii*, *Petrophile serruriae* subsp. nov. (GJK 11421), *Pimelea calcicola* (pink)

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**Linkage:** adjacent bushland to the south; part of proposed Greenways 4, 7, 39 (Tingay, Alan & Associates 1997a); part of fragmented and potential bushland/wetland linkages (Volume 2A, Map 8)

**Other Special Attributes:** The National Trust of Australia (WA) Classification; noted as 'a valuable ecological remnant of...the Spearwood Dune Systems...also an important link in a series of wetland Nature Reserves' (Loneragan 1987)

#### **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, Rarity, 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 location of Scheduled Fauna, conservation category wetland; under MRS Parks and Recreation Reservation and TPS Landscape Zoning, Crown Reserve

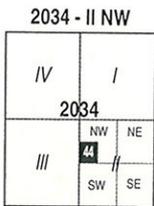
**Recommendation:** The existing care, control and management intent of the reserve is endorsed. Long-term security and support for conservation management of the Bushplan Site to be enhanced by: amending the purpose of the reserve to include conservation; and applying appropriate mechanisms in consultation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





**LEGEND**

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



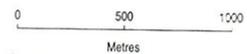
1 : 25 000 AMG Reference Grid showing Perth's Bushplan Map Sheet Breakdown

**PERTH'S BUSHPLAN MAP INDEX**

1	2		
3	4	5	
6	7	8	9 10 11
12	13	14	15 16
17	18	19	20
21	22	23	
24	25	26	27 28 29 30
31	32	33	34 35 36
37	38	39	40 41 42
43	44	45	46 47 48
49	50	51	52 53 54
55	56	57	58 59
60	61	62	63 64
65	66	67	68 69 70
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78	79	80	81 82 83 84
85	86	87	88 89 90 91
92	93	94	95 96 97
98	99	100	101 102
103	104	105	106

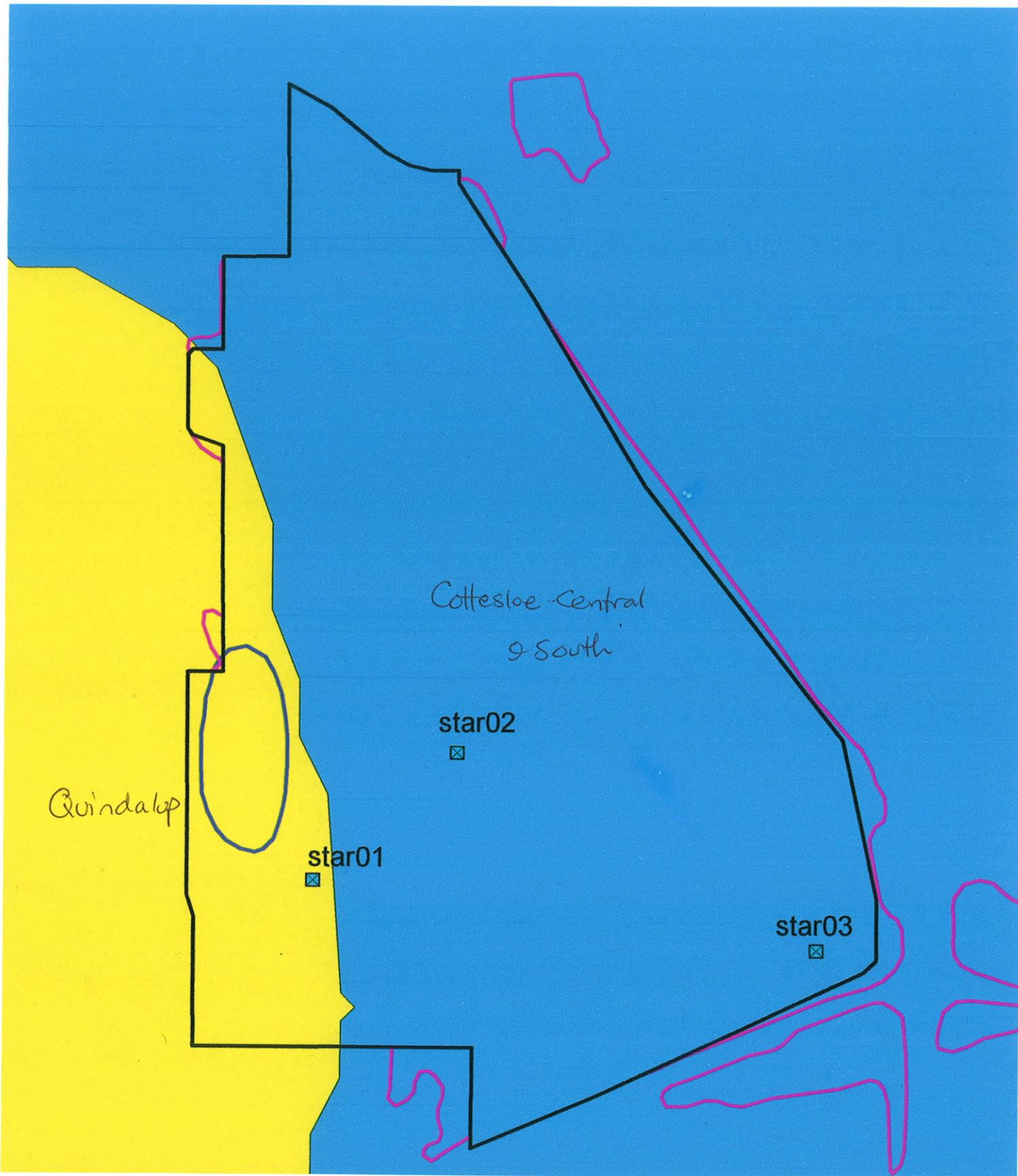


**SCALE**



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

# Bush Forever Site 204: Star Swamp Reserve and Adjacent Bushland



Aerial Photography: Perth Metro Area - North West 2003

-  Bush Forever Sites
- PBP - Native Veg Extent by Administrative Planning Category**
-  Local Natural Areas
- Semeniuk's 2002 Basin Wetlands Management**
-  Conservation
-  Multiple Use
-  Resource Enhanced
- Heddle Vegetation**
-  Cottesloe Complex-Central And\South
-  Quindalup Complex
-  Local Government Authority Boundaries

100 0 100 200 Meters

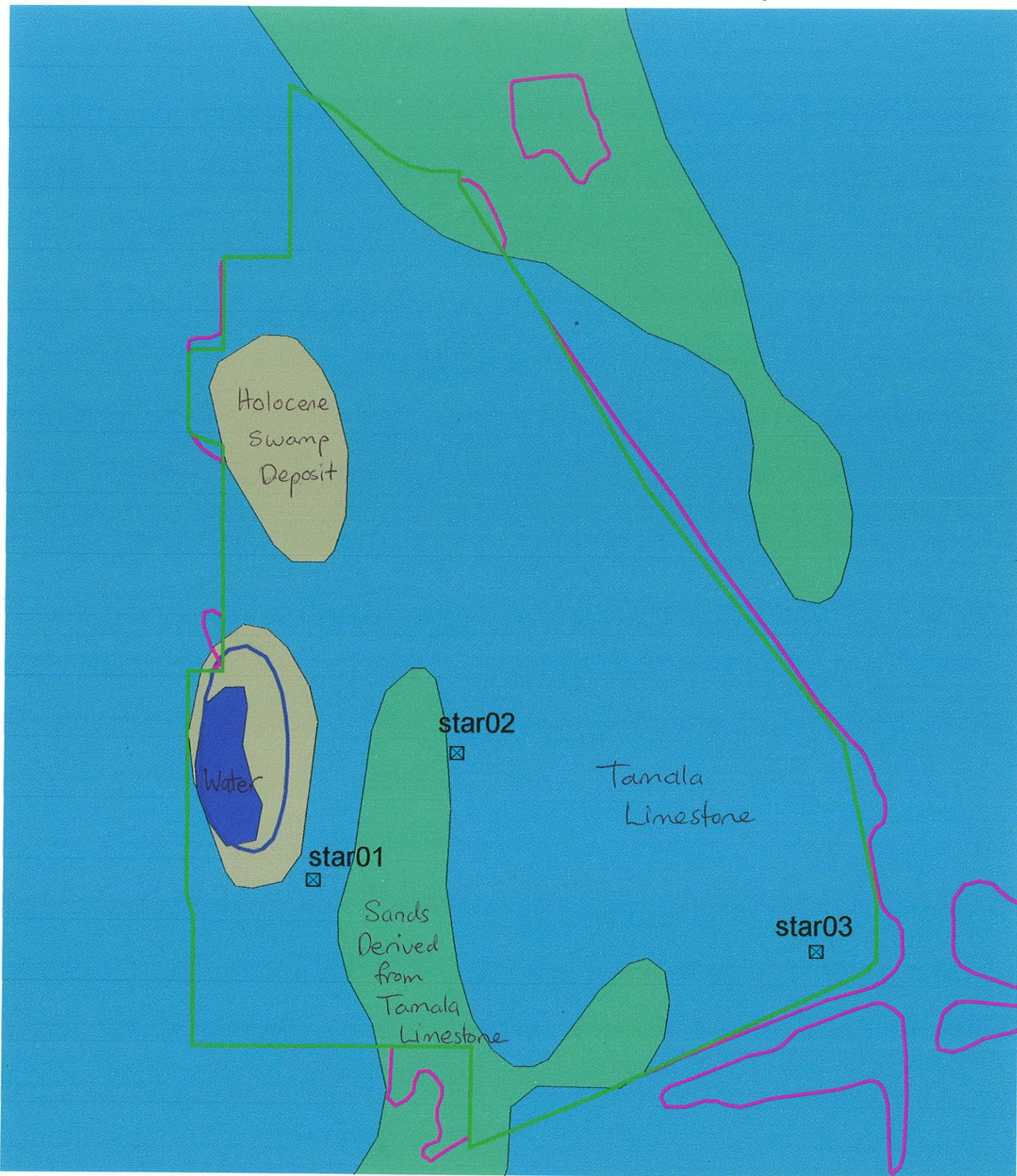


Projection: Map Grid of Australia (MGA94)

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.*

# Bush Forever Site 204: Star Swamp Reserve and Adjacent Bushland



Aerial Photography: Perth Metro Area - North West 2003

- Bush Forever Sites
- PBP - Native Veg Extent by Administrative Planning Category
- Local Natural Areas
- Semeniuk's 2002 Basin Wetlands Management
- Conservation
- Multiple Use
- Resource Enhanced
- Perth Environmental Geology
- Cps
- LS1
- S7
- Water
- Local Government Authority Boundaries



Holocene Swamp Deposit  
 Tamala Limestone  
 Sands derived from Tamala limestone

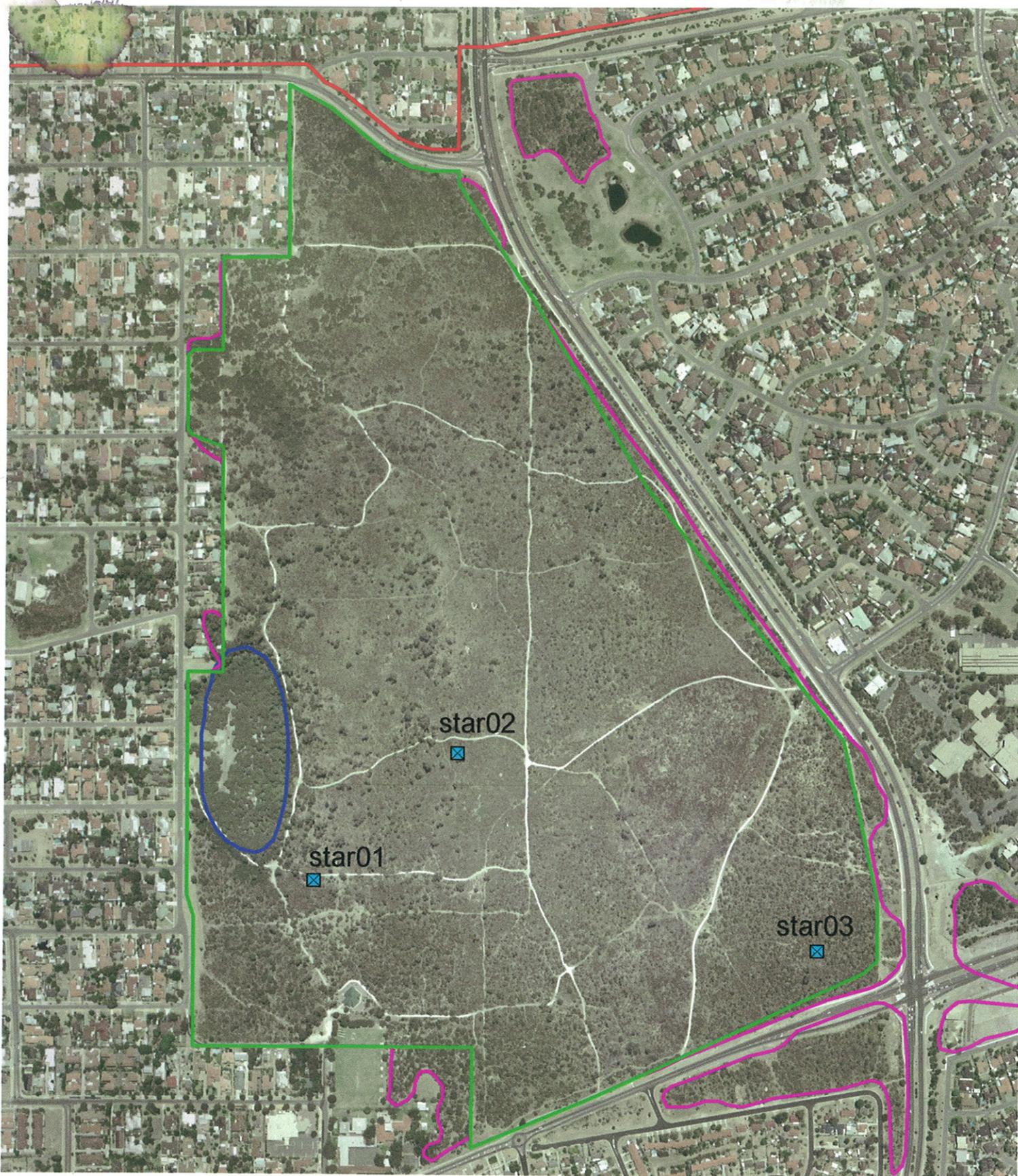


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Aerial Photography: Perth Metro Area - North West 2003

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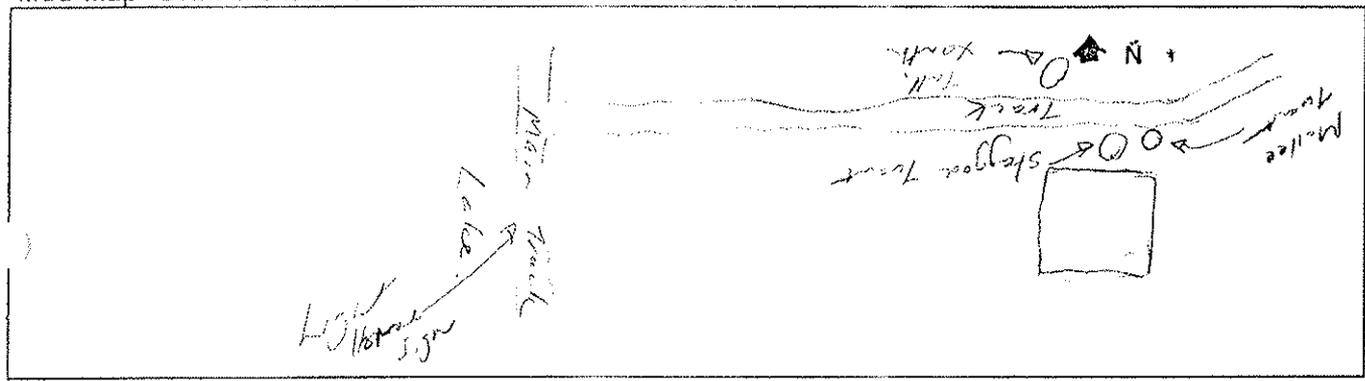
BUSHLAND PLANT SURVEY RECORDING SHEET 1- use pencil only

BUSHLAND AREA STAR SWAMP RES SITE NUMBER STAR 01  
 DATE TRIP 27/7/94 RECORDERS BJK, NA  
 DATE TRIP 5/12/94 RECORDERS BJK  
 DATE TRIP \_\_\_\_\_ RECORDERS \_\_\_\_\_  
 BOTANIST \_\_\_\_\_

From 'Bushland Plant Survey' written by B. Keighery (1994) and published by the Wildflower Society of WA (Inc.), PO Box 64 Nedlands WA 6008.

