

MARKET GARDEN SWAMPS, SPEARWOOD/MUNSTER

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

SECTION 1: LOCATION INFORMATION

Bush Forever Site no. 429, 435

Area (ha): bushland 38.1 (Site also includes open water.)

Map no. 58

Map sheet series ref. no. 2033-I SW, 2033-I NW

Other names: Market Garden Swamps No.s 1, 2 and 3, part of Beeliar Regional Park

Local Authorities (Suburb): City of Cockburn (Munster, Spearwood)

System 6 (1983): Part M92 Part System area bushland, only bushland described

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Spearwood Dunes

Sands derived from Tamala Limestone (Qts: S7)

Wetlands (within the Spearwood Dunes)

Holocene Swamp Deposits (Qhw: M6)

VEGETATION AND FLORA

Vegetation Complexes

Spearwood Dunes

Cottesloe Complex — Central and South

Floristic Community Types: *not sampled, types inferred

Supergroup 2: Seasonal Wetlands

*16 Highly saline seasonal wetlands

*17 *Melaleuca raphiophylla* — *Gahnia trifida* seasonal wetlands (in area of most northern occurrence)

WETLANDS

Wetland Types: sumpland

Natural Wetland Groups

Spearwood Dunes

Coogee (S.3)

Wetland Management Objectives: Resource Enhancement

Swan Coastal Plain Lakes EPP: 8.3ha + 7.7ha = 16ha (total)

THREATENED ECOLOGICAL COMMUNITIES

Not assessed

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: open water, vegetated wetland, vegetated uplands

Vegetation and Flora: limited survey (DEP 1999, EPA and WAWA 1990); detailed survey (Ecoscape 1995b)

Structural Units: mapping (Ecoscape 1995b, EPA and WAWA 1990)

Uplands: *Eucalyptus gomphocephala* Open Forest; *Xanthorrhoea preissii* Shrubland

Wetlands: *Melaleuca raphiophylla* Low Open Forest; *Melaleuca cuticularis* Low Woodland to Low Open Forest; *Suaeda australis* Low Open Shrubland; *Juncus kraussii* and *Gahnia trifida* Closed Sedgeland

Scattered Native Plants: *Eucalyptus gomphocephala* Open Woodland

Vegetation Condition: >50% Excellent to Very Good, <50% Good to Degraded, with areas of severe localised disturbance (Weston 1993)

Total Flora: 21 native taxa (estimated <80% expected flora, Ecoscape, 1995b)

Significant Flora: none recorded

Fauna: limited survey for birds (32 species), native mammals (1 species), reptiles (7 species) and amphibians (3 species) (Ecoscape 1995b). Significant bird species: category 2 (1), category 3 (1) and category 4 (1). Significant mammal species: Quenda (Friend 1996 D, Ecoscape 1995b)

Linkage: adjacent bushland canopy south Site 435 (Site 261, across road); part of Greenway 96 (Tingay Alan & Associates 1998a)

Other Special Attributes: included in Beeliar Regional Park Proposal (DPUD 1992a)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Entered in the Interim List of the Register of the National Estate; location for JAMBA/CAMBA species; subject to protection under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, 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

Bush Forever Site Description (from *Bush Forever Volume 2 Government of WA 2000*), for the Maps see Volume 1

Recommendation:

BS429: Strategic Negotiated Planning Solution (see Table 3, Volume 1).

BS435: Part A: Local Reserve Mechanism. Part B: Other Government Land Mechanism. Part C: Rural Complementary Mechanism. Part D: Other Government Land Mechanism (see Table 3, Volume 1).

MARKET GARDEN SWAMPS, SPEARWOOD/MUNSTER

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SECTION 1: CADASTRAL INFORMATION

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

Bushplan Site nos. 429, 435 **Map no.** 66, 73 **Map sheet series ref. no.** 2033-I SW, 2033-I NW

System 6 (1983): Part M92 Part System area bushland, only bushland described

Other names

Market Garden Swamps No. 1, 2 and 3

Local Authorities (Suburb)

City of Cockburn (Munster, Spearwood)

Area (ha): total 42.2; bushland 34.9 (includes open water)

Zoning

MRS: Urban

TPS: Rural, Residential, Commercial, Lakes and Drainage, Local Road, R.O.W., P.A.W.

Lot/Location/Reserve numbers (Purpose),

Street name

3, 4, 7, 8, 9, 23 Fawcett Rd; 16, 17, 18, 19, 23 Rockingham Rd; 25, 501 Troode St; 36, 4089, 4090, 4106 Garden Rd; 17 Hamilton Rd; 4062 Watercress Gdns; 177 Okra St; 641, 4100 Blato Pl; 186, 4367 Kotisina Gdns; 299 Pennlake Dr; 2007, 2008, 4237 street not identified

Crown Reserve

Ownership Categories

Private (including commercial organisation), State Government, Local Government

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Significant bird species: category 2 (1), category 3 (1) and category 4 (1). Significant mammal species: Quenda (Friend 1996 D and Ecoscape 1995b)

Linkage: adjacent bushland canopy south BS435 (BS261, across road); part of proposed Greenway 109 (Tingay, Alan & Associates 1997a)

Other Special Attributes: included in Beeliar Regional Park Proposal (DPUD 1992a)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Interim List of the Register of the National Estate; Location for JAMBA/CAMBA species

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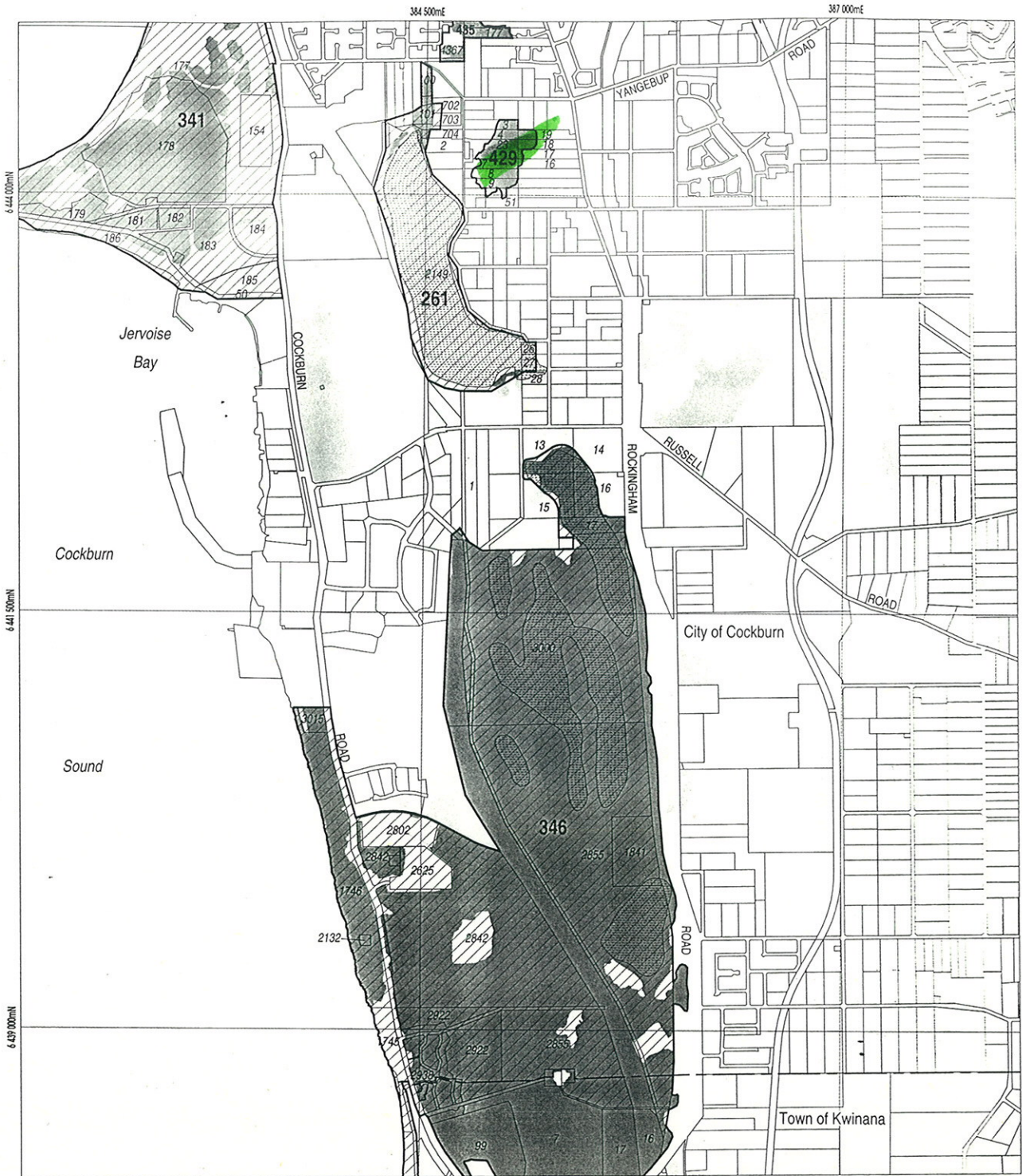
Opportunities and/or Constraints

Opportunities: Bushplan Site/part Bushplan Site, subject to Swan Coastal Plain Lakes EPP; under Crown Reserve

Constraints: private land; under MRS Urban Zoning

Recommendation: The most appropriate mechanism for the protection of this Bushplan Site be considered through the public comment period in consultation with the land owner(s).





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

2033 - I SW

IV	NW	NE
73	SW	SE
2033		
III		II

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	71	72	73	74	75	76	77	78	79	80	81	82	83	84		
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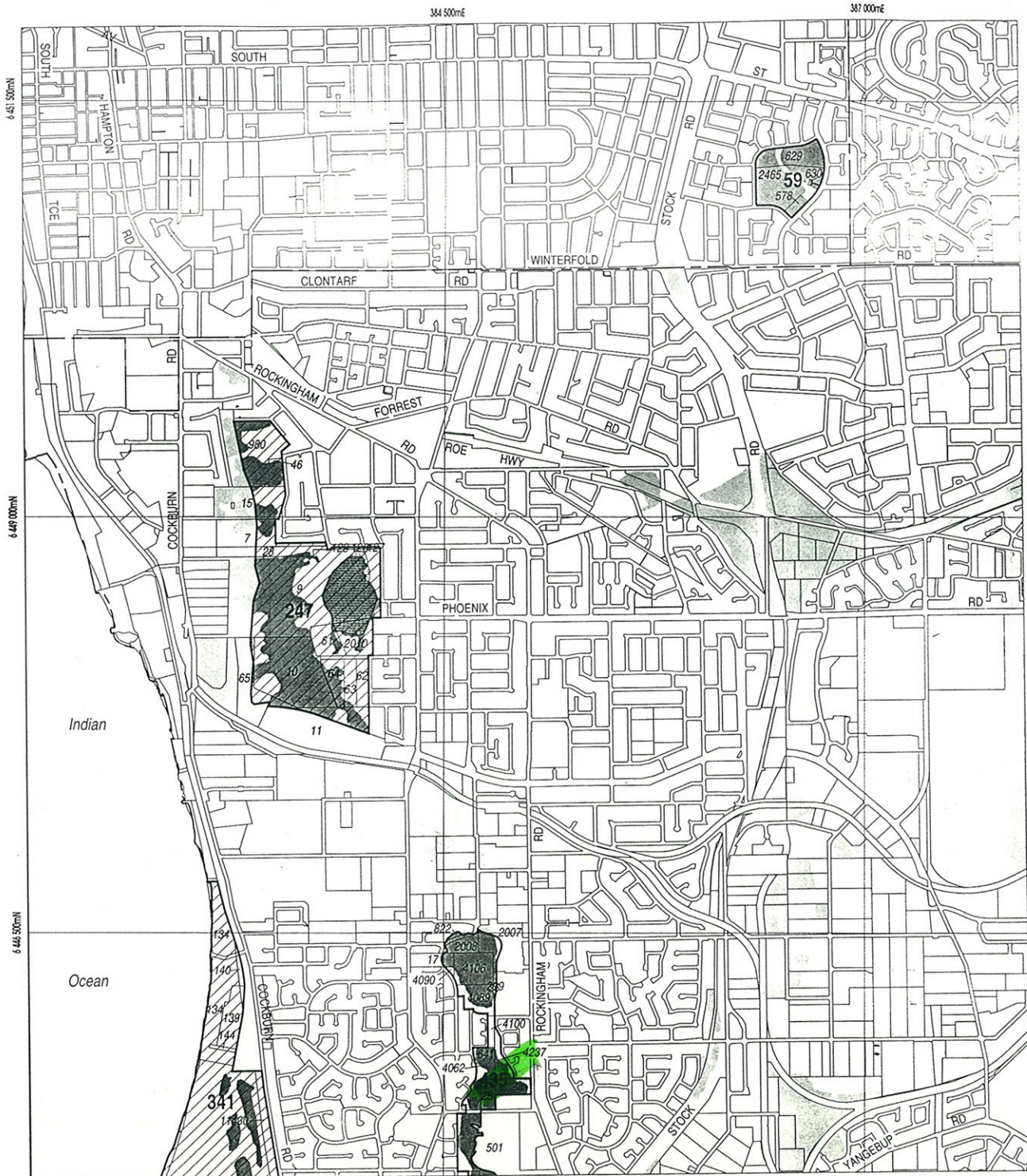
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SCALE

