

## PIARRA NATURE RESERVE, FORRESTDAL

**Boundary Definition:** protected area boundary

### SECTION 1: LOCATION INFORMATION

**Bush Forever Site no.** 262

**Area (ha):** bushland 35.82 (Site also includes open water.)

**Map no.** 60

**Map sheet series ref. no.** 2033-I SE

**Other Names:** Part Submission Area 13, part of Jandakot Regional Park, part of Gibbs Road Wetland System

**Local Authorities (Suburb):** City of Armadale (Forrestdale)

**Includes CALM Managed Land:** Reserve 36594 (Conservation of Flora and Fauna)

### SECTION 2: REGIONAL INFORMATION

#### LANDFORMS AND SOILS

##### Bassendean Dunes

Bassendean Sands (Qpb: S8)

##### Bassendean Dunes/Pinjarra Plain

Bassendean Sands over Guildford Formation (Qpb/Qpa: S10)

##### Wetlands (within the Bassendean Dunes/Pinjarra Plain)

Holocene Swamp Deposits (Qrw: Sp1, Sp2)

#### VEGETATION AND FLORA

##### Vegetation Complexes

###### Combinations of Bassendean Dunes/Pinjarra Plain

Southern River Complex

##### Floristic Community Types: \*not sampled, types inferred

###### Supergroup 2: Seasonal Wetlands

\*4 *Melaleuca preissiana* damplands

\*5 Mixed shrub damplands

\*11 Wet forests and woodlands

###### Supergroup 3: Uplands centred on Bassendean Dunes and Dandaragan Plateau

\*21a Central *Banksia attenuata* — *Eucalyptus marginata* woodlands

\*21c Low-lying *Banksia attenuata* woodlands or shrublands

#### WETLANDS

**Wetland Types:** sumpland, dampland

##### Natural Wetland Groups

###### Bassendean—Pinjarra transition OR Bassendean with fluvial features

Bennett Brook (B/P.4)

###### Bassendean Dunes

Jandakot (B.3)

**Wetland Management Objectives:** Conservation (14ha), Resource Enhancement

**Swan Coastal Plain Lakes EPP:** 2.3ha

#### THREATENED ECOLOGICAL COMMUNITIES

Not assessed

### SECTION 3: SPECIFIC SITE DETAIL

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

**Vegetation and Flora:** limited survey (Trudgen 1990, DEP 1998)

**Structural Units:** general mapping (Trudgen 1990)

Uplands: *Banksia menziesii*, *B. ilicifolia* and *Eucalyptus marginata* Low Open Forest

Wetlands: *Melaleuca raphiophylla* Low Forest to Woodland; *Melaleuca preissiana* and *M. raphiophylla*

Woodland with scattered *Banksia littoralis* and *Eucalyptus rudis*; *Eucalyptus rudis* and *Melaleuca raphiophylla*

Woodland with scattered *Melaleuca preissiana* and *Banksia littoralis*; Myrtaceous Closed Heaths; *Baumea* and

*Leptocarpus* species Sedgeland

**Vegetation Condition:** >80% Pristine to Very Good, <20% Very Good, with areas of severe localised disturbance (general mapping, Trudgen 1990)

**Total Flora:** not known

**Significant Flora:** none recorded

**Fauna:** not known

**Linkage:** adjacent bushland to the north and south; part of Greenway 97 (Tingay, Alan & Associates 1998a)

**Other Special Attributes:** included in Jandakot Botanic Park Proposal (MfP 1995); Category One Area, Middle Canning Catchment Study (Evangelisti & Associates *et al.* 1995); 'wetland of special note' (Payne 1993a)

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

Not listed: Indicative place (AHC 2000 D)

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

**Criteria:** Representation of ecological communities, Rarity, General criteria for the protection of wetland, streamline and estuarine fringing vegetation and coastal vegetation

**Recommendation:** Site with Some Existing Protection; the care, control and management of this Site (Reserve 36594) for conservation purposes within Jandakot Regional Park is endorsed (see Table 3, Volume 1).