1. LOCATION of the QUADRAT

Mud Map Draw a sketch of the location of the site below.

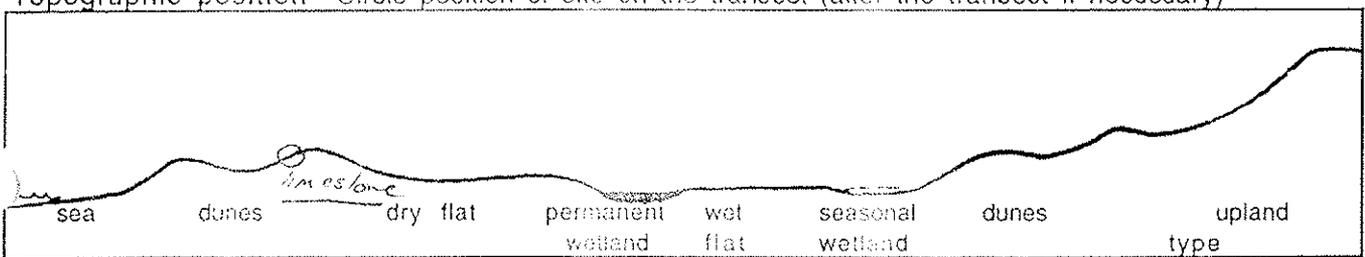


Road Location

Geographic Location Latitude 31° 51.545' S Longitude 115° 45.159' E Altitude \_\_\_\_\_  
 Reference Map \_\_\_\_\_ *Not from GPS*

Photograph Photographer's Name JK Photo No 3

Topographic position Circle position of site on the transect (alter the transect if necessary)



2. SITE DATA Circle the correct response.

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

Surface Soil type sand Colour orange/brown  
 Exposed rock type limestone % surface < 2%

Sub-surface Soil type sand Colour orange  
 Rock type limestone depth to rock varying

Drainage  well  mod  poor depth water \_\_\_\_\_ cm Wet all year  winter/spring

Litter Depth 1 leaf % cover \_\_\_\_\_ Bare Ground 0 % cover \_\_\_\_\_

Env geol: LS

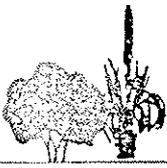
**BUSHLAND PLANT SURVEY RECORDING SHEET 2 (Muir)- use pencil only**

**3. VEGETATION STRUCTURE AND COVER**

From 'Busland Plant Survey' written by B. Keighery (1994) and published by the Wildflower Society of WA (Inc.), PO Box 64 Nedlands WA 6008.

For each layer record - appropriate life form, cover class (see below) and dominant species in each layer.

Cover Class      2-10%      10-30%      30-70%      over 70%

	TREES			MALLEES	
	over 30m	15-30m	5-15m under 5m	over 8m	under 8m
LIFE FORM					
COVER CLASS (%)					
DOMINANT SPECIES					
	SHRUBS			SHRUBS	
	over 2m	2m - 1.5m	1.5-1m	1-0.5m	under 0.5m
LIFE FORM					
COVER CLASS (%)			30-70%	2-10%	2-10%
DOMINANT SPECIES			Acacia rose Mel. hueg. Dry grass	Xanthorrhoea	Hibb. hyp Phyl. caly.
	GRASSES	HERBS	SEDGES		
	Low grasses / Herbs		over 0.5m	under 0.5m	
LIFE FORM					
COVER CLASS (%)					
DOMINANT SPECIES					

**4. VEGETATION CONDITION**

	COMMENTS
1 'PRISTINE'	
2 EXCELLENT	
3 VERY GOOD	
4 GOOD	✓
5 DEGRADED	

Comments: *Swants stunged by tree, herbs predom weeds 10-15% cover.*



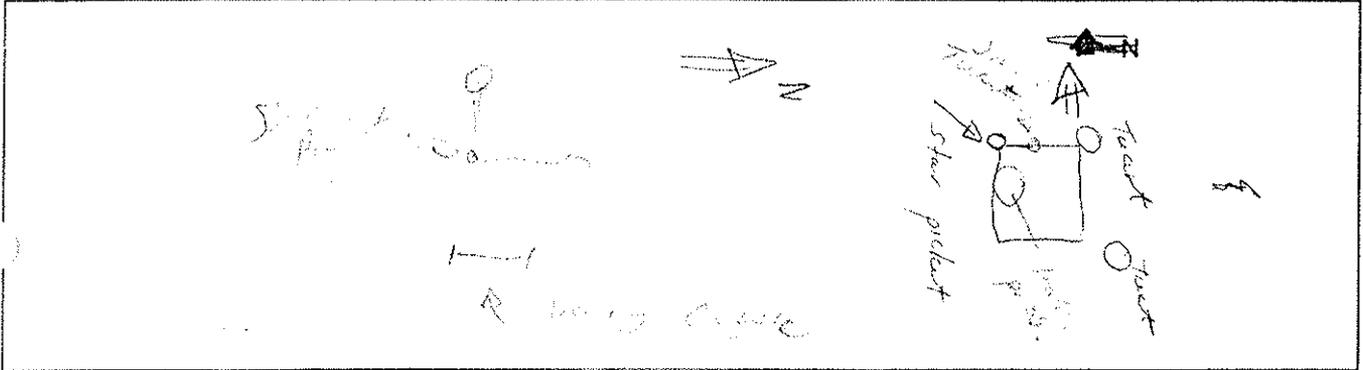
BUSHLAND PLANT SURVEY RECORDING SHEET 1- use pencil only

BUSHLAND AREA STAR SWAMP N.E.S SITE NUMBER STAR 02  
 DATE TRIP 27/9/94 RECORDERS BT K/ NCT  
 DATE TRIP 5/12/94 RECORDERS BT K/ JJA  
 DATE TRIP \_\_\_\_\_ RECORDERS \_\_\_\_\_  
 BOTANIST \_\_\_\_\_

1. LOCATION of the QUADRAT

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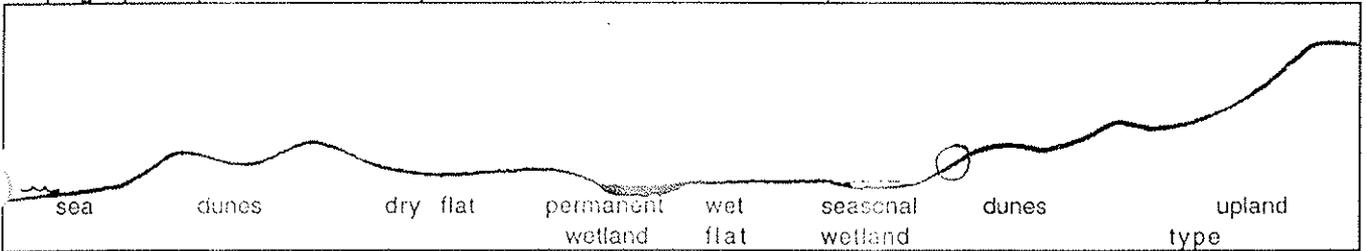


Road Location

Geographic Location Latitude 31°51.323' S Longitude 115°45.318' E Altitude \_\_\_\_\_  
 Reference Map Nat. Grassy Plains

Photograph Photographer's Name NT Photo No 4

Topographic position Circle position of site on the transect (alter the transect if necessary)



2. SITE DATA Circle the correct response.

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

Surface Soil type Sand Colour light brown  
 Exposed rock type \_\_\_\_\_ % surface \_\_\_\_\_

Sub-surface Soil type Sand Colour orange  
 Rock type \_\_\_\_\_ depth to rock \_\_\_\_\_

Drainage well mod poor depth water \_\_\_\_\_ cm Wet all year winter/spring

Litter Depth 2-10% % cover \_\_\_\_\_  
 Depth 2/45 cm Bare Ground <2% % cover \_\_\_\_\_

Env. geol. - us. (S<sub>1</sub>)

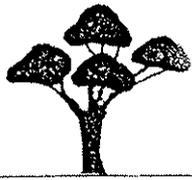
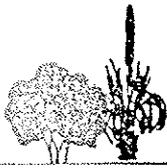
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3. VEGETATION STRUCTURE AND COVER

For each layer record - appropriate life form, cover class (see below) and dominant species in each layer.

Cover Class      2-10%      10-30%      30-70%      over 70%

		TREES			MALLEES	
		over 30m	15-30m	5-15m	over 8m	under 8m
LIFE FORM		Open Tall Woodland	overhang	under 5m		30m
						
COVER CLASS (%)		100%				
DOMINANT SPECIES		Wattle				
		SHRUBS			SHRUBS	
		over 2m	2m - 1.5m	1.5 - 1m	1 - 0.5m	under 0.5m
LIFE FORM		Thicket				2m
						
COVER CLASS (%)		30-40%				
DOMINANT SPECIES		Wattle				
		GRASSES	HERBS	SEDGES	over 0.5m	under 0.5m
LIFE FORM		Low Grass	Very open Herbs			1m
						
COVER CLASS (%)		10-20%	2-10%			
DOMINANT SPECIES		Wattle	Wattle			

4. VEGETATION CONDITION

		COMMENTS
1	'PRISTINE'	
2	EXCELLENT	
3	VERY GOOD	
4	GOOD	
5	DEGRADED	

rabbits, very few native herbs

BUSHLAND PLANT SURVEY RECORDING SHEET 3 - use per only

5. SPECIES PRESCENCE

Label each plant with plants number, site code, date and plant's name or working name if required

SITE No STAR 02  
 Date 27/9/94

Record on Sheet

- Column 1 plant name
- Column 2 plant number
- Column 3 flowering time- TICK if species flowering
- Column 4 identification check

From 'Bushland Plant Survey' written by B. Keighery (1994) and published by the Wildflower Society of WA (Inc.), PO Box 64 Nedlands WA 6008.

TREES	No	Fl	ID	SHRUBS (cont.)	No	Fl	ID	HERBS (cont.)	No	Fl	ID
<i>Quercus</i>							0	<i>Crassula colorata</i>			
				12/74			0	<i>Dianella psoralea</i>			
			0	<i>Heliconia pulchra</i>			0	<i>Crassula pedicellata</i>	2		
				(one abn. out ground, falling)			0	<i>Sowerbaea laxiflora</i>			
			0	<i>Taraxacum officinale</i>			0*	<i>Helipartha pusilla</i>	1		
MALLEES			0	<i>Stylidium maculatum</i>	4		0*	<i>Brassica fruticulosa</i>	2		
				GRASSES							
				0* <i>Cynodon dactylon</i>							
				0* <i>Poa annua</i>							
SHRUBS				0* <i>Poa annua</i>							
<i>Leptosiphon</i>				0* <i>Petrophragma teretifolium</i>							
<i>Chenopodium</i>				0* <i>Pentstemon</i>							
<i>Acacia pulchella</i>								0	<i>Isotria medeoloides</i>		
<i>Helichrysum cordatum</i>											
* <i>Petalostemum capitatum</i>											
<i>Macrorhynchus hiedlii</i>											
				HERBS							
				0 <i>Conoclinium</i>							
				0 <i>Prostratus</i>							
				0* <i>Petro</i>							
				0* <i>Tritolium</i>	4						
				0* <i>Stellaria</i>							
				0* <i>Sparaxis</i>							
				0 <i>Haemodorum</i> (?) <i>paniculatum</i>							4
				0* <i>Silene</i>							1
				0* <i>Hypochaeris</i>							
				0* <i>Amagalis</i>							
				0* <i>Dielsia</i>	4						
				0 ? <i>Caesia</i>							

BUSHLAND PLANT SURVEY RECORDING SHEET 1- use pencil only

BUSHLAND AREA STAR SWAMP RES SITE NUMBER STAR 93

DATE TRIP 5/12/94 RECORDERS BRK, NT

DATE TRIP 5/12/94 RECORDERS SK, JJA

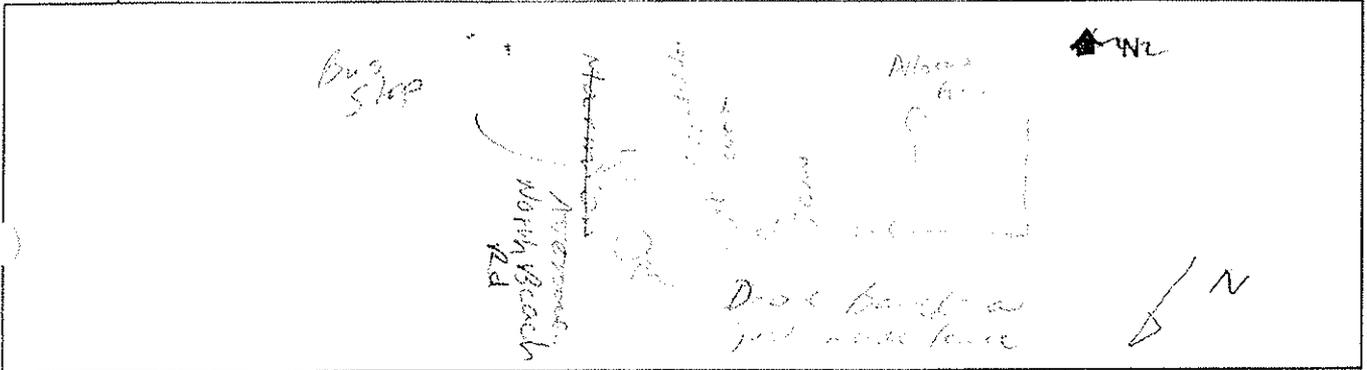
DATE TRIP \_\_\_\_\_ RECORDERS \_\_\_\_\_

BOTANIST \_\_\_\_\_

From 'Bushland Plant Survey' written by B. Keighery (1994) and published by the Wildflower Society of WA (Inc.), PO Box 64 Nedlands WA 6008.