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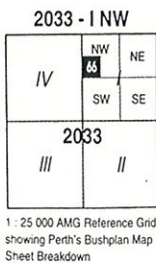
Metres

Produced by Project Mapping Section Land Information Branch, Ministry for Planning, Perth W.A. November 1998
ntw-map9/envirom/bushplan_bush2_73.pgn
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

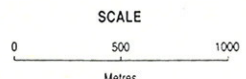
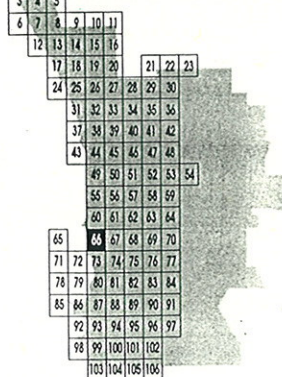


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PERTH'S BUSHPLAN MAP INDEX

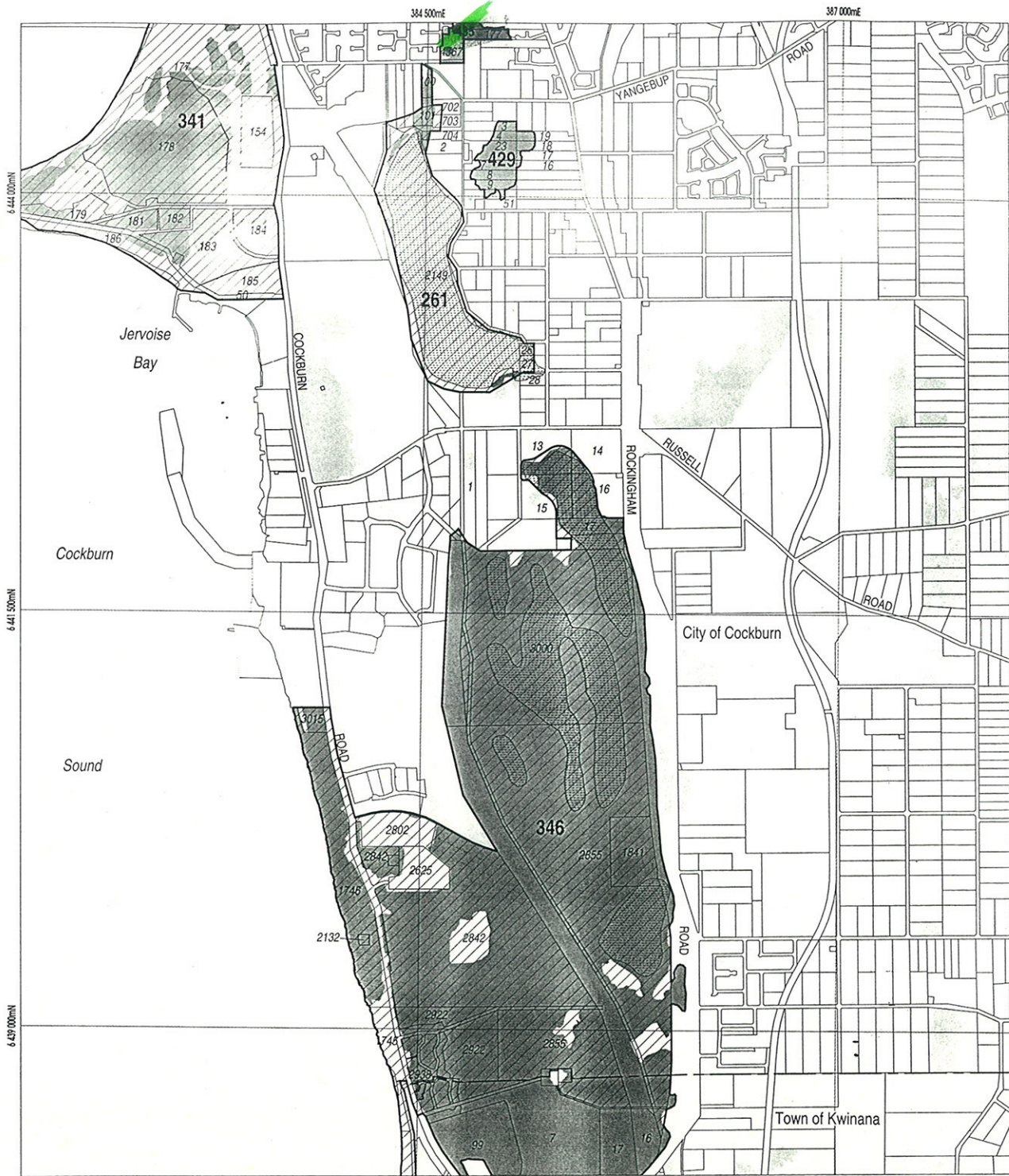


Produced by Project Mapping Section
Land Information Branch, Ministry for
Planning, Perth W.A. November 1998
ntw-map18/environ/bushplan/bushv2_66.dgn

Cadastral Data supplied by Department
of Land Administration, W.A.

Wetlands Data supplied by
Water and Rivers Commission

Native Vegetation Extent for Study Area
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96	97	98	99	100
101	102	103	104	105
106				

SCALE

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Produced by Project Mapping Section
Land Information Branch, Ministry for Planning, Perth W.A. November 1998
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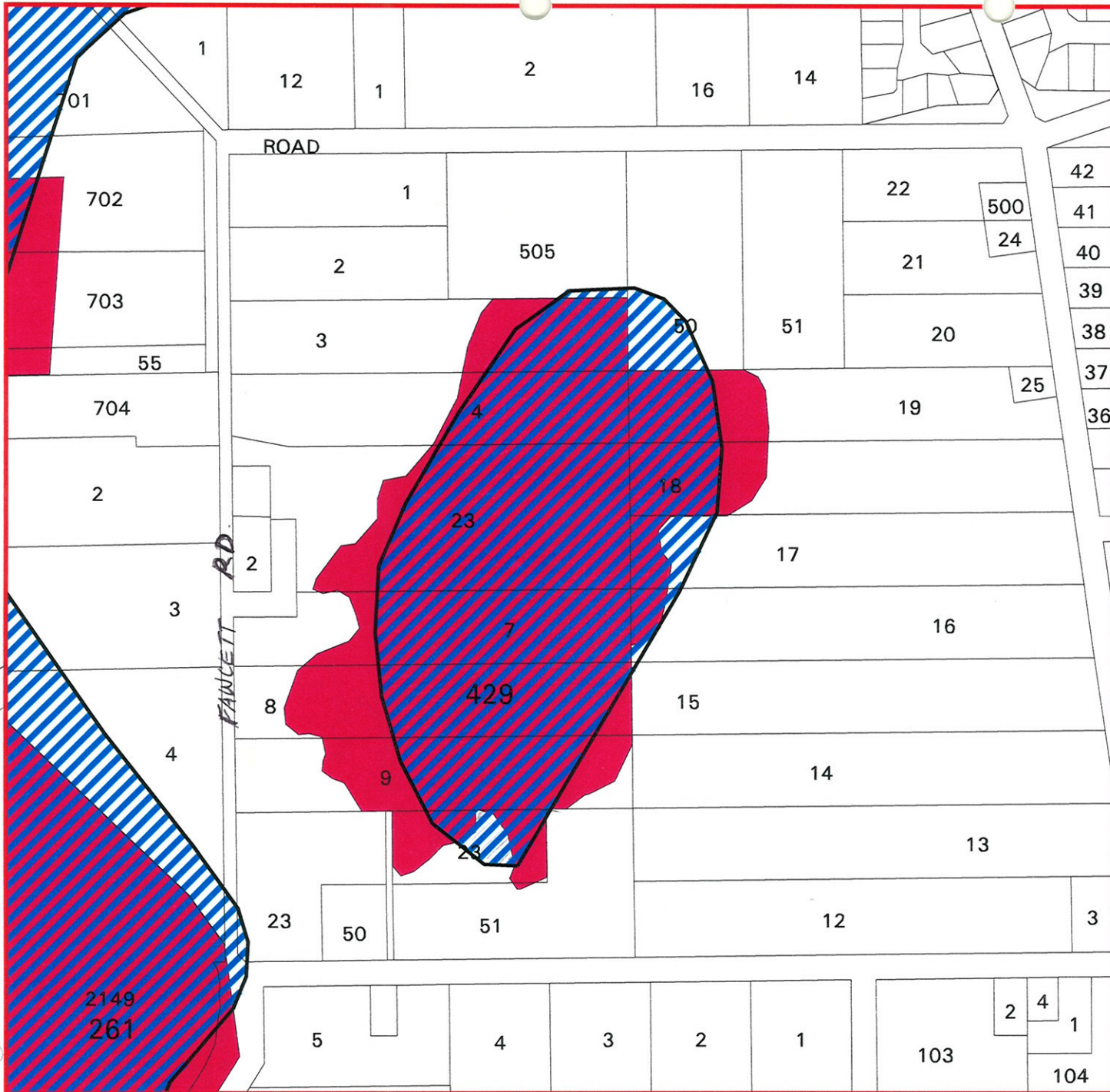
Cadastral Data supplied by Department of Land Administration, W.A.

Wetlands Data supplied by Water and Rivers Commission

Native Vegetation Extent for Study Area supplied by Agriculture Western Australia

B

BPS 429 - Munster



- 42 Cadastre with Lot Numbers
- 41 Bushplan Sites - Public Comment Nov 1998
- 40 Cadastre
- 39 EPP Lakes Policy

16 Feb 2000
 Nev Willsea 9434 1986 -
 8 Fawcett Rd
 complained neighbour -
 (Giacomo & Vincenzo Monastra -
 lot 8 Fawcett) are dumping
 steel/junk etc & drenching
 sheep on their lot.