**PIARRA NATURE RESERVE, FORRESTDALE**

**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.** 262

**Map no.** 75

**Map sheet series ref. no.** 2033-I SE

**Other Names**

Part Submission Area 13

**Area (ha):** total 41.897 (includes open water); bushland 35.823

**Local Authorities (Suburb)**

City of Armadale (Forrestdale)

**Zoning**

**MRS:** Parks and Recreation

**TPS:** Landscape

**Ownership Categories**

Local Government

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

**Street name**

606 Mason Rd

Crown Reserve

Reserve 36594 (Conservation of Flora and Fauna)

CALM Managed Land

**SECTION 2: REGIONAL INFORMATION**

**LANDFORMS AND SOILS**

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Southern River Complex

**Floristic Community Types:** \*not sampled, types inferred

**Supergroup 2: Seasonal Wetlands**

\*4 *Melaleuca preissiana* damplands

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**WETLANDS**

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Bennett Brook (B/P.4)

**Bassendean Dunes**

Jandakot (B.3)

**Wetland Management Objectives:** Conservation (14ha), Resource Enhancement

**Swan Coastal Plain Lakes EPP:** 2.3ha

**THREATENED ECOLOGICAL COMMUNITIES**

Not assessed

**SECTION 3: SPECIFIC SITE DETAIL**

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

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*Leptocarpus* species Sedgeland

**Vegetation Condition:** >80% Pristine to Very Good, <20% Very Good, with areas of severe localised disturbance (general mapping, Trudgen 1990)

**Total Flora:** not known

**Significant Flora:** none recorded

**Fauna:** no known information, Freckled Duck breeding site

**Linkage:** adjacent bushland to the north, south and east; part of proposed Greenway 142 (Tingay, Alan & Associates 1997a)

**Other Special Attributes:** included in Jandakot Botanic Park Proposal (MfP 1995); Category One Area Middle Canning Catchment Study (Evangelisti & Associates *et al.* 1995); 'wetland of special note' (Payne 1993a)

**SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE**

Not listed

**SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS**

**Criteria:** Representation of ecological communities, Rarity, General criteria for the protection of wetland, streamline and estuarine fringing and coastal vegetation