1. LOCATION of the QUADRAT

Mud Map Draw a sketch of the location of the site below.



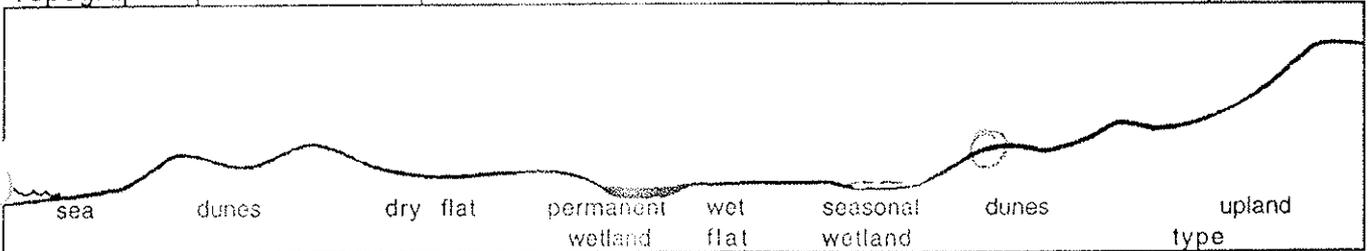
Road Location North Beach Rd

Geographic Location Latitude 31°51.572' S Longitude 115°45.510' E Altitude

Reference Map → Not from GPS ←

Photograph Photographer's Name NT Photo No 5

Topographic position Circle position of site on the transect (alter the transect if necessary)



2. SITE DATA Circle the correct response.

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

Surface Soil slud Colour grey  
Exposed rock type \_\_\_\_\_ % surface \_\_\_\_\_

Sub-surface Soil sand Colour yellow  
Rock type \_\_\_\_\_ depth to rock \_\_\_\_\_

Drainage (well) mod poor depth water \_\_\_\_\_ cm Wet all year winter/spring

Litter	% cover	Bare Ground	% cover
Depth _____ cm			

Env. Seal: S7

S2

**BUSHLAND PLANT SURVEY RECORDING SHEET 2 (Muir)- use pencil only**

From 'Bushtland Plant Survey' written by B. Keighery (1994) and published by the Wildflower Society of WA (Inc.), PO Box 64 Nedlands WA 6008.

**3. VEGETATION STRUCTURE AND COVER**

For each layer record - appropriate life form, cover class (see below), and dominant species in each layer.

Cover Class      2-10%      10-30%      30-70%      over 70%

		TREES			MALLEES	
		over 30m	15-30m	5-15m under 5m	over 8m	under 8m
LIFE FORM				 <i>Low Woodland A.</i>		
	COVER CLASS (%)			20-30		
DOMINANT SPECIES				<i>Acacia</i> <i>Leucadendron</i> <i>Peucephyia</i>		
		SHRUBS			SHRUBS	
		over 2m	2m-1.5m	1.5-1m	1-0.5m	under 0.5m
LIFE FORM		<i>(open scrub)</i> 				<i>Dwarf Scrub D.</i> 
	COVER CLASS (%)	2-10				10-20%
DOMINANT SPECIES						<i>Leucadendron</i> <i>Peucephyia</i>
		GRASSES	HERBS	SEDGES	SEDGES	
				over 0.5m	under 0.5m	
LIFE FORM			<i>Open Herbs</i> 	<i>Open Tall Sedges</i> 		
	COVER CLASS (%)		2-10	10-30	10-30	10-30
DOMINANT SPECIES			<i>Microseris</i> <i>Peucephyia</i>		<i>Less</i>	

**4. VEGETATION CONDITION**

1	'PRISTINE'	COMMENTS <i>... ..</i>
2	EXCELLENT	
3	VERY GOOD	
4	GOOD	
5	DEGRADED	



Vegn  
Maps

Star Swamp

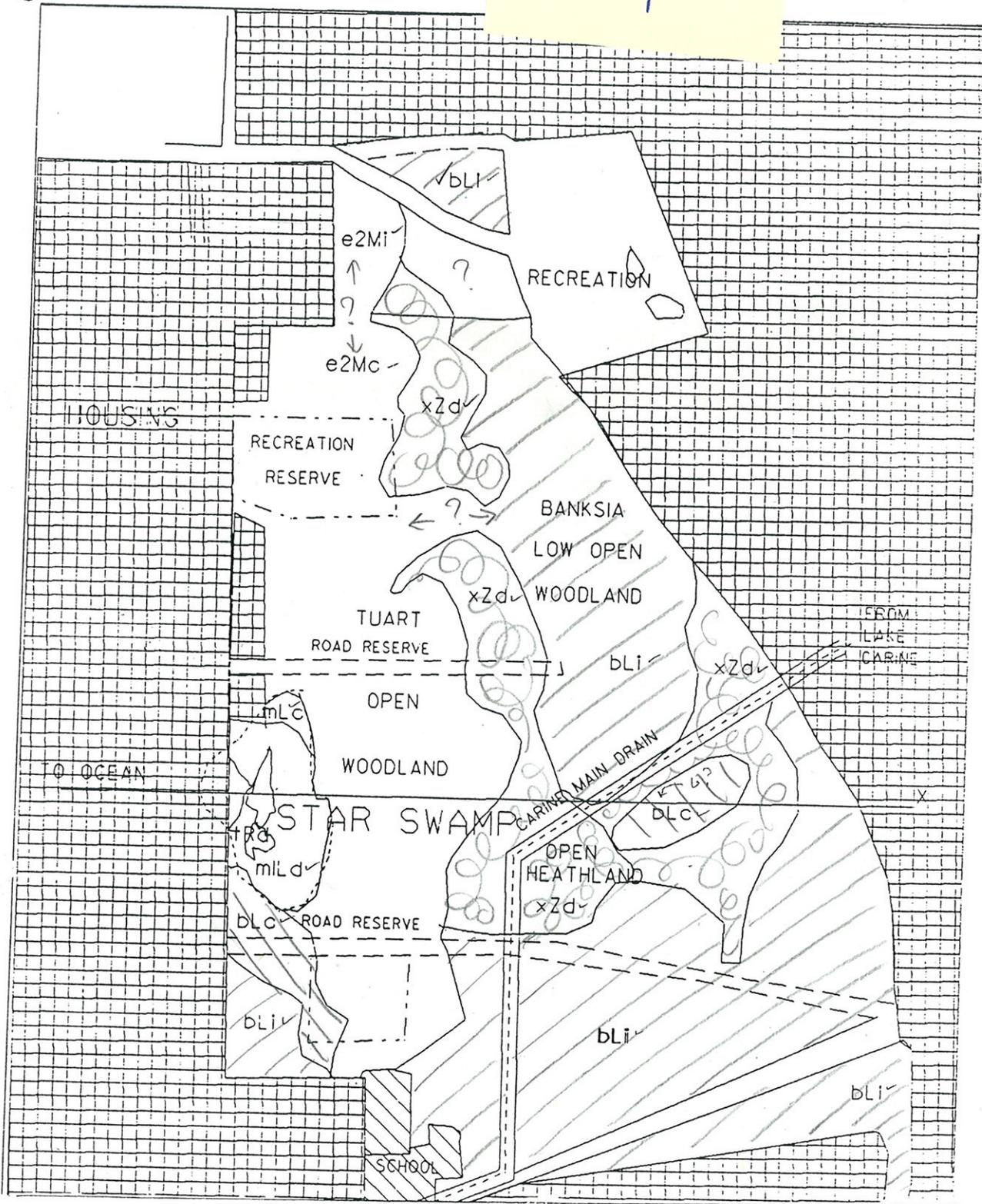


Figure 8.4 Star Swamp: Wetland plant communities and surrounding land use.

- bLi <sup>low to</sup> Banksia / Low Open Woodland
- bLc Banksia Low Open Forest

- { e2Mi Tuart Woodland - Open Woodland ✓
- { e2Mc Tuart Open Forest ✓

- xZd Mixed Closed Low Heath = Open Heathland

mLc Melaleuca sp. Low Open Forest

mLd Mel rhaps Low Closed Forest

tRd Typha Closed Sedge/land.

Other 2 vegn maps & <sup>9 spp lists</sup> Bell et al 1979  
 & Lonergan 1987 - MPlan

Paperbark  
 Tuart  
 Heath  
~~Mixed~~ Banksia

} Sp lists / vegn comm.

David Pike's list - update of other 2 lists  
 but not by vegn comm.

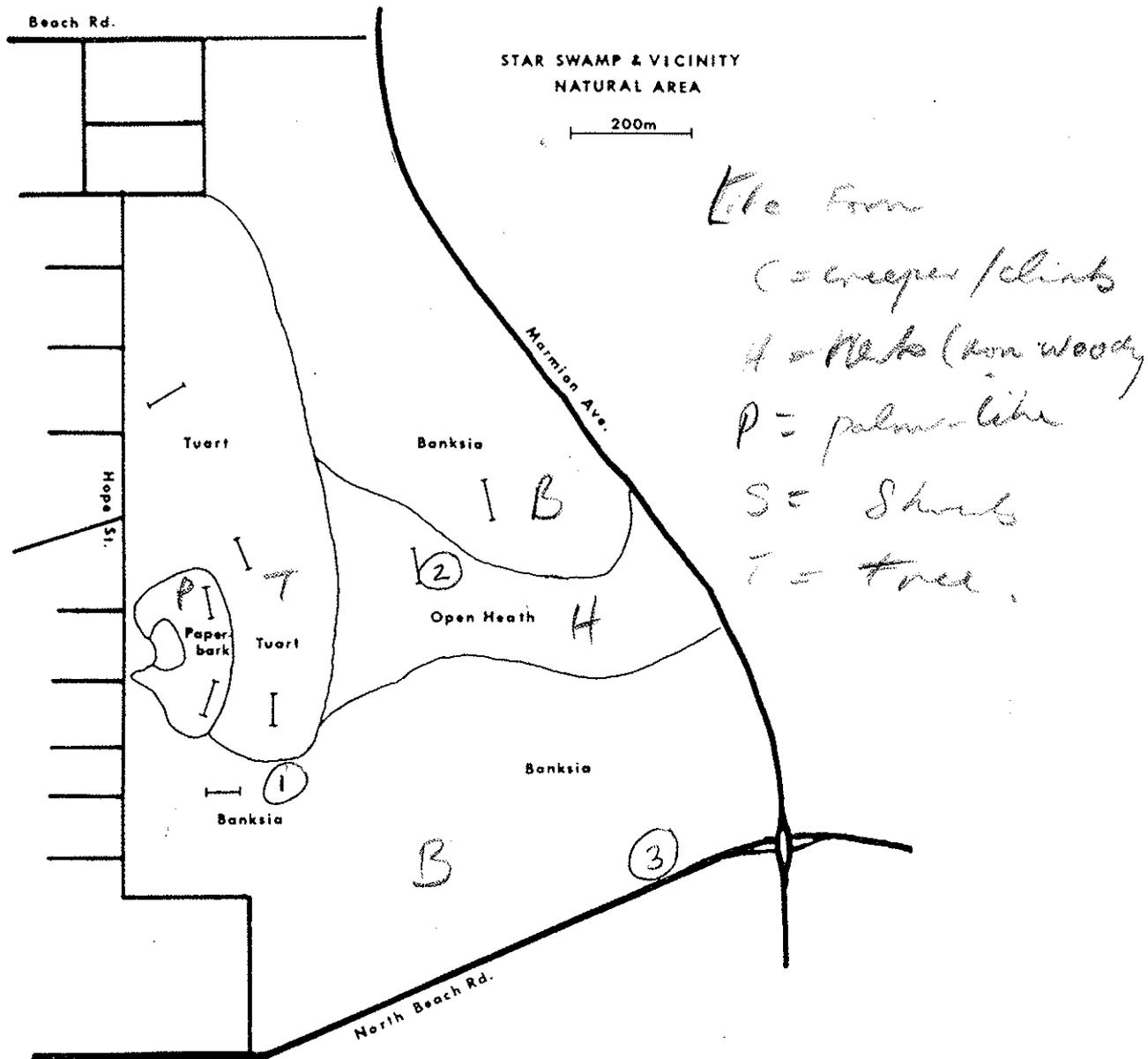


Fig. 2. Map of study area showing the distribution of natural plant communities and locations of the vegetation sampling transects.

living tissue. The Paperbark canopy, on the other hand, was recorded almost entirely as living tissue. From the 50% canopy cover recorded in the Paperbark Woodland community, canopy cover dropped to 33% in the Tuart community. Tuart dominated the canopy density in the samples with *Eucalyptus marginata* (Jarrah) and the occasional *Banksia grandis* (Bull Banksia) and *Eucalyptus calophylla* (Marri) recorded. The 75% living tissue value for Tuart in this community indicated an improvement over the status of Tuart individuals in the Paperbark Woodland. Cover density values for the Banksia Woodland were dominated by three Banksia species (*Banksia menziesii*, *B. attenuata*, and *B. prionotes*) with minor contributions by Tuart and *Casuarina fraserana* (Sheoak). The Open Heath community did not have a canopy dominated by tree growth forms.