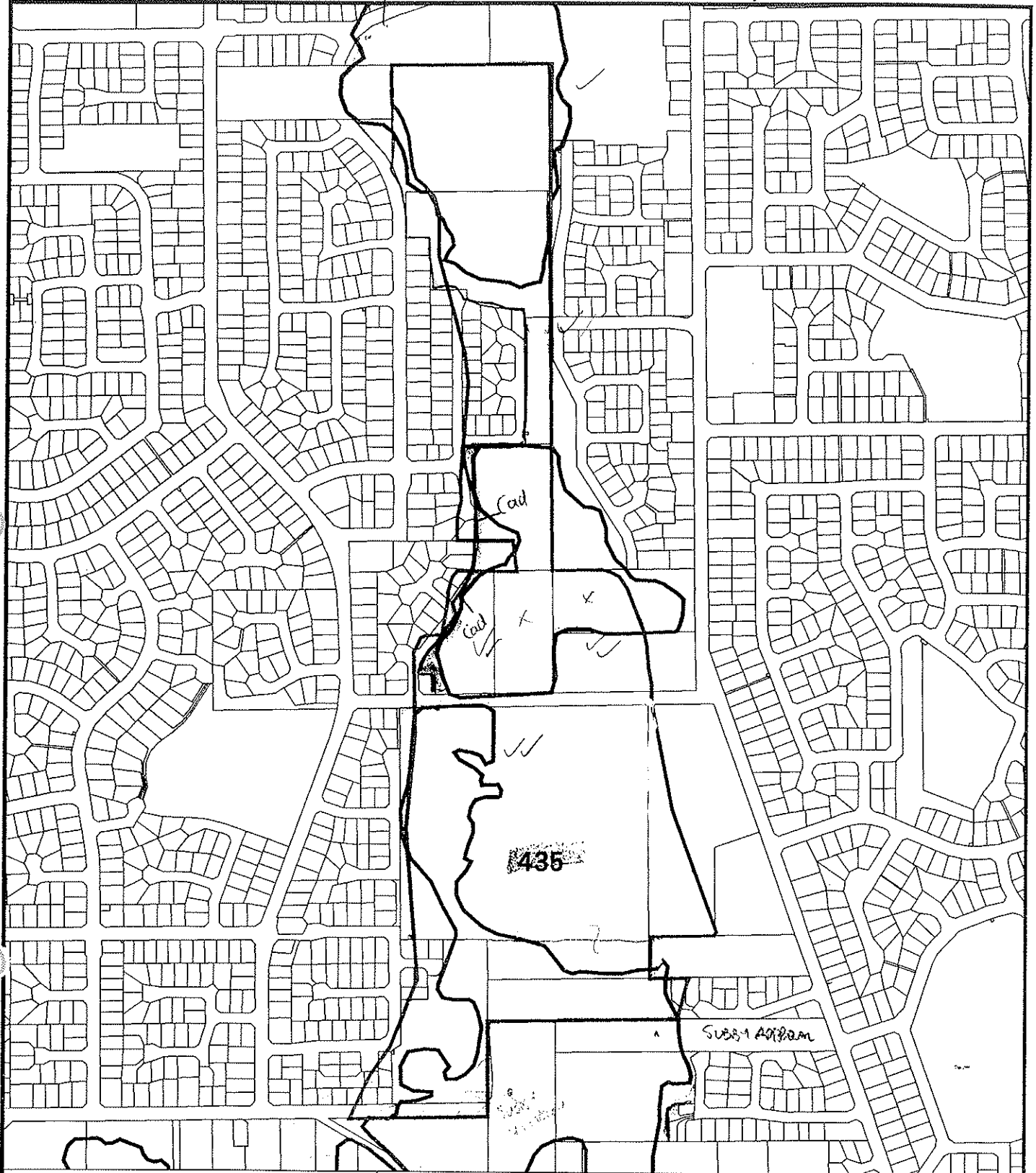
Lake Coogee

FAWCETT RD.

MFP INTERNAL USE ONLY	
Prepared By:	Catherine Thomson
Prepared For:	
Map Ident:	plot000218_1
Date:	18 Feb 2000
Scale:	1: 4626

Follow-up Approval 971651

Follow-up Approval 98679 ✓ OK



bp site 435

KIS WATER EXPOSED SWAMP

MFP INTERNAL USE ONLY
 Prepared By: Andrea Zappacosta
 Prepared For:
 Map Ident: plot980918_1
 Date: 18 Sep 98
 Scale 1:8174

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

*ORIGINAL BASIS OF SITE RE-LINEATION?
 / PROVISION OF 1912*

*NT/JA 1/10
 boundaries of
 described with
 429 use
 same number
 veg OK*

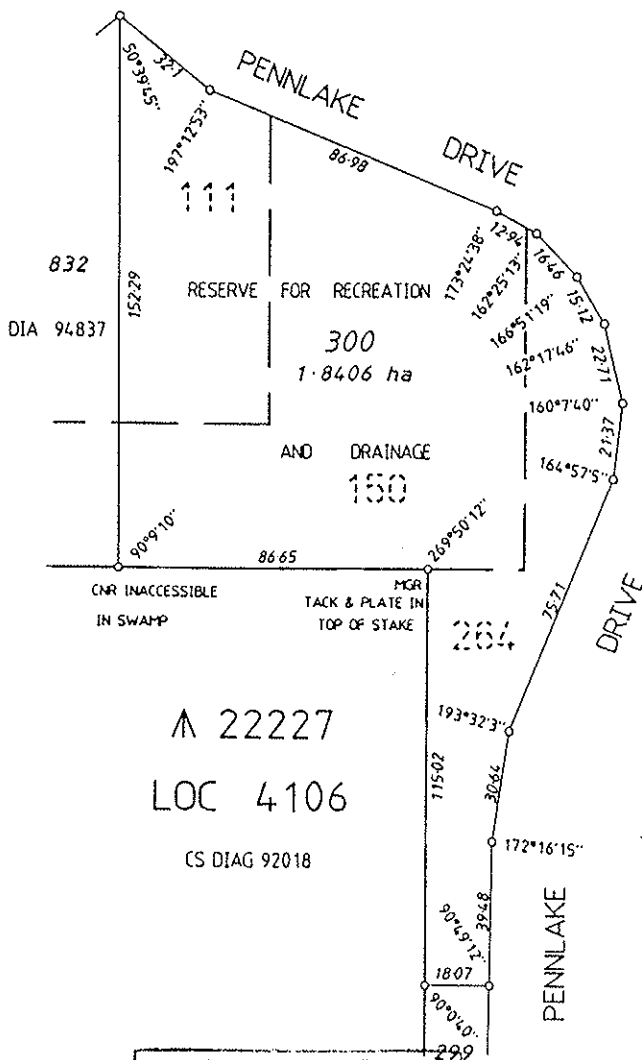
Cult General follows

- ① C Reserves
- ② Low Escarp
- ③ Govt Ownership
- ④ Safety Approvals

LAND DESCRIPTION	ON	CERTIFICATE OF TITLE	FIELD BOOK
PT 2007 OF COCKBURN SOUND LOCATIONS 111, 150 & 264	PLAN 224.00	VOLUME FOLIO	75059
	DIAGRAM	2121 580	77220
	INDEX BG 34 (2) 08.07 09.07		
	PUBLIC		
			TOTAL AREA 1.8406 ha

LOCAL AUTHORITY: CITY OF COCKBURN
LOCALITY: SPEARWOOD

ALL DIMENSIONS, AREAS
LOT NOS. SUBJECT TO TITLES
OFFICE APPROVAL



WATER AND RIVERS COMMISSION

REQUIREMENTS ME FOR THE FOLLOWING CONDITION(S)

12

DATE: 10/9/98

MINISTRY FOR PLANNING
29 SEP 1998
FILE 98679

LOT 300 (RESERVE FOR RECREATION & DRAINAGE)
TO VEST IN THE CROWN UNDER
SECTION 20A OF THE T. P. & D. ACT

JOHN GIUDICE & ASSOC.
LICENSED SURVEYORS
8 Stirling Street, FREMANTLE
Ph: 9335 6222 Fax: 9430 4980
NDWG30001

SURVEYOR'S CERTIFICATE - Reg 54
CHAEI J. MISSON hereby certify that this is a correct representation of the survey and/or locations from measurements recorded in the field book for the purposes of this plan and that it complies with the relevant written laws in relation to it as lodged.

DATE: _____

SURVEYOR'S CERTIFICATE - Completed
I hereby certify that this is a correct and accurate representation of the survey(s) of the subject-land, and in accordance with the relevant law in relation to which it is lodged.

DATE: _____

APPROVED BY
WESTERN AUSTRALIAN PLANNING COMMISSION

FILE 98679

DATE: _____

for Chairman

DATE: _____

EARLY ISSUE LOGGED

DATE: _____

FEE PAID: _____

ASSESSMENT No: _____

TYPE OF VALIDATION

FULL AUDIT LEGAL COMPONENT DOCKET PLAN/DIAGRAM CERTIFIED CORRECT

FSC. No: _____

SCALE 1 : 1500

20 10 0 20 40 60 80

ALL DISTANCES ARE IN METRES

IN ORDER FOR DEALINGS

SUBJECT TO: _____

FOR INSPECTOR OF PLANS & SURVEYS Date: _____

APPROVED: _____





INSPECTOR OF PLANS & SURVEYS Date: _____

DOLA
Department of LAND ADMINISTRATION

OFFICE OF TITLES
DIAGRAM



bp site 261

-  cons category wetlands
-  AG VEG 1998 - BOUNDARIES SCP
-  Bushplan sites refno 1-500 SCP BOUNDARY THEME
-  Cadastre

MFP INTERNAL USE ONLY

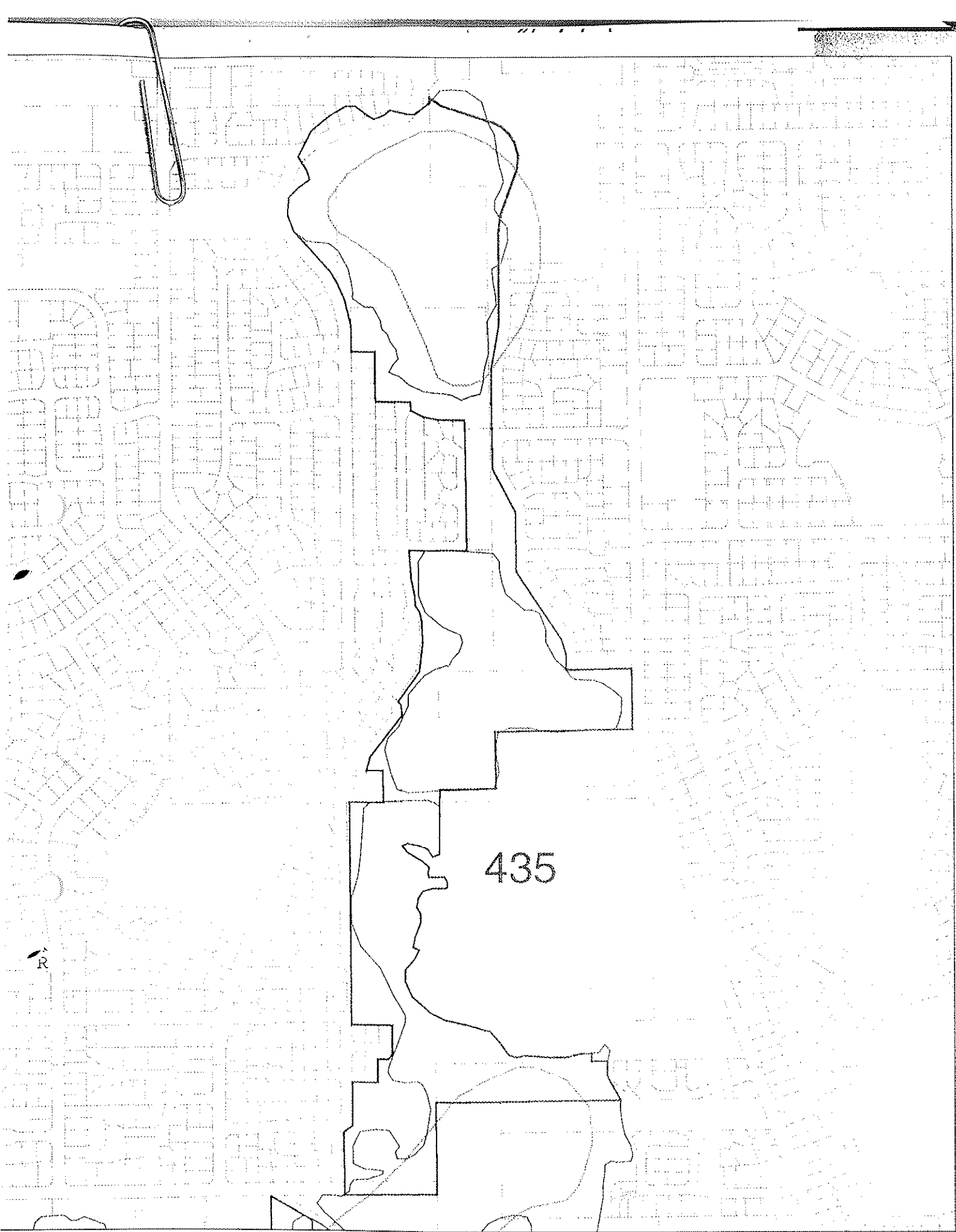
Prepared By: Andrea Zappacosta

Prepared For:

Map Ident: plot980918_1

Date: 18 Sep 98

Scale 1:10196



BUSHPLAN SITES CORRECTED



WESTERN
AUSTRALIAN
PLANNING
COMMISSION



CUSTOMER
FOCUS
WESTERN AUSTRALIA

B 76 22/10/98

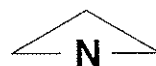


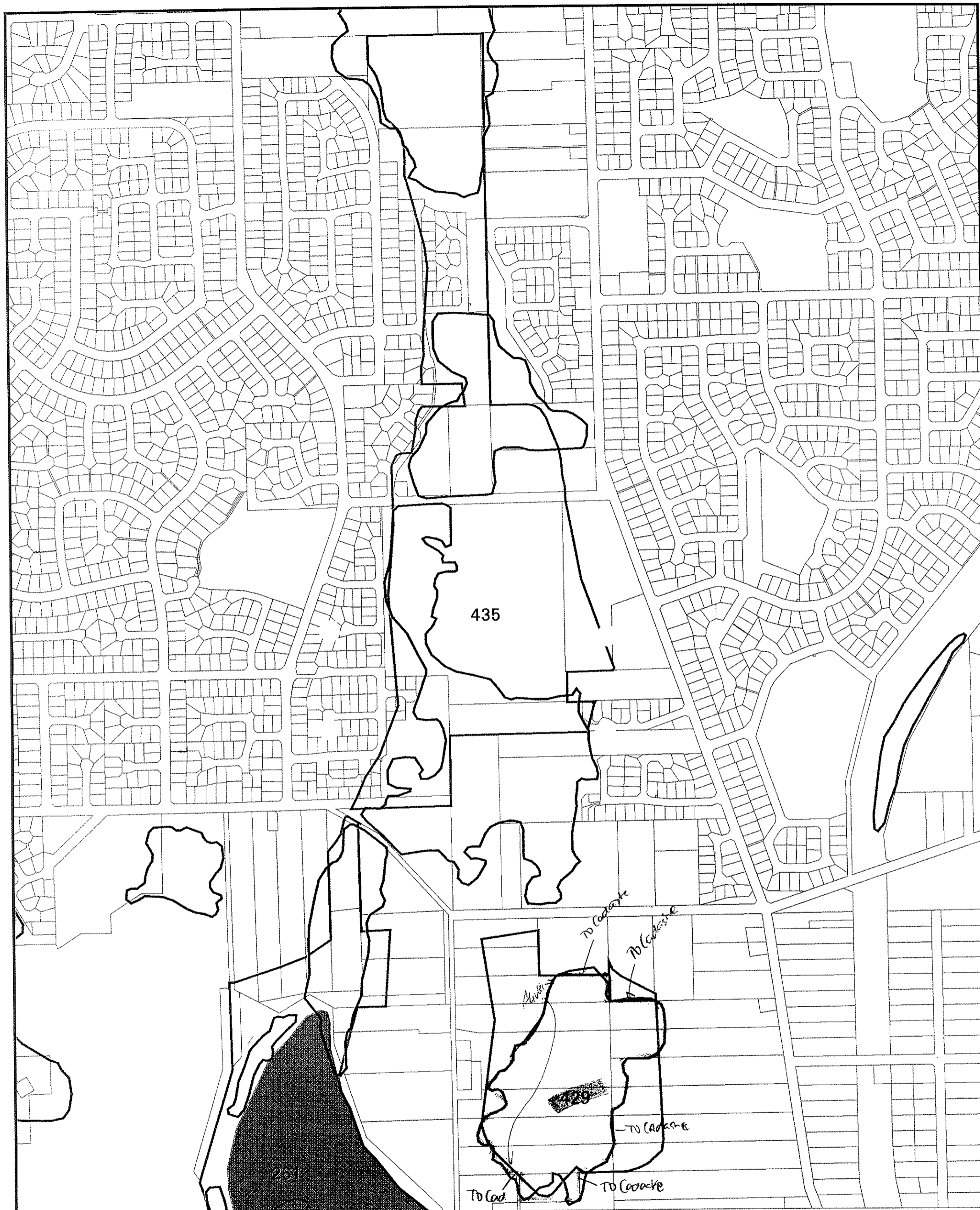
429

BUSHPLAN SITES CORRECTED



WESTERN
AUSTRALIAN
PLANNING
COMMISSION





bp site ~~429~~ & 435

Annotation: SEPARATE PLOT - SHOWN EXACT

Map Ident: plot980608_1

DATE: 08 Jun 98

CP





Prepared By: Andrea Zappacosta

Prepared For:

ISI 261

Scale 1:AUTO

MFP INTERNAL USE ONLY

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

follow veg / Cadastre

NT/A. OK 1/10/98

429 and 435 have same description should perhaps have same no.







bp site 429 & 435

Annotation: SEPARATE PLOT - SHOWING EXTENT OF

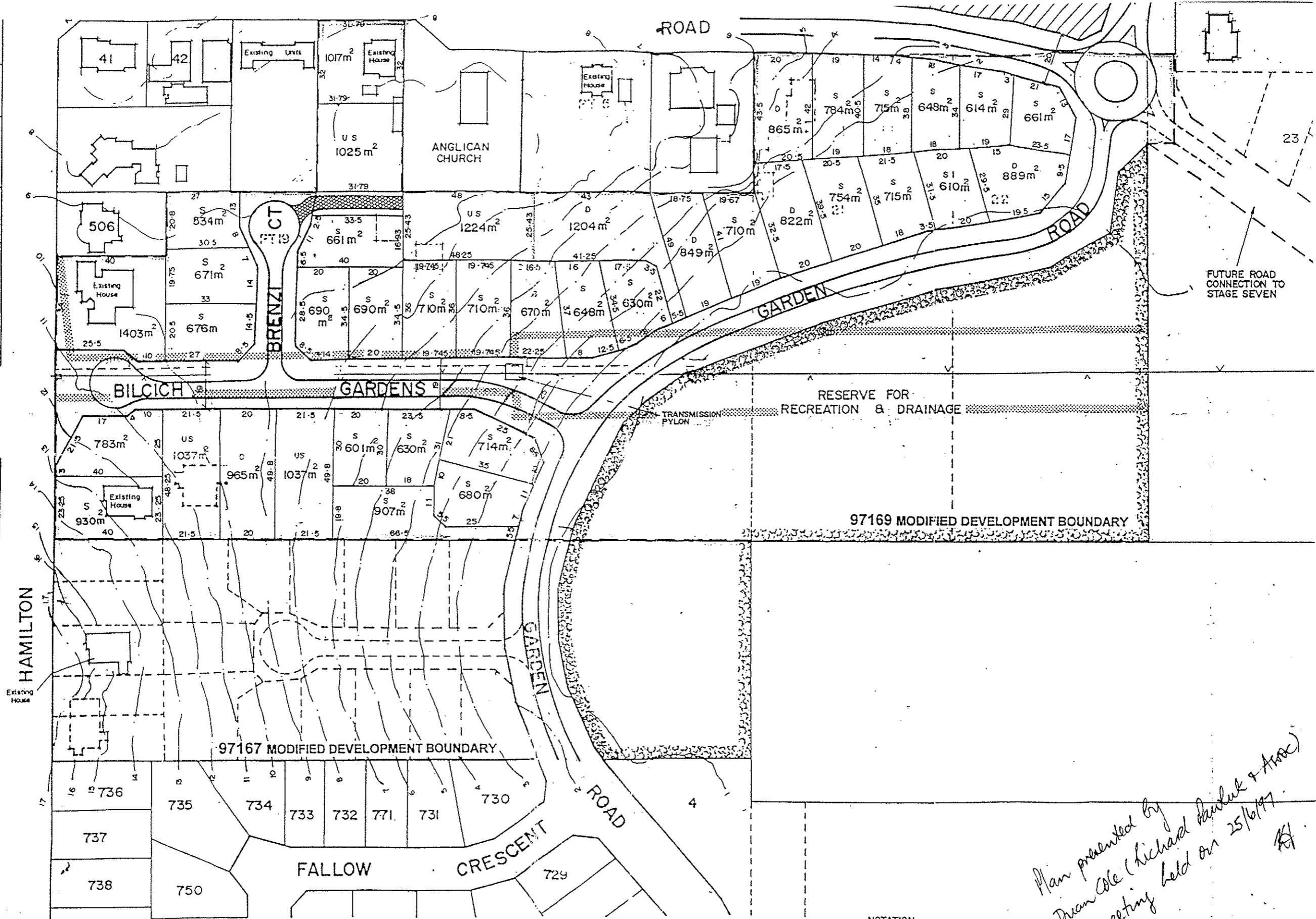
Map Ident: plot980608_1	DATE: 08 Jun 98	<i>CP</i>
Prepared By: Andrea Zappacosta	Prepared For:	<i>SI 261</i>
Scale 1:AUTO	MFP INTERNAL USE ONLY	

0 500 m

-  Cadastre
-  Bushplan sites refno 1-500 SCP BOUNDARY THEME
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*Follow veg (Cadastre)
 N/A. OK 1/10/98
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10
501
PT I
500
PT II
PT 3
501
500



AM DEVELOPMENT AREA: STAGE EIGHT
SED SUBDIVISION OF
R R PT LOT 19 HAMILTON ROAD R

STRY FOR
 LANNING
 OCT 1996
 97169

NOTATION
 S SINGLE RESIDENTIAL LOTS
 D DUPLEX LOTS
 US UNIT SITE

*Plan presented by
 Brian Cole (Richard Paulk & Assoc)
 at meeting held on 25/6/97
 RJ*

ALL AREAS AND DIMENSIO

FILE NUMBER 97169 - (This File Is Currently Marked To - Records)

Status : APPROVED
Type : SUBDIVISION

Application Date : 17-MAR-95
Receipt Date : 17-MAR-95
Planning Officer : D Bastin
Local Authority : City Of Cockburn

Applicant(s) : Urban Focus P O Box 1360 WEST

Owner(s) : I Bilcich 262 Hamilton Road SPEARWOOD WA 6163
K D & P B Lochel 254 Hamilton Road SPEARWOOD WA 6163
C Gumina 7 A Mell Road SPEARWOOD WA 6163
J Guazzelli 9 Mell Road SPEARWOOD WA 6163
Estate Of The Late Elvie Susan Brenzi 21 Mell Road SPEARWOOD WA 6163
Correia 9 Amberley Way HAMILTON HILL WA 6163
D C Brenzi 41 Glendower Way SPEARWOOD WA 6163
C L Goncalves 393 Hamilton Road SPEARWOOD WA 6163
M M Bell 158 Foxtton Drive OAKFORD WA 6113
P G Brenzi 11 Trellis Place SPEARWOOD WA 6163
A Vodanovich Lot 23 Mell Road SPEARWOOD WA 6163

Sketch Date : 17-MAR-95 Grid : P101 16/13 CCD : 91310
Subject : TO CREATE 44 LOTS RANGING BETWEEN 569M2 AND 1237M2

Location : MELL & HAMILTON ROADS, SPEARWOOD
Purpose : RESIDENTIAL
LA Recommendation : CONDITIONAL APPROVAL
LA Zone Text : RESIDENTIAL (R30)
LA Zone Code :
MRS Zone Text : URBAN
MRS Zone Code :

Land Description : Lots : 18, 19, 1, 4, 5, 21, 22 & 23, Pt 5 & 19
loc No : Cockburn Sound 111 & 150 Diagram :
2601, 12249/13963 C/T : 357/130, 1642/853,
1673/252,253, 1115/844, 1681/253, 1977/977

Related Files : 95809
Decision : APPROVED- DAUT Date : 25-JUL-95
Allocate To Agenda : NOT ALLOCATED
Map Reference : PERTH 08.07
Carto Office Date :

MARKET
GARDEN
SWAMP
SUBDIVISION
APPROVALS

MINISTRY OF EDUCATION Area : STATE Ref : 4815/93V01; 4336/93V010
Date Sent : 24-MAR-95 Date Reply : 13-APR-95

WESTERN POWER Area : STATE Ref : -
Date Sent : 24-MAR-95 Date Reply : 05-APR-95

TELSTRA Area : STATE Ref : DEV13237
Date Sent : 24-MAR-95 Date Reply : 21-APR-95

WATER CORPORATION Area : STATE Ref : C83878
Date Sent : 24-MAR-95 Date Reply : 09-MAY-95

RELATED L.A.

City Of Cockburn Reference : 99769
Date Sent : 24-MAR-95 Date Reply : 25-MAY-95

BOARD NOTES

1. Western Power and WAWA raise no objections subject to standard conditions.
2. The Education Department has advised that the proposal is situated within the Packham Development Area which is to be served by a 4ha Primary School site towards which landowners are expected to make pro-rata contribution for acquisition. A condition of this nature is necessary.
3. The Local Authority supports the proposal subject to standard conditions and non-standard conditions relating to the following:
 - i) location, clearance and filling of water bores;
 - ii) approval of construction drawings;
 - iii) building licences for retaining walls;
 - iv) times and inconvenience of subdivisional works;
 - v) fire hydrants;
 - vi) dust management program;
 - vii) imposition of a restrictive covenant regarding clause 8.11 of the TPS (which specifies that no less than 75% of the Packham area shall be developed for Single Residential Purposes); and
 - viii) gazettal of TPS Amendment No 91 (which was granted final approval on 26 May 1995).
4. The Local Authority also requested a footnote regarding the protection of Melalucas.
5. The proposal complies with the Packham Area Development Structure Plan (July 1994) and with the R30 density.
6. There are no adverse local or regional implications or concerns regarding this proposal and it should be approved accordingly.