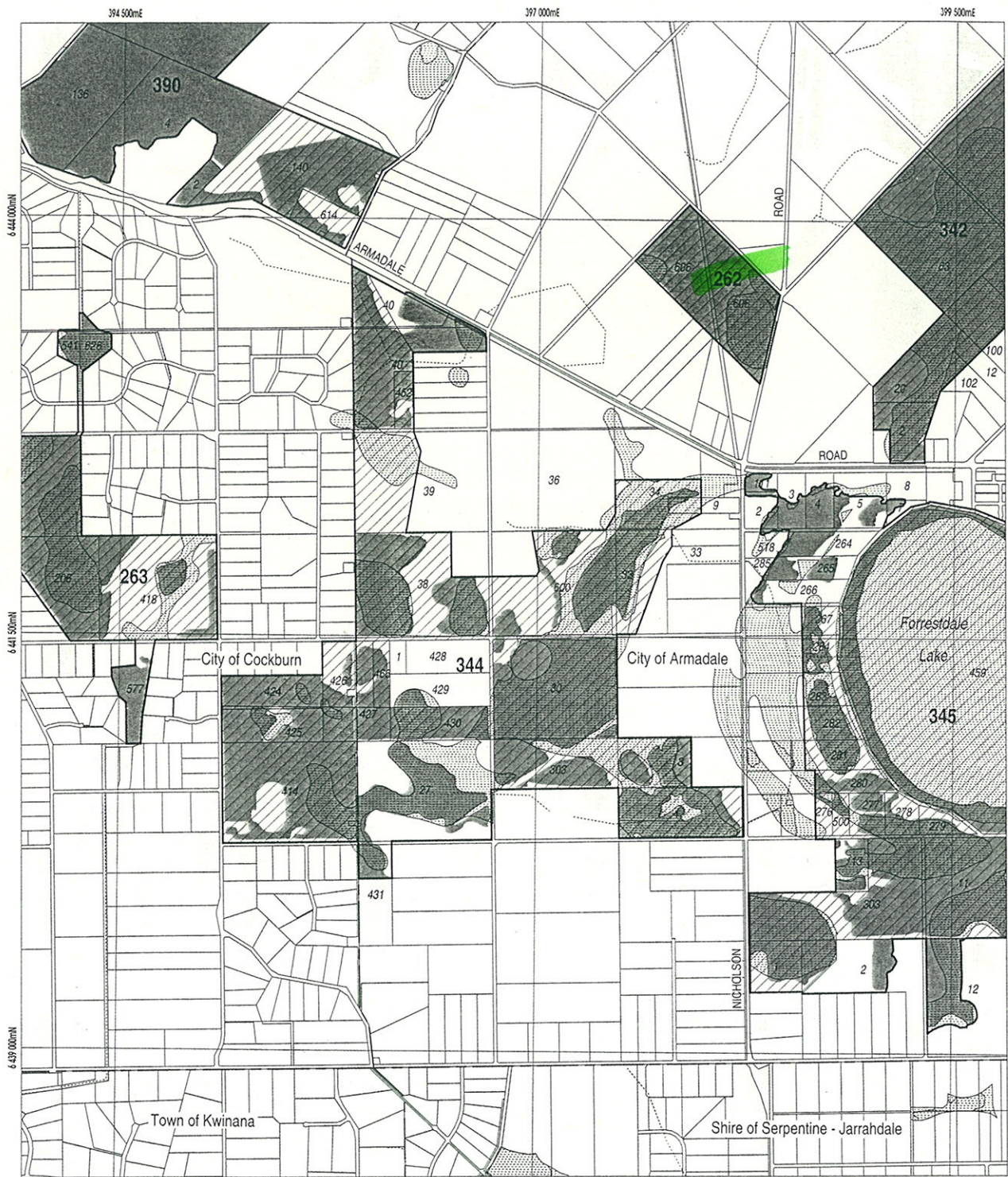
**Opportunities and/or Constraints**

**Opportunities:** Bushplan Site/part Bushplan Site subject to Swan Coastal Plain Lakes EPP, Swan and Canning Rivers EPP; location of conservation category wetlands; under MRS Parks and Recreation Reservation, TPS Landscape Zoning, Crown Reserve

**Constraints:** private land; under General Mineral Resource Area (sand)

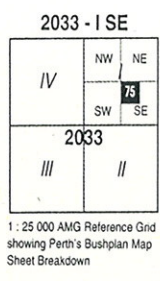
**Recommendation:** The care, control and management of this Bushplan Site (Reserve 36594) for conservation purposes within Jandakot Regional Park is endorsed.





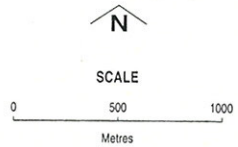
**LEGEND**

- 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



**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							
71	72	73	74	75	76	77						
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									



Produced by Project Mapping Section  
Land Information Branch, Ministry for  
Planning, Perth W.A. November 1998  
ntw-map9/environ/bushplan/bushv2\_75.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

262

BUSHPLAN SITES CORRECTED

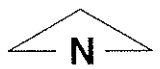


WESTERN  
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PLANNING  
COMMISSION



CUSTOMER  
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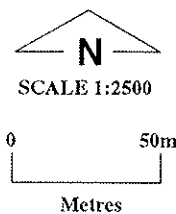
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262

**BUSHPLAN SITES CORRECTED**






WESTERN  
AUSTRALIAN  
PLANNING  
COMMISSION





**bp site 262**

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

MFP INTERNAL USE ONLY

Prepared By: Andrea Zappacosta

Prepared For:

Map Ident: plot980527\_1

Date: 27 May 98

Scale 1:6837

BS 244  
BASS. STH  
NTH LAKE

BS 263  
BASS. S.  
W. LABBS

BS 346  
SPEAR. S.  
COOGEE

BS 390  
BASS S  
FORREST E

BS 247  
SPEAR. S.  
MANNING

BS 269  
SPEAR. S.  
SPECTACLES

BS 347  
BASS. S.  
WANDI

BS 391  
BASS. S.  
THOMPSON

Proposals for the  
Jandakot Botanic Park

Final

BS 248

BASS. S.

BIBRA

BS 273  
+ BS 404

BS 348

BS 392

BS 254

BASS. S.

STH. LK.

CASUARINA

MODONG

SPEAR. S

HARRY WA

BS 256

BASS. S

YANGEB.

BS 342

BASS. S.

ANST. KEAN

BS 353

BASS. S

BANCSIA

BS 435

BS 429

SPEAR. S

MARKER

Prepared for the Western Australian Planning Commission  
by the Ministry for Planning  
Albert Facey House  
469 Wellington Street  
Perth 6000 Western Australia

BS 261

SPEAR. S

L. COOGEE

BS 388

BASS. S.

JANDAKOT

BS 262

BASS. S

PIARRA

BS 344

March 1995

BASS. S

DE YOUNG

BS 389

BASS. STH

EAST d JAND



Ministry for Planning



WETLANDS CONSERVATION SOCIETY (INC)

c/- 14 Stone Court, Kardinya, WA 6163

6 atot

16 July 1995

BS 262

The System Six Study Team  
Department of Environmental Protection  
141 St George's Terrace  
Perth WA 6000

Dear Sir,

### System Six Review

The Wetlands Conservation Society wishes to make a submission to the System Six Review. This submission is in two parts. Firstly some comments on the general principles and secondly some specific nominations.