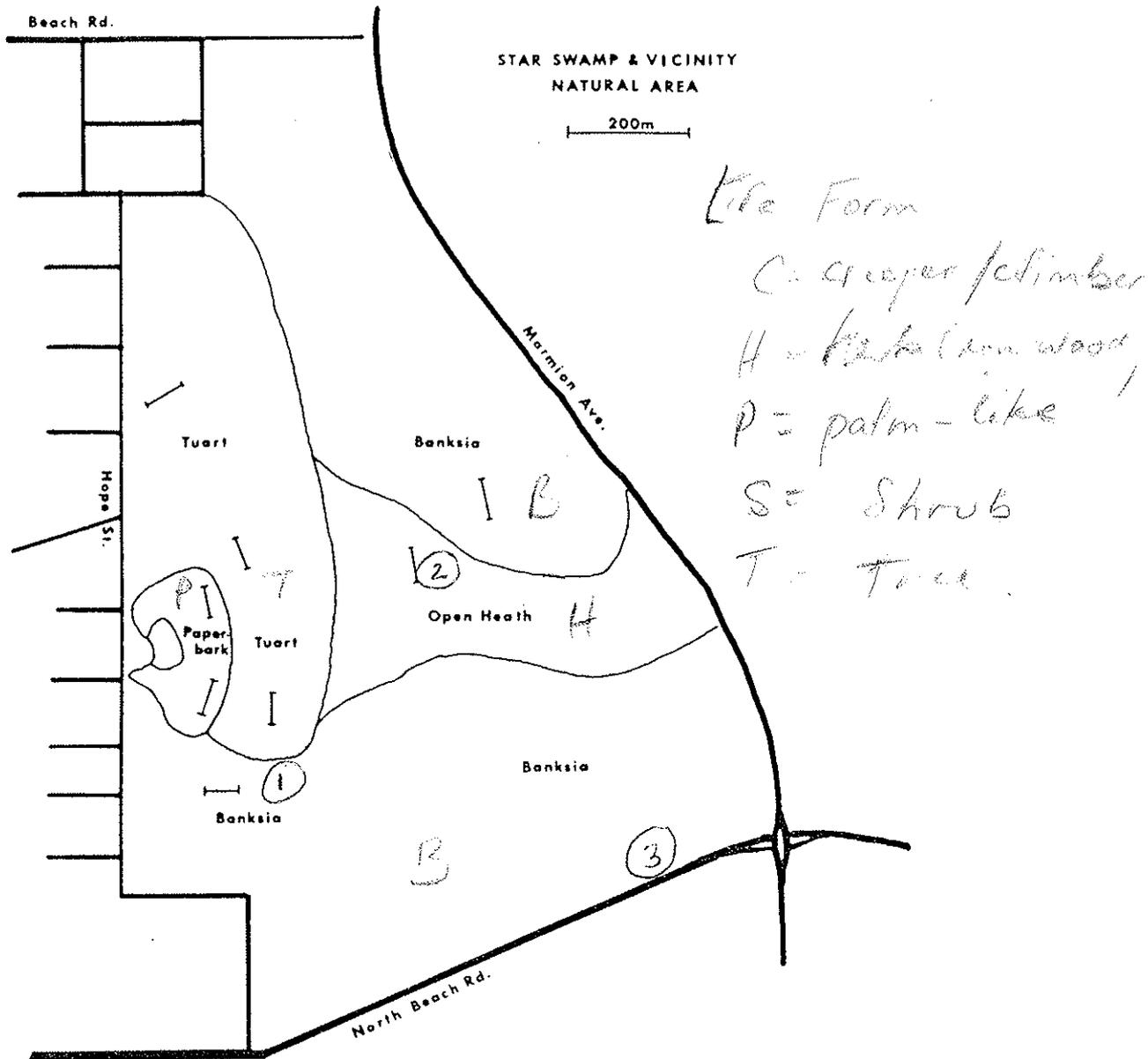


Fig. 2. Map of study area showing the distribution of natural plant communities and locations of the vegetation sampling transects.

living tissue. The Paperbark canopy, on the other hand, was recorded almost entirely as living tissue. From the 50% canopy cover recorded in the Paperbark Woodland community, canopy cover dropped to 33% in the Tuart community. Tuart dominated the canopy density in the samples with *Eucalyptus marginata* (Jarrah) and the occasional *Banksia grandis* (Bull Banksia) and *Eucalyptus calophylla* (Marri) recorded. The 75% living tissue value for Tuart in this community indicated an improvement over the status of Tuart individuals in the Paperbark Woodland. Cover density values for the Banksia Woodland were dominated by three Banksia species (*Banksia menziesii*, *B. attenuata*, and *B. prionotes*) with minor contributions by Tuart and *Casuarina fraserana* (Sheoak). The Open Heath community did not have a canopy dominated by tree growth forms.

Wetland  
No Site/Plot  
FCT 24  
Star 01 & 02

FCT  
28  
Star 03

K35



5129 WA 2939(C) METRO STREET DIRECTORY & EXT. RUN 7 (5102-5203) 1:20000 5.1.91

Star Swamp

Sys-6 update sites  
Sept. 1994.

## R. A. O. U. TRACKING DATABASE

23/06/96

PARK SIGHTINGS REPORT

Page No.

1

Star Swamp (M35)

ORDER:	REF:	BIRD NAME	NO. SIGHTINGS
0022	0203	Black Swan	2
0025	0207	Australian Shelduck	3
0028	0202	Australian Wood Duck	7
0031	0948	Mallard	3
0032	0208	Pacific Black Duck	17
0035	0211	Grey Teal	6
0036	0210	Chestnut Teal	1
0039	0213	Pink-eared Duck	3
0040	0215	Hardhead	3
0041	0061	Australasian Grebe	8
0129	0100	Little Pied Cormorant	2
0139	0188	White-faced Heron	6
0145	0187	Great Egret	2
0150	0192	Nankeen Night Heron	3
0157	0179	Australian White Ibis	8
0160	0182	Yellow-billed Spoonbill	2
0165	0232	Black-shouldered Kite	2
0175	0221	Brown Goshawk	4
0183	0235	Australian Hobby	6
0187	0240	Nankeen Kestrel	5
0204	0058	Purple Swamphen	13
0205	0056	Dusky Moorhen	3
0208	0059	Eurasian Coot	12
0309	0953	Common Tern	1
0324	0957	Rock Dove	5
0326	0988	Laughing Turtle-Dove	20
0327	0989	Spotted Turtle-Dove	6
036A	1266	White-tailed Black-Cockatoo	1
0359	0273	Galah	15
0362	0271	Little Corella	1
0366	0254	Rainbow Lorikeet	7
0386	0294	Australian Ringneck	21
0441	0335	Fork-tailed Swift	1
0446	0322	Laughing Kookaburra	18
0451	0326	Sacred Kingfisher	6
0453	0329	Rainbow Bee-eater	4
0471	0532	Splendid Fairy-wren	3
0476	0535	White-winged Fairy-wren	3
0492	0976	Striated Pardalote	5
0512	0465	Weebill	3
0517	0463	Western Gerygone	5
0524	0476	Inland Thornbill	3
0528	0472	Western Thornbill	1

0531	0486	Yellow-rumped Thornbill	3	7
0537	0638	Red Wattlebird		21
0561	0608	Singing Honeyeater		19
0583	0597	Brown Honeyeater		17
0587	0631	New Holland Honeyeater	4	8
0588	0632	White-cheeked Honeyeater	4	4
0597	0592	Western Spinebill		2
0653	0401	Rufous Whistler		2
0671	0415	Magpie-Lark		8
0673	0361	Grey Fantail		8
0676	0364	Willie Wagtail		16
0678	0424	Black-faced Cuckoo-shrike		5
0692	0547	Dusky Woodswallow	4	1
0695	0702	Grey Butcherbird		19
0698	0705	Australian Magpie		21
0706	0930	Australian Raven		21
0763	0357	Welcome Swallow		9
0765	0359	Tree Martin		11
0768	0524	Clamorous Reed-Warbler		1
0781	0574	Silvereye		16

Page No.

2

\*\*\* END OF REPORT \*\*\*

① 1  
 ②  
 ③ 9  
 ④ 4

SUMMARY REPORT

TOTAL BIRDS SIGHTED	:	65
TOTAL NUMBER OF CARDS	:	21

\*\*\* END OF SUMMARY \*\*\*

Plotorso	Weed	Genera	SpecificEpithet	InfraSp	InfraSpecificEp	Family
star01		Acacia	pulchella			Mimosaceae
star01		Acacia	rostellifera			Mimosaceae
star01		Austrostipa	flavescens			Poaceae
star01		Baeckea	crispiflora			Myrtaceae
star01		Burchardia	congesta			Colchicaceae
star01		Caesia	micrantha			Anthericaceae
star01		Caladenia	latifolia			Orchidaceae
star01		Calothamnus	quadrifidus			Myrtaceae
star01		Conostylis	aculeata			Haemodoraceae
star01		Crassula	colorata	var.	colorata	Crassulaceae
star01		Daviesia	divaricata	subsp.	divaricata	Papilionaceae
star01		Dianella	revoluta	var.	divaricata	Phormiaceae
star01		Dryandra	sessilis	var.	sessilis	Proteaceae
star01		Eucalyptus	gomphocephala	var.	gomphocephala	Myrtaceae
star01		Gompholobium	tomentosum			Papilionaceae
star01		Hakea	lissocarpha			Proteaceae
star01		Hardenbergia	comptoniana			Papilionaceae
star01		Hibbertia	hypericoides			Dilleniaceae
star01		Jacksonia	sericea			Papilionaceae
star01		Kennedia	prostrata			Papilionaceae
star01		Lepidosperma	squamatum			Cyperaceae
star01		Leucopogon	propinquus			Epacridaceae
star01		Lomandra	maritima			Dasyopogonaceae
star01		Melaleuca	huegelii	subsp.	huegelii	Myrtaceae
star01		Phyllanthus	calycinus			Euphorbiaceae
star01		Pimelea	calcicola			Thymelaeaceae
star01		Poa	porphyroclados			Poaceae
star01		Poranthera	microphylla			Euphorbiaceae
star01		Sowerbaea	laxiflora			Anthericaceae
star01		Tricoryne	elatior			Anthericaceae
star01		Xanthorrhoea	preissii			Xanthorrhoeaceae
star01	*	Anagallis	arvensis var. arvensis FP			Primulaceae
star01	*	Avena	fatua			Poaceae
star01	*	Briza	maxima			Poaceae
star01	*	Briza	minor			Poaceae
star01	*	Bromus	diandrus			Poaceae
star01	*	Cerastium	glomeratum			Caryophyllaceae
star01	*	Ehrharta	calycina			Poaceae
star01	*	Ehrharta	longiflora			Poaceae
star01	*	Gladiolus	caryophyllaceus			Iridaceae
star01	*	Hypochaeris	glabra			Asteraceae
star01	*	Lagurus	ovatus			Poaceae
star01	*	Lupinus	cosentinii			Papilionaceae
star01	*	Moraea	flaccida			Iridaceae
star01	*	Pelargonium	capitatum			Geraniaceae
star01	*	Petrorhagia	dubia			Caryophyllaceae

Plotorso	Weed	Genera	SpecificEpithet	InfraSp	InfraSpecificEp	Family
star01	*	Trifolium	campestre			Papilionaceae
star01	*	Vicia	sativa			Papilionaceae
star02		Acacia	pulchella			Mimosaceae
star02		Acanthocarpus	preissii			Dasypogonaceae
star02		Austrostipa	flavescens			Poaceae
star02		Caesia	micrantha			Anthericaceae
star02		Conostylis	aculeata			Haemodoraceae
star02		Crassula	closiana			Crassulaceae
star02		Crassula	colorata	var.	colorata	Crassulaceae
star02		Dianella	revoluta	var.	divaricata	Phormiaceae
star02		Eucalyptus	gomphocephala	var.	gomphocephala	Myrtaceae
star02		Haemodorum	paniculatum			Haemodoraceae
star02		Hakea	prostrata			Proteaceae
star02		Jacksonia	sternbergiana			Papilionaceae
star02		Macrozamia	riedlei			Zamiaceae
star02		Ozothamnus	cordatus			Asteraceae
star02		Sowerbaea	laxiflora			Anthericaceae
star02		Tricoryne	elator			Anthericaceae
star02	*	Anagallis	arvensis var. arvensis FP			Primulaceae
star02	*	Brassica	tournefortii			Brassicaceae
star02	*	Briza	maxima			Poaceae
star02	*	Briza	minor			Poaceae
star02	*	Dischisma	capitatum			Scrophulariaceae
star02	*	Ehrharta	calycina			Poaceae
star02	*	Ehrharta	longiflora			Poaceae
star02	*	Heliophila	pusilla			Brassicaceae
star02	*	Hypochaeris	glabra			Asteraceae
star02	*	Isolepis	marginata			Cyperaceae
star02	*	Lagurus	ovatus			Poaceae
star02	*	Pelargonium	capitatum			Geraniaceae
star02	*	Pentaschistis	airoides			Poaceae
star02	*	Petrorhagia	dubia			Caryophyllaceae
star02	*	Silene	gallica			Caryophyllaceae
star02	*	Sparaxis	bulbifera			Iridaceae
star02	*	Stellaria	media			Caryophyllaceae
star02	*	Trifolium	campestre			Papilionaceae
star03		Acacia	pulchella			Mimosaceae
star03		Alexgeorgea	nitens			Restionaceae
star03		Allocasuarina	fraseriana			Casuarinaceae
star03		Asteridea	pulverulenta			Asteraceae
star03		Banksia	attenuata			Proteaceae
star03		Banksia	menziesii			Proteaceae
star03		Burchardia	congesta			Colchicaceae
star03		Caladenia	flava	subsp.	flava	Orchidaceae
star03		Caladenia	georgei			Orchidaceae
star03		Calandrinia	corrigioloides			Portulacaceae

Plotorso	Weed	Genera	SpecificEpithet	InfraSp	InfraSpecificEp	Family
star03		Centrolepis	drummondiana			Centrolepidaceae
star03		Conostylis	aculeata			Haemodoraceae
star03		Corynotheca	micrantha	var.	micrantha	Anthericaceae
star03		Desmocladius	fasciculatus			Restionaceae
star03		Dianella	revoluta	var.	divaricata	Phormiaceae
star03		Dryandra	nivea	subsp.	nivea	Proteaceae
star03		Haemodorum	paniculatum			Haemodoraceae
star03		Hakea	lissocarpa			Proteaceae
star03		Hibbertia	hypericoides			Dilleniaceae
star03		Homalosciadiu	homalocarpum			Apiaceae
star03		Hybanthus	calycinus			Violaceae
star03		Jacksonia	sericea			Papilionaceae
star03		Jacksonia	sternbergiana			Papilionaceae
star03		Lagenophora	huegelii			Asteraceae
star03		Lepidosperma	squamatum			Cyperaceae
star03		Lomandra	hermaphrodita			Dasyogonaceae
star03		Macrozamia	riedlei			Zamiaceae
star03		Mesomelaena	pseudostygia			Cyperaceae
star03		Petrophile	brevifolia	subsp.	brevifolia	Proteaceae
star03		Podolepis	gracilis			Asteraceae
star03		Poranthera	microphylla			Euphorbiaceae
star03		Pyrorchis	nigricans			Orchidaceae
star03		Scaevola	canescens			Goodeniaceae
star03		Scaevola	repens	var.	angustifolia	Goodeniaceae
star03		Schoenus	clandestinus			Cyperaceae
star03		Sowerbaea	laxiflora			Anthericaceae
star03		Stylidium	calcaratum			Stylidiaceae
star03		Synaphea	spinulosa			Proteaceae
star03		Trachymene	pilosa			Apiaceae
star03		Triglochin	centrocarpa			Juncaginaceae
star03		Wahlenbergia	preissii			Campanulaceae
star03		Xanthorrhoea	preissii			Xanthorrhoeacea
star03		Xanthosia	huegelii	subsp.	huegelii	Apiaceae
star03	*	Anagallis	arvensis var. arvensis	FP		Primulaceae
star03	*	Ehrharta	longiflora			Poaceae
star03	*	Freesia	sp. (hybrid)			Iridaceae
star03	*	Gladiolus	caryophyllaceus			Iridaceae
star03	*	Heliophila	pusilla			Brassicaceae
star03	*	Hypochaeris	glabra			Asteraceae
star03	*	Isolepis	marginata			Cyperaceae
star03	*	Sonchus	oleraceus			Asteraceae
star03	*	Ursinia	anthemoides			Asteraceae