FOOTNOTE TO APPLICANT

ADVICE TO APPLICANT

1. The Commission advises that Condition 3 should not be interpreted to imply that it requires the construction/upgrading to be at the subdivider's cost but this is a matter for negotiation between the subdivider and the Local Authority.

2. The applicant is advised that a building licence is required prior to the construction of any proposed retaining walls or other structures proposed as part of the subdivision.

3. The applicant is advised that amenity is a primary concern of the Local Authority. As such, activities associated with the subdivision site works causing noise and/or inconvenience to nearby and surrounding landowners/occupiers should be reduced. Furthermore, the Local Authority would prefer that such activities are undertaken between 7.00am and 6.00pm Monday to Saturday only.

4. The applicant is advised that, prior to site clearance and/or works commencing, information relating to existing contours and natural features, and locations of existing vegetation, the extent of proposed earthworks and final contours for the land should be submitted to the Local Authority.

5. The applicant is advised that Condition 20 requires that, prior to the commencement of subdivisional works, the subdivider submit to the Local Authority a dust management program in accordance with the Environmental Protection Authority's "Dust Control Guidelines" and a written undertaking to implement the program's dust control measures.

6. The applicant is advised to liaise with the Local Authority regarding the retention of Melalucas on-site during drainage works and the construction of Garden Road.

7. Site works shall not commence until the Local Authority has granted approval to the subdivision construction drawings to the satisfaction of the Western Australian Planning Commission. (LA)

8. Council and the applicant are advised that unless otherwise agreed to by the Commission, the first Diagram or Plan of Survey lodged for the Commission's endorsement shall include the Public Open Space required by Condition 11 of this approval, identified as a Reserve for Recreation, and shall include the creation of other lots within the subdivision to ensure that the Public Open Space land is properly vested under Section 20A on transfer of those lots.

RECOMMENDATIONS

The Commission has considered the application relating to the above described land and is prepared to approve a Diagram or Plan of Survey in accordance with the plan submitted once the conditions set out below have been fulfilled. This decision is valid for three years from the date of this advice.

In accordance with established procedures, all conditions must be complied with before submission of survey documents for endorsement. Surveyors should attach certificates clearing conditions to the survey documents when they are submitted.

The abbreviations in brackets identify the authority or agency

responsible for advising the Commission on clearance of conditions. The subdivider should liaise with the nominated authority on the requirements necessary to satisfy the condition and obtain advice from that authority that the conditions have been met, which should be submitted with the Plan or Diagram of Survey.

It is advised that should the applicant be aggrieved by this decision there is a right of appeal pursuant to the provisions of Section 26 of the Town Planning and Development Act 1928 (as amended). Such an appeal must be submitted in accordance with Part V of the Act within 60 days of the date of this decision. When an application is approved subject to condition(s), the applicant should liaise with a nominated authority(s) responsible for advising the Commission on the clearance of the condition as soon as possible to establish any detailed requirements of the condition and in order to retain a right of appeal in the event the applicant considers the requirements are onerous.

CONDITIONS

- 1) Those lots not fronting an existing road being provided with frontage to a constructed subdivisional road connected by a constructed subdivisional road(s) to the local road system and such subdivisional road(s) being constructed and drained at the subdivider's cost. As an alternative, the Western Australian Planning Commission is prepared to accept the subdivider paying to the Local Authority the cost of such works as estimated by the Local Authority subject to the Local Authority giving an assurance to the Commission that the works will be completed within a reasonable period acceptable to the Commission. (LA)
2. Street corners within the subdivision being truncated to the standard truncation of 8.5 metres. (LA)
3. Satisfactory arrangements being made with the Western Australian Planning Commission for the upgrading/construction of Mell Road. (LA)
- 4) The cul-de-sac heads being designed to the satisfaction of the Western Australian Planning Commission. (LA)
5. A dual use path/footpath between Hamilton Road and Garden Road and along the length of Garden Road shall be constructed by the subdivider to the satisfaction of the Western Australian Planning Commission. (LA)
6. The land being graded and stabilised at the subdivider's cost to the satisfaction of the Western Australian Planning Commission. (LA)
7. The land being filled and/or drained at the subdivider's cost to the satisfaction of the Western Australian Planning Commission. (LA)
8. Certification from the Water Authority that arrangements have been made with that body so that connection to an adequate water service will be available to the lot/s proposed by this application. (WA)
9. Certification from the Water Authority that arrangements have been made with that body so that connection to an adequate

sewerage service will be available to the lot/s proposed by this application. (WA)

10. Certification from the Water Authority that arrangements have been made with that body with respect to the drainage of the land either directly or indirectly into a drain under the control of the Water Authority. (WA)
11. The proposed reserve(s) shown on the plan submitted by the applicant, being shown on the Diagram or Plan of Survey as a "Reserve for Recreation and Drainage" and vested in the Crown under section 20A of the Town Planning and Development Act (as amended), such land to be ceded free of cost and without any payment of compensation by the Crown.
12. All buildings and effluent disposal systems, having the necessary clearance from the new boundaries as required under the relevant legislation. (LA)
13. Measures being taken to the satisfaction of the Western Australian Planning Commission to ensure identification and protection of any vegetation on the site worthy of retention prior to commencement of site works. (LA)
14. Certification by the Water Authority of WA/Bush Fires Board that subdivision reticulation plans meet specifications and that hydrant fire fighting services will be installed to the satisfaction and requirements of the Western Australian Planning Commission. (BFB)
15. Such padmount sites as may be required by Western Power being transferred free of cost to Western Power, with the locations of the sites being to the satisfaction of the Western Australian Planning Commission. (Western Power) (LA)
16. The battleaxe access leg(s) being constructed and drained at the subdivider's cost to the satisfaction of the Western Australian Planning Commission. (LA)
17. Certification from Western Power that financial and other requirements have been satisfied for the provision of underground electricity to the lots approved under this application. (Western Power)
18. Certification from Western Power that satisfactory arrangements have been made for the provision of easements for Western Power existing or future equipment. (Western Power)
19. Satisfactory arrangements being made with the Western Australian Planning Commission for the identification and filling of any bores and/or wells on the subject land. (LA)
20. The subdivider making arrangements satisfactory to the Western Australian Planning Commission which will ensure that adequate dust control measures are implemented during subdivisional works. (LA)
21. The subdivider making arrangements satisfactory to the Western Australian Planning Commission which will ensure that the landowners make pro-rata contributions towards the purchase of a 4ha Primary School site in the Packham area. (EDU)
22. Satisfactory arrangements being made with the Local Authority to ensure the provision, where required, of a restrictive covenant

regarding compliance with Clause 8.11 of the City of Cockburn
 District Zoning Scheme No 2. (LA)

PRELIMINARY APPROVAL STATISTICS

Approval Date : 25-JUL-95 Original Lots : 10
 Owner Type : PRIVATE
 Decision Type : DELEGATED AUTHORITY

Lot Size	Zone	Lots Produced
450 - 499 M2	RESIDENTIAL	1
500 - 549 M2		2
550 - 599 M2		3
600 - 699 M2		19
700 - 799 M2		11
800 - 899 M2		5
900 - 999 M2		1
1000 - 1499 M2		3

sum		45

FINAL APPROVAL STATISTICS

Approval Date : 28-FEB-96 Original Lots : 10
 Owner Type : PRIVATE
 Decision Type : DELEGATED AUTHORITY

Lot Size	Zone	No Of Lots
5 HA - 10 HA	RESIDENTIAL	1

		1

Approval Date : 29-DEC-97 Original Lots : 10
 Owner Type : PRIVATE
 Decision Type : DELEGATED AUTHORITY

Lot Size	Zone	No Of Lots
600 - 699 M2	RESIDENTIAL	13
700 - 799 M2		7
800 - 899 M2		4
900 - 999 M2		4
1000 - 1499 M2		6

		34

=== END OF REPORT ===

Run on 30-SEP-98 DEPARTMENT OF PLANNING AND URBAN DEVELOPMENT
APPLICATION DETAILS REPORT

FILE NUMBER 97167 - (This File Is Currently Marked To - Records)

Status : APPROVED
Type : SUBDIVISION
Application Date : 17-MAR-95
Receipt Date : 28-MAR-95
Planning Officer : D Bastin
Local Authority : City Of Cockburn

Status : APPROVED
Type : SUBDIVISION

Application Date : 17-MAR-95
Receipt Date : 28-MAR-95
Planning Officer : D Bastin
Local Authority : City Of Cockburn

Applicant(s) : Urban Focus P O Box 1360 WEST PERTH WA 6872

Owner(s) : G N & D T Grljusich 266 Hamilton Road SPEARWOOD
WA 6163

Sketch Date : 17-MAR-95 Grid : P101 16/13 CCD : 91310
Subject : -
Location : HAMILTON ROAD, SPEARWOOD
Purpose : RESIDENTIAL
LA Recommendation : -
LA Zone Text :
LA Zone Code :
MRS Zone Text : URBAN
MRS Zone Code :

Land Description : Lots : 17 loc No : Cockburn Sound 152 Diagram :
2601 C/T : 3331/147

Related Files : 94801
Decision : APPROVED
Allocate To Agenda : 196
Map Reference : PERTH 08.07
Carto Office Date :

Land Description : Lots : 17 loc No : Cockburn Sound 152 Diagram :
2601 C/T : 3331/147

Related Files : 94801
Decision : APPROVED
Allocate To Agenda : 2895
Map Reference : PERTH 08.07
Carto Office Date :

CONSULTANTS

MINISTRY OF EDUCATION Area : STATE Ref : 4815/93V01; 4336/93V010
Date Sent : 24-MAR-95 Date Reply : 13-APR-95

WESTERN POWER Area : STATE Ref : -
Date Sent : 24-MAR-95 Date Reply : 05-APR-95

TELSTRA Area : STATE Ref : DEV 13237
Date Sent : 24-MAR-95 Date Reply : 21-APR-95

WATER CORPORATION Area : STATE Ref : C83745
Date Sent : 24-MAR-95 Date Reply : 09-MAY-95

RELATED L.A.

City Of Cockburn Reference : -
Date Sent : 24-MAR-95 Date Reply : 21-APR-95

COMMITTEE NOTES

NOTES TO

COMMITTEE: ^B^C^C^INTRODUCTION^C^C^1.^I^C^C^CONSULTATION^C^C^
^2.^I^C^C^COMMENTS^C^C^3.^I^C^C^CONCLUSION^C^C^4.^I^C^C^

REPORT BODY

----> Insert Recommendation Here

<-----^C^C^CONDITION(S):/REASON(S): <-- delete where
applicable^C^C^1.^I^C^C^2.^I^C^C^ADVICE TO
APPLICANT:^C^C^1.^I^C^C^2.^I^

FOOTNOTE TO APPLICANT

ADVICE TO APPLICANT/LOCAL AUTHORITY

1.^I^The Commission's approval to the subdivision should
be construed as an approval to development on any of the lots
proposed.

2.^I^The Commission's approval of this subdivision should not be
construed as an approval of zoning proposals. These are
initiated by the Local Authority and are, pursuant to the Town
Planning and Development Act (as amended), subject to approval by
the Minister for Planning.

3.^I^The Commission advises that Condition 3 should not be
interpreted to imply that it requires the construction/upgrading
to be at the subdivider's cost but this is a matter for
negotiation between the subdivider and the Local Authority.

4.^I^The applicant is advised that Condition 9 requires that,
prior to the commencement of subdivisional works, the subdivider
submits to the Local Authority a dust management programme in
accordance with the Environmental Protection Authority's "Dust
Control Guidelines" and a written undertaking to implement the
programme's dust control measures.

5.^I^The applicant is advised that the Department of

Environmental Protection has prepared dust control guidelines for development sites, which inter alia, outline the procedures for the preparation of Dust Management Plans for development sites. Further information on the guidelines can be obtained from the Department or the local authority.

6. The Council and the applicant are advised that unless otherwise agreed to by the Commission, the first Diagram or Plan of Survey lodged for the Commission's endorsement shall include the Reserve required by Condition 14 of this approval, identified as a Reserve for Recreation and Drainage, and shall include the creation of other lots within the subdivision to ensure that the Reserve land is properly vested under Section 20A on transfer of those lots.