#### (1) General Principles

The original System Six Red Book, published in 1983, included 19 general recommendations. Many of these are now irrelevant or outdated. Recommendations 1 - 6 relate to the management of State Forests. These have been overtaken by events. It is now clear that the only effective way to conserve State Forest is to place it in national parks or nature reserves. There is an urgent need to set aside a comprehensive and representative system of forest reserves and this should be part of a new general recommendation.

Recommendations 7 - 12 have also been overtaken by events. Many of the areas recommended for protection as reserves have been destroyed (eg. Casuarina M98, Buckland Hill M55, Port Kennedy M106, etc.) Many others have not been established because of CALM's reluctance to take on new reserves without additional funding. Perhaps these reserves should be vested in other authorities (eg. local government, community groups, LCDCs, etc.) if CALM are unwilling to accept them. The Port Kennedy LCDC has done an outstanding job of managing that reserve, for example, at little cost to the WA Government.

Recommendations 13 and 14 are still relevant and they should be supplemented by a recommendation about how this process will be funded. A regional improvement fund like the MRIF should be established to facilitate the acquisition of land for parks and recreation in regional areas.

Recommendations 15 - 17 need very careful attention. Although the Ministry for Planning has done quite a good job of identifying and resuming land for Regional

Parks, CALM has failed to co-operate and so far we still do not have any legally established Regional Parks. The WCS believes that the Regional Park Concept is extremely important in the System Six Area because of the multiple uses of reserves. The concept of a regional park as an area for conservation, recreation and landscape protection is now well established. We have lost confidence in CALM's willingness to manage these Parks and we have proposed that MFP should continue to manage them until all of the policy and management issues have been resolved. We believe that funding should come from local authority rates, land tax and development tax. Ultimately a Regional Parks Authority may be the best body to manage them. Because they are so different to national parks and nature reserves the RPA should be quite different from the NPNCA and have its own budget. It should work closely with CALM, MFP and the local authorities.

Recommendations 18 and 19 are still relevant and have been partially implemented. However recommendation 18 does not specify which agency should fund and coordinate this task. This should be addressed in the update.

The General Recommendations should include an additional set which relate to the funding and implementation of the specific recommendations. We believe that there is a need for an implementation committee which will set priorities and review progress. A major review or progress report should be required every three years. A funding mechanism for implementation and management of the System Six conservation estate should be clearly identified in the general recommendations. The failure to do this was one of the main reasons why the original System Six exercise was so unsuccessful.

## (2) Specific Recommendations

I am aware that the DEP has provided a detailed nomination form. However, we wish to nominate so many areas that it is quite impracticable for us to fill in such detailed forms. Most of the areas we wish to nominate are already documented in official Government reports, so the degree of detail requested is unnecessary. However, I would be happy to supply any additional information you require for any of the nominations we have made. Please call me on 337 7113 (h) or 360 2274 (w) or 310 1711 (fax) if you need further information.

Our specific recommendations for new areas to be included in the System Six Report are :

(a) The Spectacles Swamps near Kwinana. These are part of the Beeliar Regional Park and are fully described in the Planning Report for that Park. They are also zoned P & R in the MRS.

(b) Long Swamp on Hope Valley Road, Kwinana. This is also included in the Beeliar Regional Park. It is the last of the wetlands in the western chain of the Cockburn Wetlands. It is privately owned.

(c) Bollard Bulrush Swamp in Wellard. This is also part of the Beeliar Regional Park

(d) Tamworth Hill Swamp in Baldvis. This is part of the proposed Rockingham Lakes Regional park. It is fully documented in the ecological study of the Rockingham lakes carried out by V and C Semeniuk for the Australian Heritage Commission. It is zoned for Parks and Recreation in the MRS and it is affected by a mining claim.

(e) Anstey Swamp, Baldvis. This is also a part of the proposed Rockingham Lakes Regional Park. It is owned by the MFP and is zoned for Parks and Recreation. It is fully documented in the Semeniuk study and by the EPA in its original report on the Secret Harbour project.

(f) Paganoni Swamp, Baldvis. This wetland is an outstanding conservation area. It is owned by the MFP and is zoned for Parks and Recreation. It is fully documented in the Semeniuk study and in the Wildflower Society's nomination of this reserve to the Register of the National Estate.

(g) Lark Hill wetlands. This area lies adjacent to Port Kennedy M106 and contains some important wetlands and parallel dune formations. It is fully described by the Australian Heritage Commission in its listing of the area. The land is owned by the MFP and is zoned for Parks and Recreation. It is intended for inclusion in the Port Kennedy Scientific Park.