Plotorso	Weed	Genera	SpecificEpithet	InfraSp	InfraSpecificEp	Family
star01		Acacia	rostellifera			Mimosaceae
star03		Acacia	pulchella			Mimosaceae
star01		Acacia	pulchella			Mimosaceae
star02		Acacia	pulchella			Mimosaceae
star02		Acanthocarpus	preissii			Dasypogonaceae
star03		Alexgeorgea	nitens			Restionaceae
star03		Allocasuarina	fraseriana			Casuarinaceae
star03	*	Anagallis	arvensis var. arvensis FP			Primulaceae
star01	*	Anagallis	arvensis var. arvensis FP			Primulaceae
star02	*	Anagallis	arvensis var. arvensis FP			Primulaceae
star03		Asteridea	pulverulenta			Asteraceae
star01		Austrostipa	flavescens			Poaceae
star02		Austrostipa	flavescens			Poaceae
star01	*	Avena	fatua			Poaceae
star01		Baeckea	crispiflora			Myrtaceae
star03		Banksia	menziesii			Proteaceae
star03		Banksia	attenuata			Proteaceae
star02	*	Brassica	tournefortii			Brassicaceae
star02	*	Briza	maxima			Poaceae
star02	*	Briza	minor			Poaceae
star01	*	Briza	minor			Poaceae
star01	*	Briza	maxima			Poaceae
star01	*	Bromus	diandrus			Poaceae
star03		Burchardia	congesta			Colchicaceae
star01		Burchardia	congesta			Colchicaceae
star02		Caesia	micrantha			Anthericaceae
star01		Caesia	micrantha			Anthericaceae
star01		Caladenia	latifolia			Orchidaceae
star03		Caladenia	flava	subsp.	flava	Orchidaceae
star03		Caladenia	georgei			Orchidaceae
star03		Calandrinia	corrigioloides			Portulacaceae
star01		Calothamnus	quadrifidus			Myrtaceae
star03		Centrolepis	drummondiana			Centrolepidaceae
star01	*	Cerastium	glomeratum			Caryophyllaceae
star02		Conostylis	aculeata			Haemodoraceae
star03		Conostylis	aculeata			Haemodoraceae
star01		Conostylis	aculeata			Haemodoraceae
star03		Corynotheca	micrantha	var.	micrantha	Anthericaceae
star01		Crassula	colorata	var.	colorata	Crassulaceae
star02		Crassula	closiana			Crassulaceae
star02		Crassula	colorata	var.	colorata	Crassulaceae
star01		Daviesia	divaricata	subsp.	divaricata	Papilionaceae
star03		Desmocladius	fasciculatus			Restionaceae
star01		Dianella	revoluta	var.	divaricata	Phormiaceae
star02		Dianella	revoluta	var.	divaricata	Phormiaceae
star03		Dianella	revoluta	var.	divaricata	Phormiaceae
star02	*	Dischisma	capitatum			Scrophulariaceae
star03		Dryandra	nivea	subsp.	nivea	Proteaceae
star01		Dryandra	sessilis	var.	sessilis	Proteaceae
star01	*	Ehrharta	longiflora			Poaceae
star01	*	Ehrharta	calycina			Poaceae
star02	*	Ehrharta	longiflora			Poaceae
star02	*	Ehrharta	calycina			Poaceae
star03	*	Ehrharta	longiflora			Poaceae
star01		Eucalyptus	gomphocephala	var.	gomphocephala	Myrtaceae
star02		Eucalyptus	gomphocephala	var.	gomphocephala	Myrtaceae

Plotorso	Weed	Genera	SpecificEpithet	InfraSp	InfraSpecificEp	Family
star03	*	Freesia	sp. (hybrid)			Iridaceae
star01	*	Gladiolus	caryophyllaceus			Iridaceae
star03	*	Gladiolus	caryophyllaceus			Iridaceae
star01		Gompholobium	tomentosum			Papilionaceae
star02		Haemodorum	paniculatum			Haemodoraceae
star03		Haemodorum	paniculatum			Haemodoraceae
star03		Hakea	lissocarpha			Proteaceae
star01		Hakea	lissocarpha			Proteaceae
star02		Hakea	prostrata			Proteaceae
star01		Hardenbergia	comptoniana			Papilionaceae
star02	*	Heliophila	pusilla			Brassicaceae
star03	*	Heliophila	pusilla			Brassicaceae
star03		Hibbertia	hypericoides			Dilleniaceae
star01		Hibbertia	hypericoides			Dilleniaceae
star03		Homalosciadiu	homalocarpum			Apiaceae
star03		Hybanthus	calycinus			Violaceae
star02	*	Hypochaeris	glabra			Asteraceae
star01	*	Hypochaeris	glabra			Asteraceae
star03	*	Hypochaeris	glabra			Asteraceae
r03	*	Isolepis	marginata			Cyperaceae
star02	*	Isolepis	marginata			Cyperaceae
star02		Jacksonia	sternbergiana			Papilionaceae
star03		Jacksonia	sternbergiana			Papilionaceae
star01		Jacksonia	sericea			Papilionaceae
star03		Jacksonia	sericea			Papilionaceae
star01		Kennedia	prostrata			Papilionaceae
star03		Lagenophora	huegelii			Asteraceae
star01	*	Lagurus	ovatus			Poaceae
star02	*	Lagurus	ovatus			Poaceae
star01		Lepidosperma	squamatum			Cyperaceae
star03		Lepidosperma	squamatum			Cyperaceae
star01		Leucopogon	propinquus			Epacridaceae
star03		Lomandra	hermaphrodita			Dasypogonaceae
star01		Lomandra	maritima			Dasypogonaceae
star01	*	Lupinus	cosentinii			Papilionaceae
star02		Macrozamia	riedlei			Zamiaceae
ar03		Macrozamia	riedlei			Zamiaceae
star01		Melaleuca	huegelii	subsp.	huegelii	Myrtaceae
star03		Mesomelaena	pseudostygia			Cyperaceae
star01	*	Moraea	flaccida			Iridaceae
star02		Ozothamnus	cordatus			Asteraceae
star02	*	Pelargonium	capitatum			Geraniaceae
star01	*	Pelargonium	capitatum			Geraniaceae
star02	*	Pentaschistis	airoides			Poaceae
star03		Petrophile	brevifolia	subsp.	brevifolia	Proteaceae
star02	*	Petrorhagia	dubia			Caryophyllaceae
star01	*	Petrorhagia	dubia			Caryophyllaceae
star01		Phyllanthus	calycinus			Euphorbiaceae
star01		Pimelea	calcicola			Thymelaeaceae
star01		Poa	porphyroclados			Poaceae
star03		Podolepis	gracilis			Asteraceae
star01		Poranthera	microphylla			Euphorbiaceae
star03		Poranthera	microphylla			Euphorbiaceae
star03		Pyrorchis	nigricans			Orchidaceae
star03		Scaevola	repens	var.	angustifolia	Goodeniaceae
star03		Scaevola	canescens			Goodeniaceae

Plotorso	Weed	Genera	SpecificEpithet	InfraSp	InfraSpecificEp	Family
star03		Schoenus	clandestinus			Cyperaceae
star02	*	Silene	gallica			Caryophyllaceae
star03	*	Sonchus	oleraceus			Asteraceae
star03		Sowerbaea	laxiflora			Anthericaceae
star02		Sowerbaea	laxiflora			Anthericaceae
star01		Sowerbaea	laxiflora			Anthericaceae
star02	*	Sparaxis	bulbifera			Iridaceae
star02	*	Stellaria	media			Caryophyllaceae
star03		Stylidium	calcaratum			Stylidiaceae
star03		Synaphea	spinulosa			Proteaceae
star03		Trachymene	pilosa			Apiaceae
star02		Tricoryne	elatior			Anthericaceae
star01		Tricoryne	elatior			Anthericaceae
star01	*	Trifolium	campestre			Papilionaceae
star02	*	Trifolium	campestre			Papilionaceae
star03		Triglochin	centrocarpa			Juncaginaceae
star03	*	Ursinia	anthemoides			Asteraceae
star01	*	Vicia	sativa			Papilionaceae
star03		Wahlenbergia	preissii			Campanulaceae
r01		Xanthorrhoea	preissii			Xanthorrhoeacea
star03		Xanthorrhoea	preissii			Xanthorrhoeacea
star03		Xanthosia	huegelii	subsp.	huegelii	Apiaceae

# **Star Swamp Flora List**

from David Pike, Friends of Star Swamp, 29 May 1997

adapted from Bushland Reserve Management Plan (Loneragan 1987)

used in compilation of Total Flora data for Perth's Bushplan

(Department of Environmental Protection 1998)

1987 Management Plan  
(plus additions) This list

STAR SWAMP FLORA LIST  
from D. Pike

Add from  
Management Plan (1984)

ASU  
29 May 97  
typed list  
(from David Pike)

pencilled in 1987  
management plan

Family	87 M.P.	Species	Common Name
Agavaceae		* Agave americana	
		* Yucca elata	
Aizoaceae			
	✓	* Carpobrotus aequilaterus	Chilean Pigface
	1	* Carpobrotus edulis	Pigface
Alliaceae		* Coleria pubescens	
		* Tetragonia decumbens	
Amaranthaceae		* Allium trigetrum	
	✓ 2	Ptilotus drummondii	Narrowleaf Mulla Mulla
	0 3	Ptilotus manglesii	Pom-poms
	✓ 4	Ptilotus polystachyus	Prince of Wales Feather
	0 5	Ptilotus stirlingii	Stirling's Mulla Mulla
Anacardiaceae		* Schinus terebinthifolius	
Anthericaceae			
	✓ 6	Arthropodium capillipes	Chocolate Lily
	✓ 7	Caesia micrantha	Pale Grass Lily
	✓ 8	Corynotheca micrantha	Sand Lily
	✓ 9	Sowerbaea laxiflora	Purple Tassels
	0 10	Thysanotus asper	
	✓ 1	Thysanotus patersonii	Twining Fringe Lily
	✓ 2	Thysanotus sparteus	
	✓ 3	Thysanotus triandrus	
	✓ 4	Tricoryne elatior	Yellow Sand Lily
Amaryllidaceae		* Narcissus sp. 1	- Daffodil
Apiaceae		* Narcissus sp. 2	- Small-cupped Narcissus
	✓ 5	? Centella asiatica	Indian Pennywort
	✓ 6	Daucus glochidiatus	
	✓ 7	Eryngium pinnatifidum	Blue Devils
	✓	* Foeniculum vulgare	Fennel
	✓ 8	Homalosciadium verticillatum	Domin
	✓ 9	Trachymene pilosa	Native Carrot
	✓ 20	Xanthosia huegelii	
Asclepiadaceae			
	0	* Gomphocarpus fruticosus	Duck Bush
Asparagaceae			
	✓	* Asparagus asparagoides (= Myrsiphyllum a.)	Bridal Creeper
Asphodelaceae		* Asphodelus fistulosus	
Asteraceae		* Trachyandra divaricata	
	✓	* Arctotheca calendula	Cape Weed
	✓ 1	* Aster subulatus	Bush Starwort
	✓ 2	Brachyscome iberidifolia	Swan River Daisy
	✓ 3	Cotula coronopifolia	Water Buttons
	✓ 4	Craspedia Sp.	Billy Buttons
	✓	* Hedypnois rhagadioloides	Cretan Weed
	✓	* Hypochaeris glabra	Smooth Cat's Ear
	✓	* Hypochaeris radicata	Flatweed
	✓ 5	Lagenifera stipitata	Common Lagenifera
	✓ 6	* Osteospermum clandestinum	Stinking Roger
	✓ 7	Podolepis gracilis	Slender Podolepis
	✓ 8	Podolepis nutans	Nodding Podolepis
	✓ 9	Podotheca angustifolia	Sticky Longheads
	0 30	Podotheca chrysantha	Yellow Podotheca
	0 1	Podotheca gnaphalioides	Golden Longheads
	✓	* Sonchus olearaceus	Common Sowthistle
	✓	* Ursinea anthemoides	Ursinea
	✓ 2	Waitzia suaveolens	Fragrant Waitzia

Natives: 29 13 : weeds

Natives: 7 15 : weeds

STAR SWAMP FLORA LIST

Family		Species	Common Name
Brassicaceae		* <i>Brassica tournefortii</i>	
	✓	* <i>Heliophila pusilla</i> * <i>Lobularia maritima</i>	
	✓	* <i>Raphanus raphanistrum</i> * <i>Rorippa</i>	Wild Radish
	✓	* <i>Sinapis arvensis</i> <i>nasturtium-aquaticum</i>	Charlock
Campanulaceae			
	✓	* <i>Wahlenbergia capensis</i>	Cape Bluebell X
	✓ 3	<i>Wahlenbergia preissii</i> (:W. sp.)	Austral Bluebell X
Caryophyllaceae			
	✓	* <i>Cerastium glomeratum</i>	Mouse Ear Chickweed
	✓	* <i>Petrorhagia velutina</i> * <i>Spergula</i>	Velvet Pink
	✓	* <i>Silene gallica</i> <i>arenensis</i>	French Catchfly
	✓	* <i>Stellaria media</i>	Chickweed
Cucurbitaceae			
	✓ 4	<i>Allocasuarina fraseriana</i>	Sheoak
	✓ 5	<i>Allocasuarina humilis</i>	Dwarf Sheoak
Centrolepidaceae			
	0 6	<i>Centrolepis aristata</i>	Pointed Centrolepis
	0 7	<i>Centrolepis drummondiana</i>	
Chenopodiaceae			
	✓ 8	<i>Rhagodia baccata</i> ssp. <i>baccata</i>	Berry Saltbush
Colchicaceae			
	✓ 9	<i>Burchardia umbellata</i>	Milkmaids
	0	<i>Wurmbea pygmaea</i>	
Convolvulaceae		* <i>Ipomoea indica</i>	
Crassulaceae			
	✓ 40	<i>Crassula colorata</i>	Dense Stoncrop
	✓ 1	<i>Crassula</i> Sp.	
Cyperaceae			
	✓ 2	<i>Baumea juncea</i>	
	✓ 3	<i>Bolboschoenus caldwellii</i>	Marsh Clubrush
	✓ 4	<i>Carex preissii</i>	
	✓ 5	<i>Gahnia trifida</i>	Coast Swa Sedge
	✓ 6	<i>Isolepis nodosus</i>	
	✓ 7	<i>Lepidosperma gracile</i>	
	✓ 8	<i>Lepidosperma tenue</i>	
	✓ 9	<i>Mesomelaena stygia</i> <i>pseudostygia</i>	Semaphore Sedge X
	✓ 50	<i>Schoenus trachycarpus</i>	Rough Fruited Bogrush
	0 1	<i>Schoenus grandiflorus</i>	Large Flowered Bogrush
	0 2	<i>Schoenus lanatus</i>	Wooly Bog-rush
	3	<i>Scirpus maritimus</i> = <i>Bolboschoenus caldwellii</i>	
	✓ 4	<i>Scirpus validus</i> = <i>Schoenoplectus</i> v.	
	✓ 5	<i>Tetragonia octandra</i> <i>Schoenoplectus articulatus</i> (L.) Palla <i>clerkii</i> in <i>herbesum</i> <i>probably Baumea articulata</i>	
Dasygongonaceae			
	✓ 6	<i>Acanthocarpus preissii</i>	Prickle Lily
	✓ 7	<i>Lomandra hermaphrodita</i>	
	✓ 8	<i>Lomandra maritima</i>	