7. The applicant is advised to consult with the Geographic Names Section of the Department of Land Administration to ensure early clearance of any new or altered road names. This will avoid subsequent delay in the issue of titles.

8. The applicant is advised that a building licence is required prior to the construction of any proposed retaining walls or other structures proposed as part of the subdivision.

9. The applicant is advised that amenity is a primary concern of the Local Authority. As such, activities associated with the subdivision site works causing noise and/or inconvenience to nearby and surrounding landowners/occupiers should be minimised. Furthermore, the Local Authority would prefer that such activities are undertaken between 7.00 a.m. and 6.00 p.m. Monday to Saturday only.

10. The applicant is advised that, prior to site clearance and/or works commencing, information relating to existing contours and natural features, and locations of existing vegetation and the extent of proposed earthworks and final contours for the land should be submitted to the Local Authority.

11. The applicant is advised to liaise with the Local Authority regarding the retention of Melaleucas on-site during drainage works and the construction of Garden Road.

12. The applicant is advised that the Local Authority's approval to the subdivision construction drawings is required prior to site works commencing.

13. The Local Authority is requested to consider amending its District Zoning Scheme to rezone the land appropriately.

RECOMMENDATIONS

The Commission has considered the application relating to the above described land and is prepared to approve a Diagram or Plan of Survey in accordance with the amended plan date stamped 28 December 1995 (copy attached) once the conditions set out below have been fulfilled. This decision is valid for three years from the date of this advice.

CCC In accordance with established procedures all conditions must be complied with before submission of survey documents for endorsement. Surveyors should attach certificates clearing conditions to the survey documents when they are submitted.

CCC The abbreviations in brackets identify the authority or

agency responsible for advising the Commission on clearance of conditions. The subdivider should liaise with the nominated authority on the requirements necessary to satisfy the condition and obtain advice from that authority that the conditions have been met, which should be submitted with the Plan or Diagram of Survey.

^C^C^C^It is advised that should the applicant be aggrieved by this decision there is a right of appeal pursuant to the provisions of Section 26 of the Town Planning and Development Act 1928 (as amended). Such an appeal must be submitted in accordance with Part V of the Act within 60 days of the date of this decision. When an application is approved subject to condition(s), the applicant should liaise with a nominated authority(s) responsible for advising the Commission on the clearance of the condition as soon as possible to establish any detailed requirements of the condition and in order to retain a right of appeal in the event the applicant considers the requirements are onerous.

CONDITIONS

- 1) Those lots not fronting an existing road being provided with frontage to a constructed subdivisional road connected by a constructed subdivisional road(s) to the local road system and such subdivisional road(s) being constructed and drained at the subdivider's cost. As an alternative, the Western Australian Planning Commission is prepared to accept the subdivider paying to the Local Authority the cost of such works as estimated by the Local Authority subject to the Local Authority giving an assurance to the Commission that the works will be completed within a reasonable period acceptable to the Commission. (LA)
2. Street corners within the subdivision being truncated to the standard truncation of 8.5 metres. (LA)
3. Satisfactory arrangements being made with the Western Australian Planning Commission for the upgrading/construction of Hamilton Road. (LA)
- 4) The cul-de-sac heads being designed to the satisfaction of the Western Australian Planning Commission. (LA)
5. A dual-use path/cycleway along the entire length of Garden Road being constructed by the subdivider to the satisfaction of the Western Australian Planning Commission. (LA)
6. The land being graded and stabilised at the subdivider's cost to the satisfaction of the Western Australian Planning Commission. (LA)
7. The land being filled and/or drained at the subdivider's cost to the satisfaction of the Western Australian Planning Commission, and any easements and/or reserves necessary for the implementation thereof, being provided free of cost. (LA)
8. Satisfactory arrangements being made with the Western Australian Planning Commission for the identification and filling of any bores and/or wells on the subject land. (LA)
9. The subdivider making arrangements satisfactory to the Western Australian Planning Commission which will ensure that adequate dust control measures are implemented during subdivisional works.

(LA)

10. Certification from the Water Authority that arrangements have been made with that body so that connection to a water supply service will be available to the lot/s proposed by this application. (WA)
11. Certification from the Water Authority that arrangements have been made with that body so that connection to a sewerage service will be available to the lot/s proposed by this application. (WA)
12. Certification from the Water Authority that arrangements have been made with that body with respect to the drainage of the land either directly or indirectly into a drain under the control of the Water Authority. (WA)
13. The battleaxe access leg(s) being constructed and drained at the subdivider's cost to the satisfaction of the Western Australian Planning Commission. (LA)
14. The proposed reserve(s) shown on the plan dated 28 December 1995, being shown on the Diagram or Plan of Survey as a "Reserve for Recreation and Drainage" and vested in the Crown under section 20A of the Town Planning and Development Act (as amended), such land to be ceded free of cost and without any payment of compensation by the Crown.
15. The subdivider making arrangements satisfactory to the Western Australian Planning Commission which will ensure that the proposed eastern boundary of Garden Road does not encroach further eastward than the System 6 (M92) or Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 boundaries. (LA)
16. All buildings and effluent disposal systems, having the necessary clearance from the new boundaries as required under the relevant legislation. (LA)
17. Such padmount sites or pillar connections as may be required by Western Power being transferred free of cost to Western Power, with the locations of the sites being to the satisfaction of the Western Australian Planning Commission. (Western Power) (LA)
18. Certification from Western Power that financial and other requirements have been satisfied for the provision of underground electricity to the lots approved under this application. (Western Power)
19. Certification from Western Power that satisfactory arrangements have been made for the provision of easements for Western Power existing or future equipment. (Western Power)
20. Measures being taken to the satisfaction of the Western Australian Planning Commission to ensure identification and protection of any vegetation on the site worthy of retention prior to commencement of site works. (LA)
21. The subdivider making arrangements satisfactory to the Western Australian Planning Commission which will ensure that the landowners make pro-rata contributions towards the purchase of a 4ha primary school site in the Packham area. (Ed Dept)
22. Satisfactory arrangements being made with the Local Authority to ensure the provision, where required, of a restrictive covenant

regarding compliance with Clause 8.11 of the City of Cockburn
District Zoning Scheme No 2. (LA)

NOTES

1/96C - letter printed 4/1/96

PRELIMINARY APPROVAL STATISTICS

Approval Date : 03-JAN-96 Original Lots : 1
Owner Type : PRIVATE
Decision Type : DELEGATED AUTHORITY

Lot Size	Zone	Lots Produced
500 - 549 M2	RESIDENTIAL	13
550 - 599 M2		9
600 - 699 M2		23
700 - 799 M2		10
800 - 899 M2		3
900 - 999 M2		2
1000 - 1499 M2		4
	*****	-----
sum		64

FINAL APPROVAL STATISTICS

=== E N D O F R E P O R T ===

Run on 30-SEP-98 DEPARTMENT OF PLANNING AND URBAN DEVELOPMENT
APPLICATION DETAILS REPORT

FILE NUMBER 98679 - (This File Is Currently Marked To Nicole Tournay)

Status : APPROVED
Type : SUBDIVISION

Application Date : 05-SEP-95
Receipt Date : 12-SEP-95
Planning Officer : D Bastin
Local Authority : City Of Cockburn

Applicant(s) : Urban Focus P O Box 1360 WEST PERTH WA 6872

Owner(s) : S J Gaspar 425 Rockingham Road SPEARWOOD WA 6163
Y & Y Bacich 421 Rockingham Road SPEARWOOD WA
6163

C & G Marroccoli 415 Rockingham Road SPEARWOOD
WA 6163

N & R M Milos 395 Rockingham Road SPEARWOOD WA
6163

S Blagaich 403 Rockingham Road SPEARWOOD WA 6163
D Orsulich 401 Rockingham Road SPEARWOOD WA 6163
M Blagaich 403 Rockingham Road SPEARWOOD WA 6163
D Beros 92 Edgumbe Street COMO WA 6152
I & M Vidovich 385 Rockingham Road SPEARWOOD WA
6163

A Vodanovich Lot 23 Mell Road SPEARWOOD WA 6163

Sketch Date : 12-DEC-95 Grid : 1101 17/13 CCD : 81603
Subject : To amalgamate 12 lots and resubdivide the land
into 120 ranging between 500m2 and 2503m2, a
1.648ha public open space reserve, a 1806m2 lot
to form part of a future primary school site, and
subdivisional roads.

Location : ROCKINGHAM & MELL ROADS, SPEARWOOD
Purpose : RESIDENTIAL
LA Recommendation : Conditional Approval
LA Zone Text : RESIDENTIAL (R 30), COMMERCIAL AND PUBLIC PURPOSE
S (ABUTS RURAL, RESIDENTIAL (R 30), PUBLIC PURPOSES
LAKES & DRAINAGE AND LOCAL ROAD)

LA Zone Code :
MRS Zone Text : URBAN
MRS Zone Code :

Land Description : Lots : 1, 2, 3, 13, 13, 14, 15, 16, 23, 50, And
Pt 18 & 2006 loc No : Cockburn Sound 264
Diagram : 1700,2601/17425 & 16627 C/T :
1756/461, 1558/397, 1778/276, 1299/480, 1147/539,
1721/511, 971/75, 1468/808 & 1086/800

Related Files : 94568
Decision : APPROVED- DAUT Date : 30-DEC-96

Allocate To Agenda : NOT ALLOCATED
Map Reference : PERTH 09.07
Carto Office Date :

CONSULTANTS

MINISTRY OF EDUCATION Area : STATE Ref : 4815/93VO2; 4336/93VO12
Date Sent : 14-SEP-95 Date Reply : 25-SEP-95

ENVIRONMENT PROTECTION AUTH Area : STATE Ref : 136/82:92578
Date Sent : 13-DEC-95 Date Reply : 29-JAN-96

ALINTA GAS Area : STATE Ref : -
Date Sent : 14-SEP-95 Date Reply : 28-SEP-95

WESTERN POWER Area : STATE Ref : -
Date Sent : 14-SEP-95 Date Reply : 28-SEP-95

TELSTRA Area : STATE Ref : DEV 13237/7
Date Sent : 14-SEP-95 Date Reply : 09-OCT-95

TRANSPERTH - DO NOT USE Area : STATE Ref : DT/95/1085
Date Sent : 14-SEP-95 Date Reply : 02-NOV-95

WATER CORPORATION Area : STATE Ref : C85688
Date Sent : 14-SEP-95 Date Reply : 27-OCT-95

RELATED L.A.

City Of Cockburn Reference : 998679
Date Sent : 14-SEP-95 Date Reply : 03-OCT-95

COMMITTEE NOTES

REPORT: Introduction U^C^1.^I^The proposal
relates to Stage

REPORT BODY

approval/amended plan 12 December 1996/conditions
The C

PRELIMINARY APPROVAL STATISTICS

Approval Date : 30-DEC-96 Original Lots : 12
Owner Type : PRIVATE
Decision Type : DELEGATED AUTHORITY

Lot Size

Zone

Lots Produced

500 - 549 M2	RESIDENTIAL	12
600 - 699 M2		62
700 - 799 M2		16
800 - 899 M2		6
900 - 999 M2		3
1000 - 1499 M2		5
1500 - 1999 M2		1
1 HA - 2 HA		1

sum		106

FINAL APPROVAL STATISTICS

Approval Date : 16-DEC-97 Original Lots : 12
 Owner Type : PRIVATE
 Decision Type : DELEGATED AUTHORITY

Lot Size	Zone	No Of Lots
10 HA - 25 HA	RESIDENTIAL	1

		1

Approval Date : 14-AUG-98 Original Lots : 12
 Owner Type : PRIVATE
 Decision Type : DELEGATED AUTHORITY

Lot Size	Zone	No Of Lots
UNDER 234 M2	RESIDENTIAL	1
500 - 549 M2		1
550 - 599 M2		1
600 - 699 M2		37
700 - 799 M2		4
800 - 899 M2		1
900 - 999 M2		2
1000 - 1499 M2		2
2000 - 2999 M2		1

		50

=== END OF REPORT ===

Run on 30-SEP-98 DEPARTMENT OF PLANNING AND URBAN DEVELOPMENT
APPLICATION DETAILS REPORT

FILE NUMBER 101136 - (This File Is Currently Marked To - Records)

Status : APPROVED
Type : SUBDIVISION

Application Date : 28-JUN-96
Receipt Date : 01-JUL-96
Planning Officer : D Bastin
Local Authority : City Of Cockburn

Applicant(s) : Urban Focus P O Box 1360 WEST PERTH WA 6872

Owner(s) : P & M A Di Lena 108 Winifred Street HAMILTON
HILL WA 6163

Homeswest 99 Plain Street EAST PERTH WA 6004
Coburg Nominees Pty Ltd 14 Prowse Street WEST
PERTH WA 6005

Sketch Date : 01-JUL-96 Grid : P111 17/10 CCD : 81614
Subject : To create 16 residential lots ranging between
517m2 and 809m2 in area, and portion of an access
place-

Location : ROCKINGHAM ROAD, MUNSTER
Purpose : RESIDENTIAL
LA Recommendation : Conditional Approval
LA Zone Text : RESIDENTIAL (R30)
LA Zone Code :
MRS Zone Text : URBAN
MRS Zone Code :

Land Description : Lots : 1, Pt 2002 & 2 loc No : Cockburn Sound
300 Diagram : Diagrams: 11447 & 83797 C/T :
1067/849, 1972/345 & 1972/344

Related Files :
Decision : APPROVED- DAUT Date : 09-JAN-97
Allocate To Agenda : NOT ALLOCATED
Map Reference : PERTH 09.05
Carto Office Date :

CONSULTANTS

WESTERN POWER Area : STATE Ref : -
Date Sent : 03-JUL-96 Date Reply : 17-JUL-96

TELSTRA Area : STATE Ref : DEV8143-2C
Date Sent : 03-JUL-96 Date Reply : 12-JUL-96

WATER & RIVERS COMMISSION Area : STATE Ref : 4170
Date Sent : 03-JUL-96 Date Reply : 23-JUL-96

WATER CORPORATION Area : STATE Ref : C88816
Date Sent : 03-JUL-96 Date Reply : 16-AUG-96

RELATED L.A.