(h) Jandakot Botanical Park. This area is fully documented by the MFP in its Planning study for the Jandakot Botanical Park. It includes some areas such as M97, M98, M99 and M100 which are already in the System Six Red Book. However, there are several other important reserves in this area which should be included in the System Six Report. All of this land is reserved for Parks and Recreation and most of it is owned by the State.

(i) Piney Lake, Winthrop. This wetland was not included in System Six. However, it is part of the Beeliar Regional park and supports a diverse range of waterfowl and has some remnant vegetation. The City of Melville recently completed a management plan for this reserve.

(j) Blue Gum Swamp, Mt Pleasant. This wetland is an important wildlife refuge. It is well managed by the City of Melville and is being rehabilitated by a local group. It has a management plan, prepared by the City of Melville. It could be incorporated into M73 as it is very close to Booragoon Lake.

(k) Brixton Street Wetlands, Gosnells. These important wetlands should be added to M69. Their importance is well documented in the EPA assessment of the housing proposals for this area.

(l) Ken Hurst Park. Leeming. This is an important area of wetland and banksia woodland adjacent to M94. It contains declared rare flora as indicated in the Floristic Study of the Swan Coastal Plain. The Murdoch Branch of the Wildflower Society has done a detailed flora survey of the site. Contact Diana Corbyn for details.

(m) Twin Bartram Swamp, Hird Road Swamp, Solomon Road Swamp and Gibbs / Russell Swamp in Jandakot. These small wetlands are the best remaining examples of the Jandakot suite of wetlands. They are reserved in the local open space system and are well documented by V. Semeniuk in the report to Gold Estates on Wetlands East of Thomsons Lake.

(n) Creery Wetlands. These important samphire marshes should be added to C50 (Peel Inlet). Their values are fully documented in the Bamford Report which was attached to the proposal for the Harbour City Canal Estate.

(o) Vasse - Wonnerup Regional park. The whole area of the Broadwater, Deadwater and the Vasse Wonnerup estuaries should become a regional park. This concept should be ~~proposed~~ proposed in the System Six update.

(p) Cockburn Wetlands - Eastern Chain M93. The boundaries of this area should be modified to coincide with the boundaries of the Beeliar Regional Park.

(q) Folly, Maramanup, Duck and Beenyup Pools, Baldivis. These small pools on the Folly Drain are important breeding and feeding areas for wildlife. The Folly Drain is an important wildlife corridor and its conservation value should be recognised in the System Six Report.

(r) West Corio Swamp, Karnup. This is an important breeding area for the straw-necked ibis. It should be protected. The EPA did an assessment of it several years ago when sand mining was proposed.

(s) Serpentine River Valley. The entire length of the Serpentine River and its flood plain should be listed in the System Six Report. It is a major wildlife corridor and a habitat for many species. It should be recommended as a regional park.

(t) Wilbinga and Guilderton. Two large blocks of coastal heathland south of the mouth of the Moore River. The Wilbinga block was proposed as a land swap for M1 which has been approved for subdivision. These blocks are adjacent to C12 and together provide an outstanding opportunity to conserve the best remaining transect of coastal vegetation in the northern part of System Six.

If you require further information about any aspect of this submission, please contact me. I would like some feedback on your decision about these areas.

Yours faithfully,



Philip Jennings  
President

**PROPOSED JANDAKOT BOTANICAL PARK**  
**AN ASSESSMENT OF THE CONSERVATION**  
**VALUES OF VEGETATION FLORA AND**  
**WETLANDS BETWEEN JANDAKOT AND WELLARD**

February 1990

**BOWMAN BISHAW GORHAM**  
ENVIRONMENTAL MANAGEMENT CONSULTANTS

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## TABLE OF CONTENTS

	Page No.
<b>EXECUTIVE SUMMARY</b>	
<b>1.0 INTRODUCTION</b>	1
<b>2.0 RESULTS OF VEGETATION AND FLORA ASSESSMENT</b>	2
<b>3.0 RESULTS OF WETLAND ASSESSMENT</b>	4
<b>4.0 IMPLICATIONS FOR CONSERVATION PLANNING</b>	6
4.1 Vegetation and Flora	6
4.2 Wetlands	6
4.3 Combined Vegetation Flora and Wetlands	6
<b>5.0 CONCLUSIONS &amp; RECOMMENDATIONS</b>	7
<b>6.0 REFERENCES</b>	9
<b>APPENDICES</b>	
<b>APPENDIX 1</b> Assessment of the Vegetation and Flora	
<b>APPENDIX 2</b> Assessment of the Wetlands	
<b>APPENDIX 3</b> Summary of Consultations, and Acknowledgements	
<b>APPENDIX 4</b> Study Team	

smaller more colourful flowers. Grows in winter wet depressions.