STAR SWAMP FLORA LIST

Family		Species	Common Name
	0 9	<i>Lomandra micrantha</i>	
	✓ 60	<i>Lomandra preissii</i>	
✓ Dilleniaceae			
	- 1	<i>Hibbertia hypericoides</i>	Yellow Buttercups
	✓ 2	<i>Hibbertia racemosa</i>	Stalked Guinea Flower
	- 3	<i>Hibbertia subvaginata</i>	
✓ Droseraceae			
	- 4	<i>Drosera erythrorhiza</i>	Red Ink Sundew
	- 5	<i>Drosera macrantha</i>	Bridal Rainbow
✓ Epacridaceae			
	✓ 6	<i>Astroloma ciliatum</i> s <i>Astroloma microcalyx</i>	
	✓ 7	<i>Astroloma pallidum</i> <i>Astroloma</i> sp.	Kick Bush
	- 8	<i>Conostephium pendulum</i>	Pearl Flower
	0 9	<i>Conostephium minus</i>	
	- 70	<i>Leucopogon parviflorus</i>	Coast Beard-heath
	✓ 1	<i>Leucopogon propinquus</i>	
✓ Euphorbiaceae			
	✓ 2	<i>Adriana quadripartita</i>	Rare Bitterbush
	0	* <i>Euphorbia peplus</i>	Petty Spurge
	0	* <i>Euphorbia terracina</i>	Geraldton Carnation Weed
	✓? 3	<i>Monotaxis grandiflora</i> - ? (= <i>M. megacarpa</i> ?)	
	- 4	<i>Phyllanthus calycinus</i> <i>Monotaxis</i> sp.	False Boronia
	- 5	<i>Ricinocarpos glaucus</i>	Wedding Bush
	-	* <i>Ricinus communis</i>	Castor Oil Bush
✓ Fumariaceae			
	✓!	* <i>Fumaria capreolata</i> (= <i>F. muralis</i> ?)	Whiteflower Fumitory
✓ Geraniaceae			
	✓	* <i>Erodium botryis</i>	
	✓	* <i>Erodium cicutarium</i> * <i>Geranium molle</i>	Common Storksbill
	✓	* <i>Pelargonium capitatum</i> <i>G. solanderi</i>	Rose Geranium
		* <i>Geranium/Pelargonium</i> sp. (garden cultivar)	
✓ Goodeniaceae			
	✓ 6	<i>Dampiera linearis</i>	
	- 7	<i>Lechenaultia linarioides</i> f. <i>latifolia</i>	Yellow Leschenaultia
	✓ 8	<i>Scaevola canescens</i> <i>Scaevola crossifolia</i>	Grey Scaevola
	0 9	<i>Scaevola globulifera</i>	
	✓ 80	<i>Scaevola holosericea</i>	
	✓ 1	<i>Scaevola paludosa</i>	
	0 2	<i>Scaevola thesioides</i>	
✓ Gyrostemonaceae			
	0 3	<i>Tersonia cyathiflora</i>	Button Creeper
✓ Haemodoraceae			
	✓ 4	<i>Anigozanthos humilis</i>	Cat's Paw
	✓ 5	<i>Anigozanthos manglesii</i>	Kangaroo Paw
	✓ 6	<i>Conostylis aculeata</i> ssp. <i>aculeata</i>	
	✓ 7	<i>Conostylis candicans</i> ssp. <i>calicicola</i>	Grey Cottonhead
	- 8	<i>Haemodorum paniculatum</i>	Mardja
	✓ 9	<i>Haemodorum spicatum</i>	Mardja

STAR SWAMP FLORA LIST

Family		Species	Common Name
✓ Haloragaceae	0 90	Glischrocaryon ? aureum	Common Pop Flower
✓ Iridaceae	0	* Babiana stricta	
	✓	* Chasmanthe aethiopica (Chasmanthe floribunda)	
	✓	* Ferraria crispa	
	✓	* Freesia refracta (F. aff. leichtlinii?)	
	✓	* Gladiolus caryophyllaceus	Wild Gladiolus
	✓	* Homeria flaccida	One-leaf Cape Tulip
	✓ 1	Orthrosanthus laxus	Morning Iris
	✓ 2	Patersonia occidentalis	Purple Flag
	✓	* Romulea rosea	Guildford Grass
	✓	* Sparaxis bulbifera * Romulea flava	Harlequin Flower X
✓ Juncaceae	✓ 3	Juncus kraussii	
✓ Juncaginaceae	✓ 4	Triglochin procera	
	✓ 5	Triglochin striata	
✓ Lamiaceae	✓ 6	Hemiandra pungens	Snake Bush
✓ Lauraceae		Caseytha sp.	
✓ Lobeliaceae	✓ 7	Lobelia alata	
	✓ 8	Lobelia gibbosa	Tall Lobelia
	✓ 9	Lobelia tenuior	Slender Lobelia
✓ Loganiaceae	✓ 100	Logania vaginalis	White Spray
✓ Lonicerales	✓ 1	Nuytsia floribunda	Christmas Tree
✓ Mimosaceae	✓ 2	Acacia cochlearis	Rigid Wattle
	✓ 3	Acacia cyclops	Red-eyed Wattle
	0 7	Acacia huegelii A. lasiocarpa	
	✓ 5	Acacia pulchella	Prickly Moses
	✓ 6	Acacia rostellifera	Summer Scented Wattle
	✓ 7	Acacia saligna	Orange Wattle
	✓ 8	Acacia stenoptera	Winged Wattle
	✓ 7	Acacia truncata	
	✓ 110	Acacia willdenowiana	Grass Wattle
✓ Moraceae		* Ficus carica	
✓ Myoporaceae	0 1	Eremophila glabra	Tar Bush
	✓ 2	Myoporum apiculatum	
	0 3	Myoporum caprarioides	
	✓ 4	Myoporum tetrandrum	
✓ Myrtaceae			

STAR SWAMP FLORA LIST

Family		Species	Common Name
	✓ 5	Baeckea robusta * <i>Agonis flexuosa</i>	
	✓ 6	Calothamnus quadrifidus ( <i>not sansumensis</i> )	One-sided Bottlebrush X
	✓ 7	* Chamelaucium uncinatum	
	✓ 7	Eucalyptus calophylla <i>Euc. decipiens</i>	Marri
	✓ 8	Eucalyptus gomphocephala	Tuart
	✓ 9	Eucalyptus marginata	Jarra
	✓ 120	Eucalyptus todtiana ( <i>E. wandoo?</i> )	Prickly Bark X
	0 1	Kunzea ericifolia	
	✓ 1	* Leptospermum laevigatum	
	✓ 2	Melaleuca acerosa <i>M. scabra</i>	Coastal Honeymyrtle
	✓ 3	Melaleuca huegelii <i>M. teretifolia</i>	Bracelet Honeymyrtle
	✓ 4	Melaleuca raphiophylla	
	0 5	Verticordia densiflora	
✓ Oleaceae			
	✓	* Olea europaea	Olive
✓ Labiatae			
✓ Cistaceae		* <i>Oenothera drummondii</i>	
	0? 6	Caladenia arenicola = <i>Cal. longicauda?</i>	Carousel Spider Orchid
	✓ 7	Caladenia filamentosa	
	✓ 8	Caladenia flava <i>C. (huegelii) paludosa</i>	Cowslip Orchid
	✓ 9	Caladenia latifolia	Pink Fairy Orchid
	✓ 130	Cyanicula deformis	Blue Fairy Orchid
	0 1	Cyanicula gemmata	Blue China Orchid
	0 2	Diuris corymbosa	Donkey Orchid
	✓ 3	Diuris longifolia	Donkey Orchid
	✓ 4	Leptoceras menziesii ( <i>Cal. menz.</i> )	Rabbit Orchid
	✓ 5	Microtis Sp.	
	✓ 6	Prasophyllum giganteum	Fringed Leek Orchid
	0	Pterostylis recurva = <i>Pt. scabra var robusta?</i>	Jug Orchid
	✓	Pterostylis vittata	Greenhood
	✓	Pyrorchis nigricans	Red Beak Orchid
✓ Orobanchaceae			
	✓	* Orobanche australiana (= <i>O. minor var. ausl.</i> )	Broom Rape
✓ Oxalidaceae			
	✓	? Oxalis corniculata	Yellow Wood Sorrel
	✓	* Oxalis pes-caprae	Sour-sob
	✓	* Oxalis purpurea	Purple Oxalis
✓ Papilionaceae			
	✓	Bossiaea eriocarpa * <i>Cytisus proliferus</i>	Common Brown Pea
	0	Daviesia divaricata <i>Daviesia gracilis</i>	Marno
	✓	Daviesia nudiflora <i>Daviesia incrassata</i>	
	0	Daviesia triflora	
	✓	Gompholobium tomentosum	
	✓	Hardenbergia comptoniana	Native Wisteria
	✓	Hovea pungens	Devils Pins
	✓	Hovea trisperma var trisperma	Common Hovea
	✓	Isotropis cuneifolia	Granny's Bonnets
	✓	Jacksonia furcellata <i>Jacksonia hakioide</i>	Grey Stinkwood
	✓	Jacksonia sericea	<i>J. stricta</i> or <i>J. sericea?</i>
	✓	Jacksonia sternbergiana	Green Stinkwood
	✓	Kennedia prostrata	Scarlet Runner

1987  
Management

## STAR SWAMP FLORA LIST

Additional (+ notes)

Pencilled in to

Family	Plan (plus additions)	Species	Additional (+ notes) from '87 Mngs. Plan	Common Name	'87 mngs. Plan
	✓	* Lupinus cosentinii	* Medicago sp.	Sandplain Lupin	
	✓	* Melilotus indicus		Hexham Scent	
	✓	Nemcia capitata		Eggs & Bacon	
	✓	Nemcia reticulata			
	✓	Templetonia retusa		Cockie's Tongues	
	✓	* Trifolium angustifolium		Narrow Leaf Clover	
	✓	* Trifolium fragiferum		Strawberry Clover	
	✓	* Vicia sativa		Vetch	
Phormiaceae					
	✓	Dianella revoluta	= D. divaricata	Dianella, Native Flax	
	✓	Stypandra glauca	(Stypandra grandiflora)	False Blind Grass	
Pittosporaceae					
	•	Pronaya fraseri		Elegant Pronaya	
Plumbaginaceae			Sollya heterophylla		X
	✓	* Plantago exilis	(= Plantago sp.)	Plantain	
Plumbaginaceae					
	✓	* Limonium sinuatum		Perennial Sea Lavendar	
Poaceae					
	✓	* Avena barbata	* Aiza coryophylla	Bearded Oat	
	✓	* Briza maxima	* Avena sativa	Quaking Grass	X
	✓	* Briza minor		Shivery Grass	
	✓	* Bromus diandrus		Great Brome	
	✓	* Cortaderia seloana		Pampas Grass	
	✓	* Cynodon dactylon		Couch	
	✓	* Ehrharta calycina		Perennial Veldtgrass	
	✓	* Ehrharta longiflora	* Eragrostis curvula	Annual Veldtgrass	
	✓	* Gastridium phleoides		Nit Grass	
	✓	* Hordeum leporinum	* Imperata cylindrica	Barley Grass	
	✓	* Lagurus ovatus	* Lolium rigidum	Hare's Tail Grass	
	✓	* Sporobolus virginicus	* Paspalum scrobiculatum	Sand couch	
	✓	* Stenotaphrum secundatum	* Pennisetum clandest.	Buffalo grass	
	✓	Stipa variabilis	(? Tetraena laevis) or Therochaena stipoides	Spear Grass	X
Polygalaceae					
	o	Comesperma calymega		Blue-spike Milkwort	
	o	Comesperma confertum			
Polygonaceae					
	✓	* Emex australis		Double Gee	
	✓	* Rumex acetosa acetosella	* Rumex crispus		
Portulacaceae					
	✓	Calandrinea corrigioloides	C. eremaea ?	Strap Purslane	
	o	Calandrinea liniflora		Parakeelya	
	o	Calandrinea volubilis			
Potamogetonaceae			* Portulaca sp.		
	✓	Potamogeton pectinatus			
Primulaceae					

STAR SWAMP FLORA LIST

Family	Species	Common Name
✓	* Anagallis arvensis var arvensis	Scarlet Pimpernel
✓	* Anagallis arvensis var caerulea	Blue Pimpernel
✓	Samolus repens	
✓ Proteaceae		
✓	Banksia attenuata	Yellow Candle Banksia
✓	Banksia grandis	Bull Banksia
✓	Banksia menziesii	Firewood Banksia
✓	Banksia prionotes	Acorn Banksia
✓	Dryandra lindleyana (= D. nivea)	Honey-pots Dryandra
✓	Dryandra sessilis	Parrot Bush
✓	Grevillea crithmifolia	
✓	Grevillea preissii (= G. v. l.)	Spider-net Grevillea
✓	Grevillea vestita	
✓	Hakea lissocarpa	Honey Bush
✓	Hakea prostrata	Harsh Hakea
✓	Hakea ruscifolia	Candle Spike Hakea
✓	Persoonia saccata	Snottygobble
✓	Petrophile linearis P. aff. brevifolia	Pixie-mops
✓	Petrophile macrostachya	
✓	Petrophile media	
✓	Petrophile serruriae (= aff. serr.)	
✓	Stirlingia latifolia	Blue Boy
✓	Synaphea spinulosa	
✓ Ranunculaceae		
✓	Clematis microphylla	Slender Clematis
✓	Clematis pubescens	Common Clematis
✓	Ranunculus colonorum	
✓ Restionaceae		
✓	Loxocarya Sp. (= L. flexuosa)	
✓ Rhamnaceae		
✓	Cryptandra Sp. (= C. nutans?)	
✓	Spyridium globulosum	Basket Bush
✓	Spyridium tridentatum	
✓	Trymalium albicans (now: T. ledifolium)	
✓ Rubiaceae		
✓	Opercularia vaginata	Dog Weed
✓ Rutaceae		
✓	Eriostemon spicatus	Pepper & Salt
✓ Santalaceae		
✓	Exocarpos sparteus	Broom Ballart
✓	Santalum acuminatum	Qandong
✓ Scrophulariaceae		
✓	* Dischisma arenarium	
✓ Solanaceae		
✓	Anthocercis littorea	Yellow Tail Flower
✓	* Lycium ferocissimum	African Box Thorn

STAR SWAMP FLORA LIST

Family	Species	Common Name
✓	* Solanum nigrum	Black Berry Nightshade
✓	* Solanum sodomium	Apple of Sodom
0	Solanum symonii	
✓ Stackhousiaceae		
✓	Stackhousia huegelii	
✓ Stylidiaceae		
0	Levenhookia stipitata	Common Stylewort
✓	Stylidium brunonianum	Pink Fountain Triggerplant
✓	Stylidium calcaratum	Book Triggerplant
0	Stylidium junceum	Reed Triggerplant
0	Stylidium macrocarpum	Flagon Triggerplant
✓	Stylidium repens	Mat Triggerplant
0	Stylidium schoenoides	Cow Kicks
✓ Pimeliaceae		
✓	Pimelia calcicola	Limestone Banjine
✓	Pimelia rosea	Rose Banjine
✓	Pimelia suaveolens	
0	Pimelia sulphurea	Yellow Banjine
✓ Tropaeoleaceae		
0	* Tropaeolum majus	Nasturtium
✓ Typhaceae		
✓	* Typha orientalis	Bulrush
✓ Violaceae		
✓	Hybanthus calycinus	Native Violet
✓ Xanthorrhoeaceae		
0	Acanthocarpus preissii	Prickle Lily
✓	Xanthorrhoea preissii	Blackboy
✓ Zamiaceae		
✓	Macrozamia riedlei	Zamia