City Of Cockburn Reference : 101136
Date Sent : 03-JUL-96 Date Reply : 29-OCT-96

COMMITTEE NOTES

RECONSIDERATION REPORT: The applicant has requested a

REPORT BODY

The Commission resolved to: Remove Condition 17 of the Commiss

PRELIMINARY APPROVAL STATISTICS

Approval Date : 09-JAN-97 Original Lots : 1
Owner Type : PRIVATE
Decision Type : DELEGATED AUTHORITY

Lot Size	Zone	Lots Produced
500 - 549 M2	RESIDENTIAL	2
550 - 599 M2		6
600 - 699 M2		3
700 - 799 M2		3
800 - 899 M2		1

sum		15

FINAL APPROVAL STATISTICS

=== E N D O F R E P O R T ===

FILE NUMBER 100465 - (This File Is Currently Marked To Ken Dawson)

Status : DEFERRED
Type : SUBDIVISION

Application Date : 16-FEB-96
Receipt Date : 17-APR-96
Planning Officer : K Dawson
Local Authority : City Of Cockburn

Applicant(s) : Urban Focus P O Box 1360 WEST PERTH WA 6005

Owner(s) : V Panizza 257 Mayor Road COOGEE WA 6166
M A Mastaglia 256 Mayor Road MUNSTER WA 6166
A Cipriani 257 Mayor Road SPEARWOOD WA 6163
A Librizzi 41 Lilly Street FREMANTLE WA 6160

Sketch Date : 17-APR-96 Grid : P111 16/10 CCD : 81614
Subject : -
Location : MAYOR ROAD, COOGEE
Purpose : RESIDENTIAL
LA Recommendation :
LA Zone Text : RESIDENTIAL
LA Zone Code :
MRS Zone Text : URBAN, IMPORTANT REGIONAL ROADS
MRS Zone Code :

Land Description : Lots : 1, 12, 1 & Pt 701 loc No : Cockburn Sound
P18, 300, 300 & P18 Diagram : Diagrams 778,
8657, 8659 & 55142 C/T : 1216/046, 1059/527,
1220/917 & 1934/499

Related Files : 78973
Division : DEFERRED- DAUT Date : 27-AUG-98
Allocate To Agenda : NOT ALLOCATED
Map Reference : PERTH 08.05
Carto Office Date :

CONSULTANTS

MINISTRY OF EDUCATION Area : STATE Ref : 4815/93V2
Date Sent : 19-APR-96 Date Reply : 07-MAY-96

WESTERN POWER Area : STATE Ref : -
Date Sent : 19-APR-96 Date Reply : 02-MAY-96

TELSTRA Area : STATE Ref : DEV 16749
Date Sent : 19-APR-96 Date Reply : 09-MAY-96

WATER CORPORATION Area : STATE Ref : C 87296
Date Sent : 19-APR-96 Date Reply : 06-JUN-96

RELATED L.A.

City Of Cockburn Reference : 100465
Date Sent : 19-APR-96 Date Reply : 29-OCT-96

COMMITTEE NOTES

NOTE TO COMMITTEE: The subject land is located in Munster on the intersection of Major Road and Fawcett Road. It is referred to Packham Development Area Stage 14. There are four existing residences within the area to be subdivided (which was previously used for market gardening. It is proposed to excise these four properties from the total land area. It is proposed to create 21 new residential lots ranging in size from 610m2 to 1552m2 with 16 of the 21 lots to be created as single lots. Western Power, the Department of Environmental Protection and the Education Department of WA raised no objection subject to conditions. The Water Corporation advised that: a report titled "Munster Main Pumping Station - Investigation of Future Wastewater Flows 1996" (investigating the operation of the existing pumping station, the future growth in wastewater flows and staging requirements of future pump station upgrading works, overflow facilities and environmental issues) has been finalised; the Munster Main Pumping Station is the largest wastewater pumping facility in WA and services a catchment which comprises the major part of the Perth Metropolitan Area south of the river; and the proposal falls within the Cockburn Groundwater Area. The City of Cockburn has no objection to the proposal subject to conditions. Council acknowledged recent advice from the Water Corporation regarding potential smells from the Munster sewer pump station (that air scrubbers have been installed and that smells will now only be an occasional problem). Subsequently Council advised that it no longer requests memorials (relating to potential smells) be placed on title of all lots in the subdivision.

REPORT BODY

-----> Insert Recommendation Here
<----- CONDITION(S) : /REASON(S) : <-- delete where applicable
1. 2. ADVICE TO APPLICANT: 1. 2.

RECOMMENDATIONS

The Commission confirms that it has received agreement to extend the period for consideration of the application relating to the above described land and advises that a decision will be deferred, until no later than 31 December, 1998 to provide time for the following matter(s) to be resolved:
. Delayed by issues relating to the expansion of the Water Corporation's Munster Pump Station.

If the issue(s) mentioned above is not resolved prior to the expiration of this period, then the application will be assessed

and determined on the basis of the planning situation and information available at the time.

Lot Size	Zone	Lots Produced

sum		

FINAL APPROVAL STATISTICS

=== E N D O F R E P O R T ===

MARCKET GARDEN SWAMP

• ~~Bush plan Site # 435 + 429~~

• ~~Map No. ?~~

• ~~Map sheet Ref No. ?~~

NEED TO BE INCLUDED

• ~~Juncus kraussii ... may it had a name Δ - kraussii~~

• ~~? Melaleuca viminea~~

• ~~Melaleuca viminea ~> ?? significant sp?~~

• ~~Melaleuca cuticularis ?? important~~

• ~~veg. Condition ?~~

• ~~species = 21~~

• ~~Remnant veg = That~~

XP

mes 193
MGS1 = C = GOOD
That Grove = D = DEGRADED
MGS2 = C - B ! GOOD - GOOD

Open water is mapped as bushland

1193

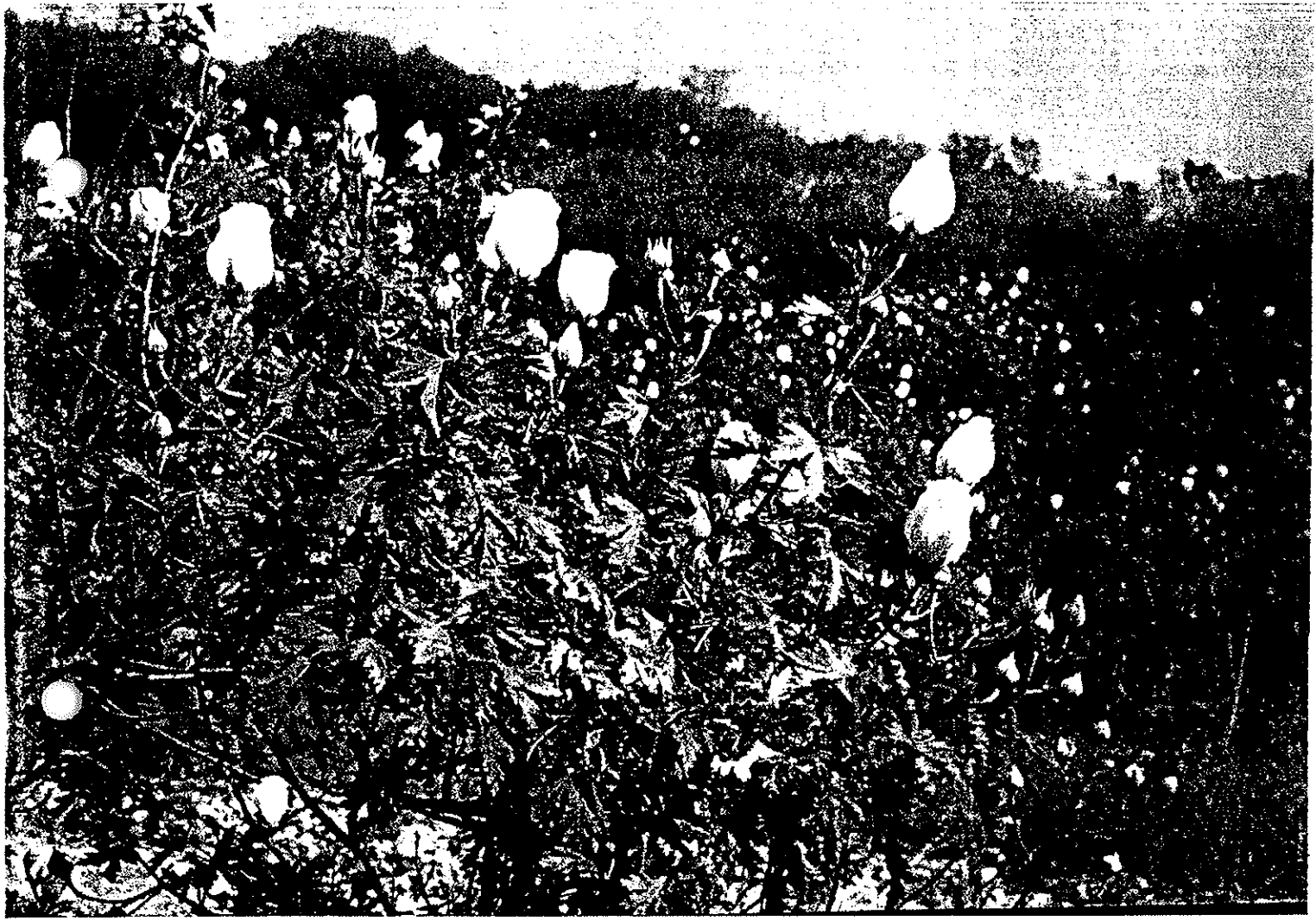
11/12/95
13/5/96

Part Report:

Value identification
not objection
assessment section

(Contact Heritage
Commission, Melinda
Brown for complete

**Objection Assessment of the
values of the vegetation and flora of the
Beeliar Wetlands** 13/5/96



Alogyne huegelii var. *glabrescens* to the west of Manning Lake

Prepared for the Australian Heritage Commission

by Bronwen Keighery, Consultant Botanist
November 1995 and February 1996

Table 2: Bushland Areas listed on the National Estate or being considered for listing.
Bushland Areas listed/interim listed on the National Estate

Bushland Area	Area (ha)	Native Flora	Flor. Com ¹⁰	Veg. Assoc.#	Veg. Comp. ¹⁸
✓ Hepburn Heights/Pinnaroo	90	230* ¹ ✓	3*	19 ¹¹	3
✓ Trigg/Karrinyup Reserves	120	175 ² ✓	4		2
✓ Banksia Road Nature Reserve	33	150 ³ ✓	3		1
✓ Marangaroo (Res 20091)	30*	130 * ⁴ ✓	1		1
✓ Neerabup National Park	1,111	242 ⁵ ✓	2		? ²
✓ Star Swamp	100	191 ⁶ ✓	3	13 ¹¹	? ²
✓ Woodvale Nature Reserve	44	170 ⁷ ✓	1		1
Beeliar Wetlands	2700	406 ²²	7	31 ¹⁸	4
✓ Thompsons Lake NR	509	199 ¹⁴ ✓		15 ¹⁴ 12 ¹⁸	3
✓ Baganup Lake	254	279 ¹⁵ ✓	4	10 ¹⁵	3
✓ Murdoch University	?	200 ¹³		5 ¹³	2
✓ Yangebup Lake	103*	140 ¹⁶ ✓		5 ¹⁶ 7 ¹⁸	2
✓ Piney Lake	68	96 ¹⁰ ✓		6 ¹⁰	1
✓ Booragoon Lake	13	34 ¹² ✓		3 ¹²	1
✓ Market Garden Lake	38	21 ¹⁷ ✓		7 ¹⁷	1

Unlisted areas subject to current nominations

✓ Kings Park	400	290 ²⁰ ✓	1	5 ²⁰	1
✓ Bold Park	221	221 ²¹ ✓	4		3
✓ M91	56	86 ²³ ✓	2		1

these are not directly compatible as they are based on variety of approaches to describing vegetation associations

* estimate of area, flora or floristic community types

1 estimate based on Keighery (1991), Tingay (1991), Foulds (1988) and AHC Listing Document

2+ G. Keighery pers. comm.