Diuris purdei. Found in densely vegetated winter wet depressions on the Coastal Plain. Flowers from September to October after fires.

Drakea elastica (syn. Drakea jeanensis). Found in sandy soils near swamps, often in Banksia woodland on the Coastal Plain from Perth south to Capel but also recorded from the Murchison River. Flowers from September to October.

Drakea micrantha (M.S.). An undescribed species. Grows in open sandy patches on the sandy rises near swamps in Allocasuarina woodland. In the study area it is at the northern limit of its range. Flowers from September to October.

Drosera occidentalis. Found in damp soils on the margins of swamps and in winter wet depressions (in peaty sand). Flowering occurs from November to December. Lowrie (1989) considers it to be "rather common and easy to locate, given knowledge of it's growth cycle and habitat."

### 3.4.2 Priority Three Species Currently Known for the Study Area

Restio stenostachyus. Found in winter wet depressions and along watercourses. Although Marchant et al (1987) suggest this species could be endemic to the Perth region it is also known from the northern forest region.

Cartonema philydroides. A poorly known and poorly collected species occurring on the Coastal Plain from Guildford south to Capel with an occurrence at Kalbari (probably a separate species). This species may more common than was previously thought (G. J. Kieghery pers. comm.).

Thysanotus arbuscula. One of the fringe lilies, found in Banksia low forest, Jarrah-Marri forest and sandplain low scrub. Grows from 160 km north of Perth to c. 260 km south-east of Perth. Flowers from September to January.

Phlebocarya filifolia. Found in Banksia woodland on sandy soils from south Eneabba to south of Busselton (G. J. Kieghry pers. comm.). A poorly collected species now recognised to be more common than previously thought (Jandakot was previously thought to be the most southerly location for this species).

Jacksonia sericea. Apparently endemic to the Perth Region, found on calcareous and sandy soils of the Coastal Plain from Perth to Pinjarra. Flowers from December to February.

Gonocarpos pithyoides. Found in sandy soils on the Coastal Plain, extending north to Gingin in Banksia woodland. It appears to be poorly collected rather than uncommon.

#### 3.4.3 Priority Two Species Currently Known for the Study Area

Lysinema elegans. This species has been collected from the Jandakot area in the past but has not been recollected there despite some searches. A population was recently found in the Moore River National Park (Griffin and B. Kieghery 1989) and may be the only extant population.

#### 3.4.4 Priority Five Species Currently Known for the Study Area

Dodonaea hacketiana. This taxon is endemic to the Perth region (Marchant et al. 1987), growing from Perth to south of Jandakot.

#### 3.4.5 Other Significant Flora

Evandra pauciflora. This species occurs sporadically (in suitable wetland habitats) from the Perth area south to Albany. Probably should be on the reserve list but is uncommon but probably not rare.

Department of Agriculture, Western Australia.