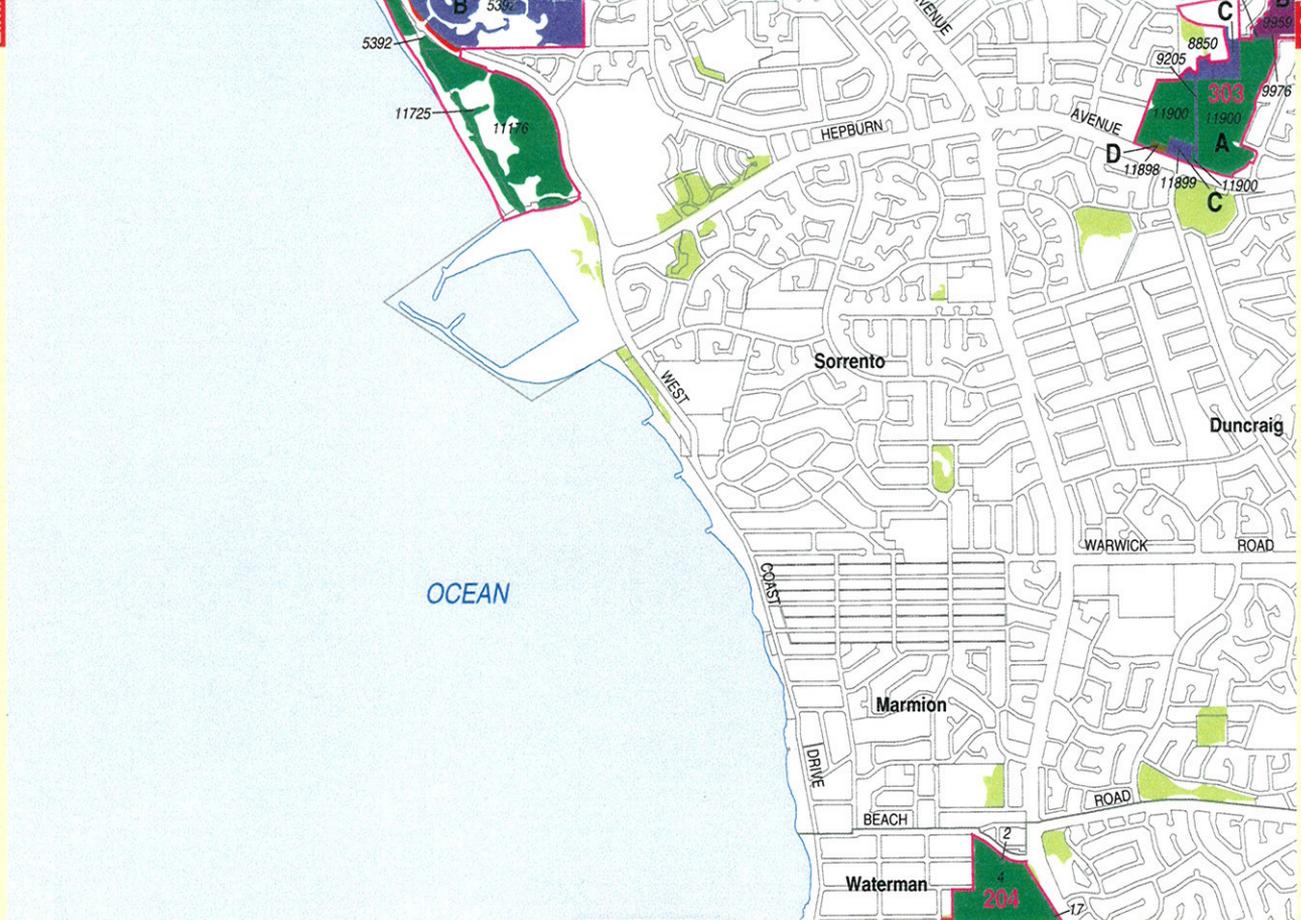
17 2

0 0

224 67

23 38

Totals: Natives: 247  
weeds: 105

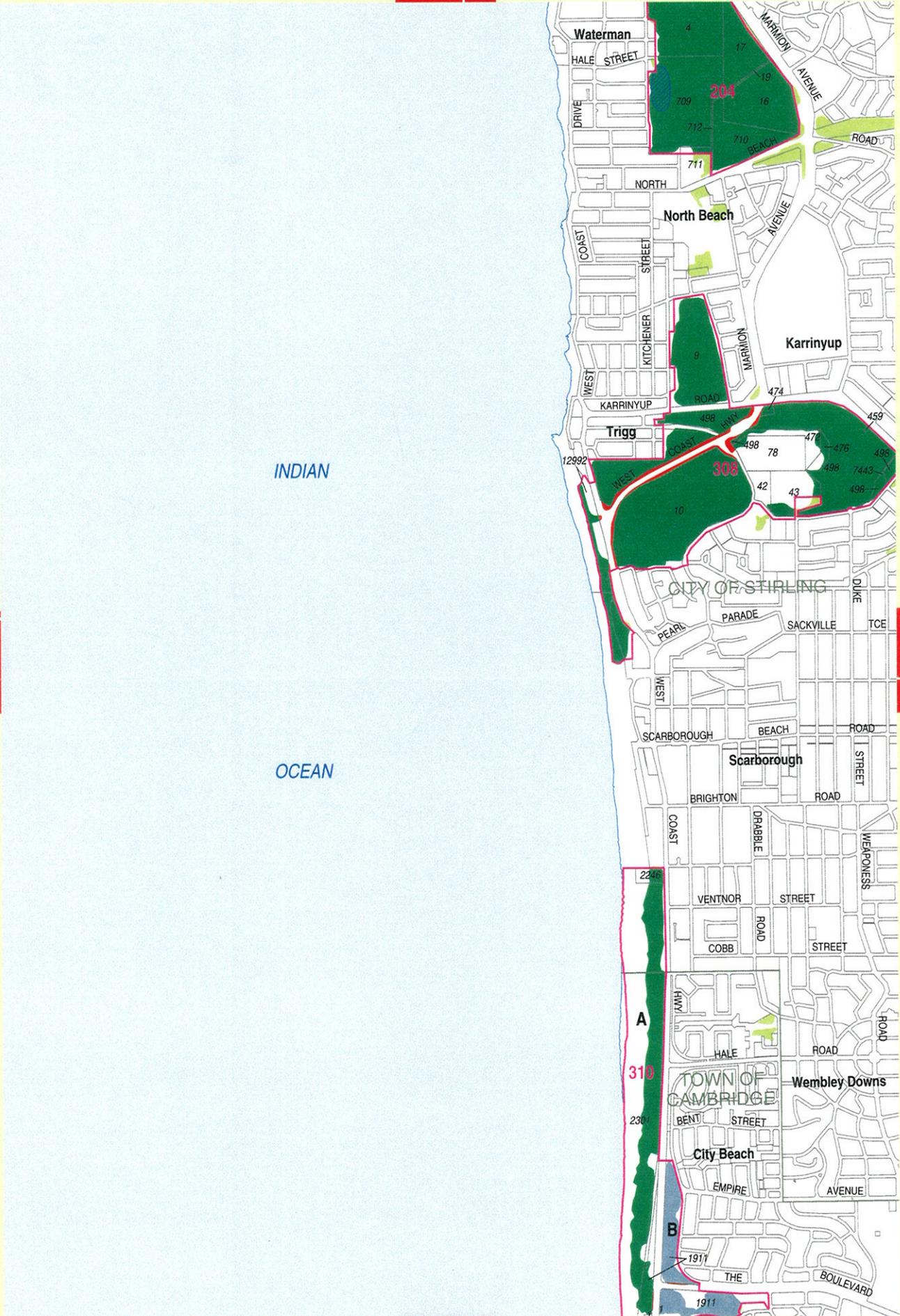


Joins Map 39

# Bush Forever Sites - Map Sheet 33

Limit of Study

Joins Map 40



**Key**

- Column 1** Area: Swamp/Plot source: Banksia Woodland (star 03), Heath (star 01),  
 Tuart Woodland (star 02)  
 (recorded by JJ Alford, BJ Keighery and NC Thorning for DEP 10&12/1994)
- Column 1** Life Form; tree, shrub, herb, rush/sedge (sedge layer species) and grass;
- Column 2** Flower colour
- Column 3** Pollination: food source (reward) and principal pollinators  
 (field observations and misc. references)
- Column 4** genus
- Column 5** species
- Column 6** Family

Plot/source	Life Form	Wet/Dry	Weed	Genus	Species	Family
Tuart W	tree	dry		Eucalyptus	gomphocephala	Myrtaceae
Tuart W	shrub	dry		Acacia	pulchella	Mimosaceae
Tuart W	shrub	dry		Hakea	prostrata	Proteaceae
Tuart W	shrub	dry		Jacksonia	sternbergiana	Papilionaceae
Tuart W	shrub	dry		Macrozamia	riedlei	Zamiaceae
Tuart W	shrub	dry		Ozothamnus	cordatus	Asteraceae
Tuart W	shrub	dry	*	Pelargonium	capitatum	Geraniaceae
Tuart W	sedge	dry		Isolepis	marginata	Cyperaceae
Tuart W	herb: annual	dry	*	Anagallis	arvensis var. arvensis FPR	Primulaceae
Tuart W	herb: annual	dry	*	Brassica	tournefortii	Brassicaceae
Tuart W	herb: annual	dry		Crassula	closiana	Crassulaceae
Tuart W	herb: annual	dry		Crassula	colorata	Crassulaceae
Tuart W	herb: annual	dry	*	Dischisma	capitatum	Scrophulariaceae
Tuart W	herb: annual	dry	*	Heliophila	pusilla	Brassicaceae
Tuart W	herb: annual	dry	*	Hypochoeris	glabra	Asteraceae
Tuart W	herb: annual	dry	*	Petrorhagia	dubia	Caryophyllaceae
Tuart W	herb: annual	dry	*	Silene	gallica	Caryophyllaceae
Tuart W	herb: annual	dry	*	Stellaria	media	Caryophyllaceae
Tuart W	herb: annual	dry	*	Trifolium	campestre	Papilionaceae
Tuart W	herb/shrub	dry		Acanthocarpus	preissii	Dasypogonaceae
Tuart W	herb perennial: annually renewed	dry		Haemodorum	paniculatum	Haemodoraceae
Tuart W	herb perennial: annually renewed	dry	*	Sparaxis	bulbifera	Iridaceae
Tuart W	herb perennial	dry		Caesia	micrantha	Anthericaceae
Tuart W	herb perennial	dry		Conostylis	aculeata	Haemodoraceae
Tuart W	herb perennial	dry		Dianella	revoluta	Phormiaceae
Tuart W	herb perennial	dry		Sowerbaea	laxiflora	Anthericaceae
Tuart W	herb perennial	dry		Tricoryne	elatior	Anthericaceae
Tuart W	grass	dry		Austrostipa	flavescens	Poaceae
Tuart W	grass	dry	*	Briza	maxima	Poaceae
Tuart W	grass	dry	*	Briza	minor	Poaceae
Tuart W	grass	dry	*	Ehrharta	calycina	Poaceae
Tuart W	grass	dry	*	Ehrharta	longiflora	Poaceae
Tuart W	grass	dry	*	Lagurus	ovatus	Poaceae
Tuart W	grass	dry	*	Pentaschistis	airoides	Poaceae

Flora of four habitats (vegetation types) in the Star Swamp Reserve  
 prepared for Skills for Nature Conservation Workshop June 2004 Bronwen Keighery (Department of Environment)

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Plot/source	Life Form	Wet/Dry	Weed	Genus	Species	Family
Swamp	tree	dry		Melaleuca	rhaphiophylla	Myrtaceae
Swamp	shrub	wet		Lobelia	alata	Lobeliaceae
Swamp	sedge	wet		Baumea	articulata	Cyperaceae
Swamp	sedge	wet		Baumea	juncea	Cyperaceae
Swamp	sedge	wet		Bolboschoenus	caldwellii	Cyperaceae
Swamp	sedge	wet		Gahnia	trifida	Cyperaceae
Swamp	rush	wet		Juncus	krausii	Juncaceae
Swamp	herb perennial: annually renewed	wet		Triglochin	huegelii	Juncaginaceae
Swamp	herb perennial: annually renewed	wet	*	Typha	orientalis	Typhaceae
Swamp	herb perennial	wet		Centella	cordifolia	Apiaceae
Swamp	herb perennial	wet		Sonchus	hydrophilus	Asteraceae
Heath	tree	dry		Eucalyptus	gomphocephala	Myrtaceae
Heath	shrub	dry		Acacia	pulchella	Mimosaceae
Heath	shrub	dry		Acacia	rostellifera	Mimosaceae
Heath	shrub	dry		Baekea	crispiflora	Myrtaceae
Heath	shrub	dry		Calothamnus	quadrididus	Myrtaceae
Heath	shrub	dry		Daviesia	divaricata	Papilionaceae
Heath	shrub	dry		Dryandra	sessilis	Proteaceae
Heath	shrub	dry		Gompholobium	tomentosum	Papilionaceae
Heath	shrub	dry		Hakea	lissocarpha	Proteaceae
Heath	shrub	dry		Hardenbergia	comptoniana	Papilionaceae
Heath	shrub	dry		Hibbertia	hypericoides	Dilleniaceae
Heath	shrub	dry		Jacksonia	sericea	Papilionaceae
Heath	shrub	dry		Leucopogon	propinquus	Epacridaceae
Heath	shrub	dry		Melaleuca	huegelii	Myrtaceae
Heath	shrub	dry	*	Pelargonium	capitatum	Geraniaceae
Heath	shrub	dry		Phyllanthus	calycinus	Euphorbiaceae
Heath	shrub	dry		Pimelea	calcicola	Thymelaeaceae
Heath	shrub	dry		Xanthorrhoea	preissii	Xanthorrhoeaceae
Heath	sedge	dry		Lepidosperma	squamatum	Cyperaceae
Heath	prostrate herb perennial	dry		Kennedia	prostrata	Papilionaceae
Heath	herb: annual	dry	*	Anagallis	arvensis var. arvensis FPR	Primulaceae
Heath	herb: annual	dry	*	Cerastium	glomeratum	Caryophyllaceae
Heath	herb: annual	dry		Crassula	colorata	Crassulaceae
Heath	herb: annual	dry	*	Hypochaeris	glabra	Asteraceae
Heath	herb: annual	dry	*	Lupinus	cosentinii	Papilionaceae
Heath	herb: annual	dry	*	Petrorhagia	dubia	Caryophyllaceae
Heath	herb: annual	dry		Poranthera	microphylla	Euphorbiaceae
Heath	herb: annual	dry	*	Trifolium	campestre	Papilionaceae
Heath	herb: annual	dry	*	Vicia	sativa	Papilionaceae
Heath	herb perennial: annually renewed	dry		Burchardia	congesta	Colchicaceae
Heath	herb perennial: annually renewed	dry		Caladenia	latifolia	Orchidaceae
Heath	herb perennial: annually renewed	dry	*	Gladiolus	caryophyllaceus	Iridaceae
Heath	herb perennial: annually renewed	dry	*	Moraea	flaccida	Iridaceae