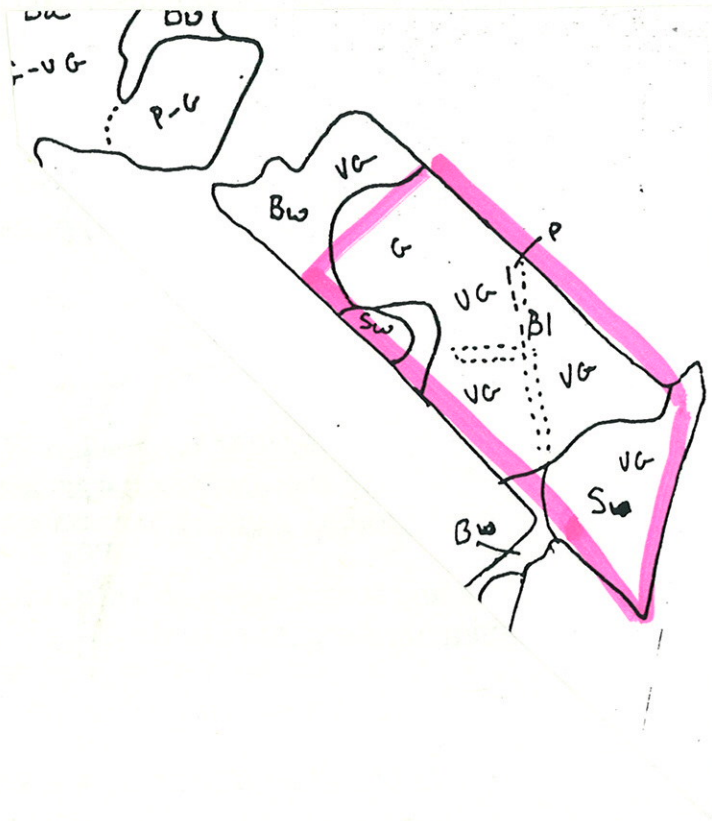
- Trudgen, M.E. (1984). The Leschenault Peninsula - a flora and vegetation survey with an analysis of its conservation value and appropriate uses. Bulletin 100, Department of Conservation and Environment, Perth, W. A.
- Trudgen, M.E. (1987). A report on the vegetation of part of Neerabup National Park and adjoining privately owned land, with analysis of the conservation issues involved in a proposed land swap. Unpublished report prepared for Maunsell and partners, Perth
- Trudgen, M.E. (1988). A flora and vegetation survey of the coast of the Shire of Mandurah. State Planning Commission of Western Australia. (Unpublished report distributed in "draft" form.)
- Trudgen, M.E. and Kieghery, B. (1990a). A report on the flora and vegetation of the Alkimos area and conservation issues affecting it. Unpublished report prepared for Landcorp.
- Trudgen, M.E. and Kieghery, B. (1990b). A report on the flora and vegetation of the Ningana area and conservation issues affecting it. Unpublished report prepared for Landcorp.
- Weston, A.S. (1989a). Vegetation and significant flora in lots 65 and 66 Anstey/Keane Roads Forrestdale City of Armadale. Unpublished report prepared for G.R. Crimp and partners.

## TABLE OF CONTENTS

	Page No.
1.0 INTRODUCTION	1
2.0 DESCRIPTION OF THE STUDY AREA	2
3.0 METHODS OF INVESTIGATION	
3.1 Methods for Wetland Classification	5
3.2 Wetland Assessment and Classification	
Method Employed for the Present Study	5
(i) Surrounding Land Use	
(ii) Water Permanance	
(iii) Size	
(iv) Shape	
(v) Soil Type	
(vi) Vegetation Cover and Density	
(vii) Waterfowl Utilization	
(viii) Presence of Rare Fauna Species	
(ix) Landscape Value	
(x) Access	
(xi) Recreation Potential	
(xii) Degree of Disturbance	
(xiii) Biological Condition	
(xiv) Apparent Conservation Value	
4.0 RESULTS OF ASSESSMENT	16
4.1 Location, Assessment and Classification Results	16
4.2 Review of Apparent Conservation Value Assessment Results	16
4.3 Planning Options for the Jandakot Botanical Park	21
5.0 CONCLUSIONS AND RECOMMENDATIONS	23
6.0 BIBLIOGRAPHY	24

Bowman, Bishaw + Gorham, 1990, Proposed Jandakot Botanic Park

BS 262



Piara NR, Part Subur B

**MAP ONE: Significant Remnants of Native Vegetation**

**Sheet two : Southern Section of Study Area**

**KEY TO VEGETATION UNITS**

**Bassendean Complex-Central and Southern**

**Bd:** Low woodland to low open forest of Banksia attenuata-Banksia menziesii with occasional Banksia ilicifolia, Allocasuarina fraseriana, Eucalyptus marginata and Nuytsia floribunda.

**Bl:** Low open forest of Banksia menziesii-Banksia ilicifolia-Eucalyptus marginata with occasional Banksia attenuata.

**Bw:** Low open woodland to closed heath dominated by species of Myrtaceae. The tree species are predominantly Melaleuca preissiana or Banksia ilicifolia. The understorey include Hypocalymma angustifolium, Pericalymma ellipticum and Astartea fascicularis.

**Sw:** Woodland of Melaleuca preissiana-Melaleuca raphiophylla with occasional Eucalyptus rudis and Banksia ilicifolia. With sedgelands of Baumea and Leptocarpus species and closed heaths dominated by Myrtaceae species.

**L:** Woodlands of Melaleuca raphiophylla-Eucalyptus rudis with the occasional Melaleuca preissiana and Banksia littoralis. The woodlands are interspersed with sedgelands of Baumea, Leptocarpus and Typha and areas of open water.

**Karrakatta Complex-Central and South**

**K:** Woodlands of Eucalyptus gomphocephala-Eucalyptus calophylla-Eucalyptus marginata with admixtures of Banksia attenuata-Banksia menziesii and Allocasuarina fraseriana.

**KEY TO CONDITION RATING**

- E = Excellent
- VG = Very Good
- G = Good
- P = Poor
- VP = Very Poor
- C = Cleared

(See text for definitions)

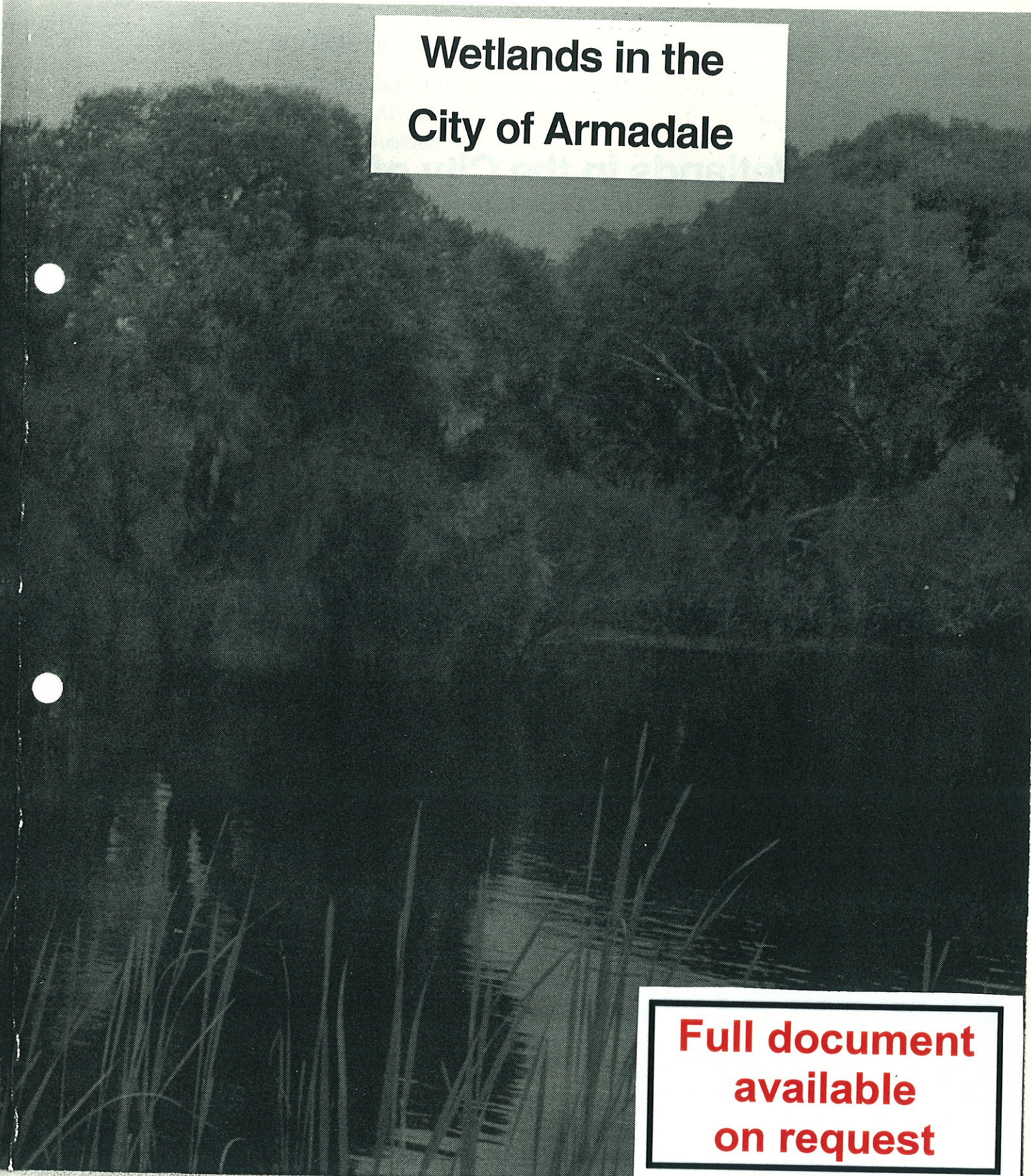
**SCALE: Approx. 1: 20,000**

**SOIL:** Sp = Spearwood Sand; Gu = Guildford Formation  
(All other areas Bassendean Sands)

ARMADALE 'CYON AVE SAINSON CC  
ENVIRONMENTAL  
AUTHORITY



**Water Authority**  
of Western Australia



**Wetlands in the  
City of Armadale**

**Full document  
available  
on request**