Flora of four habitats (vegetation types) in the Star Swamp Reserve  
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Plot/source	Life Form	Wet/Dry	Weed	Genus	Species	Family
Heath	herb perennial	dry		Caesia	micrantha	Anthericaceae
Heath	herb perennial	dry		Conostylis	aculeata	Haemodoraceae
Heath	herb perennial	dry		Dianella	revoluta	Phormiaceae
Heath	herb perennial	dry		Lomandra	maritima	Dasypogonaceae
Heath	herb perennial	dry		Sowerbaea	laxiflora	Anthericaceae
Heath	herb perennial	dry		Tricoryne	elatior	Anthericaceae
Heath	grass	dry		Austrostipa	flavescens	Poaceae
Heath	grass	dry	*	Avena	fatua	Poaceae
Heath	grass	dry	*	Briza	maxima	Poaceae
Heath	grass	dry	*	Briza	minor	Poaceae
Heath	grass	dry	*	Bromus	diandrus	Poaceae
Heath	grass	dry	*	Ehrharta	calycina	Poaceae
Heath	grass	dry	*	Ehrharta	longiflora	Poaceae
Heath	grass	dry	*	Lagurus	ovatus	Poaceae
Heath	grass	dry		Poa	porphyroclados	Poaceae
Banksia W	tree	dry		Banksia	attenuata	Proteaceae
Banksia W	tree	dry		Banksia	menziesii	Proteaceae
Banksia W	shrub	dry		Acacia	pulchella	Mimosaceae
Banksia W	shrub	dry		Allocasuarina	fraseriana	Casuarinaceae
Banksia W	shrub	dry		Dryandra	lindleyana	Proteaceae
Banksia W	shrub	dry		Hakea	lissocarpha	Proteaceae
Banksia W	shrub	dry		Hibbertia	hypericoides	Dilleniaceae
Banksia W	shrub	dry		Jacksonia	sericea	Papilionaceae
Banksia W	shrub	dry		Jacksonia	sternbergiana	Papilionaceae
Banksia W	shrub	dry		Macrozamia	riedlei	Zamiaceae
Banksia W	shrub	dry		Petrophile	brevifolia	Proteaceae
Banksia W	shrub	dry		Pyrorchis	nigricans	Orchidaceae
Banksia W	shrub	dry		Scaevola	canescens	Goodeniaceae
Banksia W	shrub	dry		Scaevola	repens	Goodeniaceae
Banksia W	shrub	dry		Synaphea	spinulosa	Proteaceae
Banksia W	shrub	dry		Xanthorrhoea	preissii	Xanthorrhoeaceae
Banksia W	sedge	dry		Isolepis	marginata	Cyperaceae
Banksia W	sedge	dry		Lepidosperma	squamatum	Cyperaceae
Banksia W	sedge	dry		Mesomelaena	pseudostygia	Cyperaceae
Banksia W	sedge	dry		Schoenus	clandestinus	Cyperaceae
Banksia W	rush	dry		Alexgeorgea	nitens	Restionaceae
Banksia W	rush	dry		Desmocladus	fasciculatus	Restionaceae
Banksia W	herb: annual	dry	*	Anagallis	arvensis var. arvensis FPR	Primulaceae
Banksia W	herb: annual	dry		Asteridea	pulverulenta	Asteraceae
Banksia W	herb: annual	dry		Calandrinia	corrigioloides	Portulacaceae
Banksia W	herb: annual	dry	*	Heliophila	pusilla	Brassicaceae
Banksia W	herb: annual	dry	*	Hypochoeris	glabra	Asteraceae
Banksia W	herb: annual	dry		Podolepis	gracilis	Asteraceae
Banksia W	herb: annual	dry		Poranthera	microphylla	Euphorbiaceae
Banksia W	herb: annual	dry	*	Sonchus	oleraceus	Asteraceae
Banksia W	herb: annual	dry		Trachymene	pilosa	Apiaceae
Banksia W	herb: annual	dry	*	Ursinia	anthemoides	Asteraceae
Banksia W	herb: annual	dry		Wahlenbergia	preissii	Campanulaceae
Banksia W	herb/shrub	dry		Hybanthus	calycinus	Violaceae
Banksia W	herb/shrub	dry		Xanthosia	huegellii	Apiaceae

Flora of four habitats (vegetation types) in the Star Swamp Reserve  
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4

Plot/source	Life Form	Wet/Dry	Weed	Genus	Species	Family
Banksia W	herb perennial: annually renewed	dry		Burchardia	congesta	Colchicaceae
Banksia W	herb perennial: annually renewed	dry		Caladenia	flava	Orchidaceae
Banksia W	herb perennial: annually renewed	dry		Caladenia	georgei	Orchidaceae
Banksia W	herb perennial: annually renewed	dry		*Freesia	alba x leichtlinii	Iridaceae
Banksia W	herb perennial: annually renewed	dry		*Gladiolus	caryophyllaceus	Iridaceae
Banksia W	herb perennial: annually renewed	dry		Haemodorum	paniculatum	Haemodoraceae
Banksia W	herb perennial	dry		Conostylis	aculeata	Haemodoraceae
Banksia W	herb perennial	dry		Corynotheca	micrantha	Anthericaceae
Banksia W	herb perennial	dry		Dianella	revoluta	Phormiaceae
Banksia W	herb perennial	dry		Lagenophora	huegellii	Asteraceae
Banksia W	herb perennial	dry		Lomandra	hermaphrodita	Dasyogonaceae
Banksia W	herb perennial	dry		Sowerbaea	laxiflora	Anthericaceae
Banksia W	herb perennial	dry		Stylidium	calcaratum	Stylidiaceae
Banksia W	grass	dry		*Ehrharta	longiflora	Poaceae
Banksia W	annual sedge	dry		Centrolepis	drummondiana	Centrolepidaceae
Banksia W		dry		Triglochin	centrocarpa	Juncaginaceae

8.2.10 REFERENCES

Environmental Protection Authority (1983), Conservation Reserves for Western Australia: The Darling System - System 6 Part II: Recommendations for specific localities. Report 13. Department of Conservation and Environment Western Australia.

Metropolitan Region Planning Authority (1975), Annual Report. Government Printer.

Townley, L (1984), Hydrology of Star Swamp in Star Swamp Bushland Reserve: proposals for development and management. Loneragan, W A, McMillan, R P, Townley, L R & Watson, L E, Department of Botany, University of Western Australia for the Australian Heritage Commission, Australia.

8.3

STAR SWAMP

BS204

8.3.1 GENERAL INFORMATION

LOCAL AUTHORITY: City of Stirling  
MRS ZONE: Urban - subject to rezoning  
RESERVE NUMBERS: subject to change  
MANAGEMENT: City of Stirling  
SYSTEM 6 RECOMMENDATION: M35  
DRAINAGE: Some local drains  
WATER RESERVE: West of Gwelup Public Water Supply Area

**Full document  
available  
on request**

8.3.2 PHYSIOGRAPHY AND GEOLOGICAL SETTING

Star Swamp is situated at the interface of the Spearwood and Quindalup landforms (Churchward and McArthur, 1978). Its position is analagous to Pipidinny and Beonaddy Swamps near Yanchep.

8.3.3 AREAS

Total area of open space: about .....	100	ha
Total area of wetland .....	4.2	ha
Open water .....	0.4	ha
Sedgeland .....	0.1	ha
Paperbark .....	3.1	ha
Modified wetland .....	0.6	ha

8.3.4 HYDROLOGY (Figure 8.5)

Townley (1984) showed:

1. Star Swamp is in direct connection with the regional water table aquifer system and hence water flows into the swamp from the east and discharges towards the coast throughout the year. In winter the swamp acts as a recharge zone for the groundwater system; and in summer it acts as a discharge zone; and
2. water levels in the swamp are unlikely to be significantly affected by land use changes in the immediate watershed but will be influenced by land use along the flow line originating at the Gngangara Mound and by influences through the northern metropolitan region.

**Full document  
available  
on request**

Bell et al. (1979)

PRELIMINARY VEGETATION SURVEY OF STAR SWAMP AND VICINITY,  
WESTERN AUSTRALIA

By DAVID T. BELL, WILLIAM A. LONERAGAN  
AND JONATHAN DODD

Department of Botany, University of Western Australia, Nedlands, W.A. 6009

ABSTRACT

*Star Swamp and the adjacent bushland are Perth metropolitan remnants of the once extensive natural vegetation of the Swan Coastal Plain. They presently provide areas for school nature study programmes, a wildland recreational facility and serve as refugia for native plants and animals. This study was designed to provide a floristic survey of the area, a description of the major plant communities and insights into the relationships between these communities and some environmental factors.*

INTRODUCTION

Star Swamp and its surrounding bushlands are located in the Perth metropolitan suburb of North Beach, Western Australia (31°51'S, 115°45'E). Bounded by North Beach Rd., Marmion Ave., Beach Rd., and Hope St., the area provides a refuge for native animals and plants in a region of suburban development (Fig. 1). Application for re-zoning the crown land for residential use has prompted a group of environmentalists and concerned citizens to request that the area be preserved and managed as a flora and fauna reserve (Anon., 1976). The area has been used for nature study by nearby schools, a wildland recreational facility, and the occasional use by trail-bike riders. The area contains numerous sand tracks which restrict its aesthetic quality, but has a variety of vegetational communities and a diversity of plants and animals characteristic of the Swan Coastal Plain.

The vegetation was once part of an extensive system of wetland swamps and adjacent stabilized communities of the Spearwood Dune soils of the Swan Coastal Plain (Seddon, 1972). Most of the wetland communities of the Perth metropolitan area have already been lost to urban development. These originally formed a vegetation type which made up only a very small portion of south-western Australia (Riggert, 1966). The Tuart Woodland and Banksia Woodland communities of the Swan Coastal Plain were once also more widely spread, but today, most of these areas have been lost to agriculture and

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MANAGEMENT OF STAR SWAMP

W.A. Loneragan

Department of Botany, University of Western Australia

Star Swamp Reserve encompasses a freshwater lake, 4 ha in area, surrounded by approximately 96 ha of bushland. The reserve is located in the suburb of North Beach (31°51'S; 115°45'E) and is bounded by North Beach Road, Marmion Avenue, Beach Road and Hope Street. This isolated remnant of vegetation is one of the few remaining wetland swamps which, together with its associated communities, once formed part of a broad wetland system on the Spearwood Dune soils of the Swan Coastal Plain (Seddon 1972).

With the population of Perth and its environs commonly predicted to double by the year 2000, wetland remnants such as the Star Swamp Reserve are increasingly being viewed as important sites for recreation, the conservation of wetland-dependent plant and animal species, and as centres of interest in the landscape (System 6 Study Report, 1981).

As a result of representations by the Trigg North Beach Waterman Community Association to the Australian Heritage Commission, the Reserve has been listed on the Register of the National Estate (Commonwealth of Australia Gazette, 1983). Following further submissions to the Federal Government, by the same group of concerned citizens, a grant of \$3 000 has been made to develop a management plan for the Reserve.

A study group, comprising the author (as co-ordinator), Mr R.P. McMillan (zoologist), Dr. L. Townley (hydrologist) and Ms L. Watson (botanist), has been appointed to undertake the proposed investigation. The objectives which the study group is required to address include:

1. A survey of the Reserve to: update and extend previous descriptions of the vegetation by Bell et al. (1979), Watson and Bell (1981); list the fauna; and define the hydrological characteristics.
2. Identification of areas of special interest and application, for example for school projects, tertiary level courses and access by handicapped groups.

BS 204 SPEAR IN  
Lonegan (1987)

City Manager



City of Stirling

**STAR SWAMP  
BUSHLAND RESERVE  
MANAGEMENT PLAN**

**Full document  
available  
on request**

Q333.  
91809941  
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Full document  
available  
on request

## The ecology of Star Swamp and surrounding bushlands, North Beach, Western Australia

by Linda E. Watson and David T. Bell

Botany Department, University of Western Australia, Nedlands, W.A. 6009  
Manuscript received 21 August 1979; accepted 19 February 1980

### Abstract

The vegetation of Star Swamp and its surrounding catchment represents a remnant of the once extensive natural vegetation of the Swan Coastal Plain. Polar ordination techniques were used to analyze the variation in the vegetational composition of the canopy and perennial understorey strata. Size-class analysis was used to analyze the major tree species populations. The major species relationships to water levels of the swamp of soil texture, soil organic matter, soil colour and soil pH were determined. The relationship of environmental factors and the biotic effect of naturalized weedy species on species diversity was also determined.

Areas of seasonal flooding were dominated by Paperbark (*Melaleuca rhaphiophylla*) with an understorey of flooding tolerant herbaceous perennials. Common species of this understorey included *Scirpus maritimus*, *Baumea juncea*, *Gahnia trifida* and *Sporobolus virginicus*. Soils of this region tended to be alkaline, highly organic, greyish in colour, sandy loams and very shallow over a limestone base. Species diversity was low and the infestation by introduced weeds was low.

Upland areas of sandy, slightly alkaline, yellowish soils of moderate depth and degree of leaching were dominated by Tuart (*Eucalyptus gomphocephala*). Areas of slightly acidic soils of greater depth and degree of leaching were dominated by a mixed Banksia—Tuart community. *Xanthorrhoea preissii* and *Hibbertia hypericoides* were widespread understorey species while species such as *Mesomelaena stygia*, *Scaevola canescens* and *Dryandra nivea* were restricted to areas of the mixed Banksia—Tuart Woodland. Understorey species diversity was highest in areas of the mixed Banksia—Tuart Woodland and was inversely related to the degree of weed infestation.

Control of the degree of inundation in the lowland areas and weed control measures for upland areas appear most urgent requirements for maintenance of the natural status of the Star Swamp bushland.

### Introduction

Star Swamp is a wetland area within a region of undeveloped bushland located in the Perth metropolitan suburb of North Beach, Western Australia (31°51'S, 115°45'E) (Fig. 1). The swamp is a fresh water body, 4 ha in area, and is surrounded to the north, east, and south by approximately 90 ha of a mixture of woodland communities.

The area is situated approximately 600 m from the Indian Ocean on Spearwood Dune System soils (Bettenay *et al.* 1960). The wetlands would appear to have developed as an interdunal depression or possibly as a result of past marine activity in the zone between the Quindalup and Spearwood Dune Systems. Upland areas of the Spearwood System consist of a core of aeolianite with a hard capping of secondary calcite overlain by variable depths of yellow and brown sand (McArthur and Bettenay 1960). Originally the material was calcareous throughout but leaching of the surface soils has removed carbonates from the upper horizons to be precipitated below to form layers and columns of hard compact limestone.

The Spearwood dunes have had a complex history, being subjected to both deposition and later erosion. Much of the western surface sand has blown inland and, in conjunction with deeper leaching of the eastern region, has formed deep soils designated as the Karrakatta Soil Association (Seddon 1972). In the natural state this soil association supports a tall open forest of Tuart (*Eucalyptus gomphocephala*), Jarrah (*E. marginata*), and Marri (*E. calophylla*). In the western portion of the Spearwood System, the dunes are generally younger and the soils are shallower. This soil type has been referred to as the Cottesloe Soil Association (Seddon 1972). These soils carry much the same species composition as the deeper Karrakatta soils, however, Tuart is much more common than Jarrah and Marri. It is only on the Cottesloe soils that Tuart is found in pure stands (Seddon 1972).

Star Swamp and its surrounding bushland occur on the soils belonging to the Cottesloe Association. However, while Seddon (1972) states that the main plant formations of these soils are Tuart-Jarrah-Marri tall open forest or a closed heath, the presence of species of the *Banksia* woodland formation in the



STAR  $\phi$ 1



STAR  $\phi$ 2



STAR  $\phi$ 3