3+ G. Keighery pers. comm.

4 estimate from knowledge of the area

5+ G. Keighery pers. comm.

6 Bell *et al.* (1984)

7 Keighery and Langley (1994)

8 Gibson *et al.* (1994) and System 6 Update

9 Tingay (1991)

10 Rodda (1986)

11 Weston and Clay (1980)

12 Smith (1985)

13 Dell and Bennett (1986)

14 Crook and Evans (1981)

15 Clay (1986)

16 Ecoscape (1994)

17 Ecoscape (1995)

18 Newman *et al.* (1976)

19 Heddle *et al.* (1980)

20 Bennet in Kings Park Bushland Draft Management Plan (1993)

21 Keighery, Harvey and Keighery (1991)

22 Appendix Flora

23 Keighery and Keighery 1993

+ Reserve flora lists for bushland areas on the Swan Coastal Plain are being compiled by G.J. Keighery with assistance from B.J. Keighery and N. Gibson to establish a better knowledge of the flora of these areas and to address species conservation status for the Swan Coastal Plain.

Table 3: Floristic Community Types found in the study area

Each site is located Map 1. Study site codes refer to the following areas:

- Thom - Thomson Lake Nature Reserve (Gibson *et al.* 1994)
 Harry - Banganup Lake and adjacent bushland, Harry Waring Marsupial Reserve
 or Jandakot Research Station (Gibson *et al.* 1994)
 MTB - Lakes Mount Brown and Brownman Swamps and adjacent bushland (Gibson *et al.* 1994)
 NAVB - M 91 (Gibson *et al.* 1994)
 Beel - 1 & 2 North Lake and adjacent bushland (System 6 Update 1995)
 - 3 Murdoch University

Floristic Community Type (site)	Generalised Description	Predominant Landform Type (after Churchward and McArthur 1980)
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Wetland Super Group

5 (Map 2a) Harry 3	Mixed shrub damplands Mean species richness per site: 38.4 Av.Cond: 2.1, Cons status: Low risk	Bassendean/Pinjarra
11 (Map 2a) Harry 6 Beel 3	Wet forests and woodlands Mean species richness per site: 27.2 Av.Cond: 2.7, Cons status: Low risk	Bassendean/Pinjarra
16 (Map 2a) *NAVB 1	Highly saline seasonal wetlands Mean species richness per site: 13.5 Av.Cond: 2.9, Cons status: Vulnerable	coastal and esturine
17 (Map 2a) MTB 05	<i>Melaleuca raphiophylla</i> - <i>Ghania trifida</i> seasonal wetlands Mean species richness per site: 13.6 Av.Cond: 2.3, Cons status: Low risk	Quindalup/ Spearwood

Bassendean Dune Super Group

21a (Map 2b) Harry 05	Central <i>Banksia attenuata</i> - <i>E. marginata</i> woodlands Mean species richness per site: 54.6 Av.Cond: 2.5, Cons status: Low risk	Bassendean/ Spearwood
23a Map 2b) Harry 04 #Beel 02	Central <i>Banksia attenuata</i> - <i>B.menziesii</i> woodlands Mean species richness per site: 62.8 Av.Cond: 2, Cons status: Low risk	Bassendean

Spearwood/Quindalup Dune Super Group

24 (Map 2b) Thom 02 MTB 1, 2, 3 & 4 *NAVB3 &4	Northern Spearwood shrublands and woodlands Mean species richness per site: 41.8 Av.Cond: 3, Cons status: Susceptible	Spearwood
28 (Map 2b) #Beel 1 Harry 1 & 2	Spearwood <i>Banksia attenuata</i> or <i>Banksia attenuata</i> - <i>Eucalyptus</i> woodlands Mean species richness per site: 55.2 Av.Cond: 2.5, Cons status: Low risk	Spearwood
29a (Map 2b) *NAVB 2	Coastal shrublands on shallow sands Mean species richness per site: 40.7 Av.Cond: 2.3, Cons status: Susceptible	Quindalup

Appendix 1

This list was compiled from a series of published and unpublished lists for the study area. The principle references are cited in the key to column 4. Records were also extracted from the text of Environmental Science Murdoch University (1986) and Newman et al (1980). As most of these lists date from the 1980's there was a need to update the nomenclature.

Some additions have also been made from field visits in October and November 1995 for this study.

Key

Column 1: Taxon

Taxa are listed alphabetically in family, genera and species. Nomenclature is after Gibson *et al.* (1994). A * preceding a the genus name indicate a non-native taxon, these may be naturalised taxa or planted taxa.

Column 2: Priority Code (Department of Conservation and Land Management 1995)

Column 3: Geographical Range/Significant Taxa

N = Populations at the northern limit of their known range

S = Populations at the southern limit of their known range

W = Populations at the western limit of their known range

Geographic Limit - Location of limits as defined above.

= Significant taxa (see Sections 3.3.1 and 3.4.1.2 for details of significance)

Column 4: Areas

P Piney Lake Reserve (Rodda 1986)

Ba Banganup Lake (Weston and Clay 1980)

Bo Booragoon (Lake Smith 1985)

M Murdoch University (Dell and Bennett 1986)

T Thompson's Lake Nature Reserve (Crook and Evans 1981)

S The Spectacles (Clay 1986)

Y Yangebup Lake (Ecoscape 1994)

Ma Manning Lake (this report)

MG Market Garden Swamps (Ecoscape 1995)

MB Floristic Database for Swan Coastal Plain (Gibson *et al.* 1994) and System 6 Update

F Floristic Database for Swan Coastal Plain (Gibson *et al.* 1994) and System 6 Update.

91 System 6 area M91 (Keighery and Keighery 1993)

Taxon	Prio Code	Geographic Range	Recorded Areas	29
Aizoaceae				
*Carpobrotus aquilaterale			P, Ba, T, S	
*Carpobrotus edulis			Ba, Bo, M, T, Y, F, 91	
Carpobrotus virescens			91	
Carpobrotus virescens X edulis			91	
*Tetragonia decumbens			F, 91	
Amaranthaceae				
Ptilotus drummondii			Ba, T, Y, 91	
Ptilotus manglesii			P	
Ptilotus polystachyus			M, Y	
Anredaceae				
*Anredera cordifolia			MG	
Anthericaceae				
Arnocrinum preissii			Ba, T, Y	
Caesia micrantha			Ba, M, T	
Caesia occidentalis			F	
Chamaescilla corymbosa			Ba, M, T, S, F	
Corynotheca micrantha			Ba, M, T, S, Y	
Dichopogon capillipes			Ba, T, Y, F	
Laxmannia ramosa			Ba	
Laxmannia squarrosa			P, Ba, T, M, F	
Sowerbaea laxiflora			P, Ba, M, T, S, Y, F	
Thysanotus arenarius			Y	
Thysanotus asper			M	
Thysanotus manglesianus/patersonii complex			P, Ba, T, Y, F, 91	
Thysanotus multiflorus			M	
Thysanotus sparteus			Ba, T, Y, F	
Thysanotus thyrsoideus			F	
Thysanotus triandrus			Ba, M, Y, F	
Tricoryne elatior			Ba, Bo, M, T, S, Y	
Tricoryne tenella			F	
Amaryllidaceae				
*Narcissus tazetta				
Apiaceae				
Apium annuum			F, 91	
Apium prostratum			F	
Centella cordifolia			Ba, Bo, M, T, S, Y	
Daucus glochidiatus			F, 91	

Taxon	Prio Code	Geographic Range	Recorded Areas	30
<i>Eryngium pinnatifidum</i> subsp. <i>pinnatifidum</i>			Ba, M, T, Y, F	
* <i>Foeniculum vulgare</i>			T, Y, Mg, Ma, 91	
<i>Homalosciadium homalocarpum</i>			Ba, Y, F	
<i>Hydrocotyle diantha</i>			F	
<i>Hydrocotyle scutellifera</i>			F	
<i>Platysace compressa</i>			Ba, M, T, F	
<i>Trachymene pilosa</i>			M, Y, F	
<i>Xanthosia huegelii</i>			Ba, M, , S, Y, F	
Araceae				
* <i>Zantedeschia aethiopica</i>			S, Y, H, MG, F	
Asclepidaceae				
* <i>Gomphocarpus fruticosus</i>			MG	
Asparagaceae				
* <i>Myrsiphyllum asparagoides</i>			Ma	
Asphodelaceae				
* <i>Asphodelus fistulosus</i>			Ba, M, T, 91	
* <i>Trachyandra divaricata</i>			91	
Asteraceae				
* <i>Arctotheca calendula</i>			Ba, T, S, Y, 91	
* <i>Aster subulatus</i>			Ba, T, F	
<i>Asteridea pulverulenta</i>			Ba, Y	
<i>Brachyscome iberidifolia</i>			Ba, M	
* <i>Carduus pycnocephalus</i>			Ba	
* <i>Centaurea melitensis</i>			Ba, F, 91	
* <i>Cirsium vulgare</i>			Ba, MG, 91	
* <i>Conyza albida</i>			F, 91	
* <i>Conyza bonariensis</i>			Bo, F, 91	
<i>Cotula coronopifolia</i>			Ma	
* <i>Dittrichia graveolens</i>			MG, 91	
* <i>Helianthus annua</i>			MG	
<i>Helichrysum cordatum</i>			M, 91	
<i>Hyalosperma cotula</i>			Ba, T, F, 91	
* <i>Hypochaeris glabra</i>			Ba, Bo, S, Y, MG, F, 9	
<i>Ixiolaena viscosa</i>	N	North Lake	Bi, N, F	
* <i>Lactuca serriola</i>			Y, F	
<i>Lagenifera huegelii</i>			Ba, S, Y, F	
<i>Millotia myosotidifolia</i>			Ba, M, t	
<i>Millotia tenuifolia</i>			F	

Taxon	Prio Code	Geographic Range	Recorded Areas	31
<i>Olearia axillaris</i>			Ba, M, T, F, 91	
<i>Olearia elaeophila</i>			Y	
<i>Pithocarpa corymbulosa</i>			Y	
<i>Podolepis canescens</i>			Ba, T	
<i>Podolepis gracilis</i>			Ba, M, T, Y, F	
<i>Podotheca angustifolia</i>			Y, F	
<i>Podotheca chrysantha</i>			Ba, M, T, F	
<i>Podotheca gnaphalioides</i>			P	
<i>Pseudognaphalium luteoalbum</i>			Ba, F	
<i>Quinetia urvillei</i>			Y, F	
<i>Senecio hispidulus</i>			Ba, T	
<i>Senecio lautus</i>			Ba, M, T, Y, F, 91	
<i>Siloxerus humifusus</i>			Ba, M, F	
* <i>Solidago canadensis</i>			MG	
* <i>Sonchus asper</i>			Ba, M, F, 91	
<i>Sonchus hydrophilus</i>			F, 91	
* <i>Sonchus oleraceus</i>			F, 91	
* <i>Taraxacum officinale</i>			MG	
* <i>Urospermum picroides</i>			F, 91	
* <i>Ursinia anthemoides</i>			Ba, S, Y, F	
* <i>Vellereophyton dealbatum</i>			Ba, T, F, 91	
<i>Waitzia citrina</i>			T, F	
<i>Waitzia suaveolens</i>			F	
Azollaceae				
<i>Azolla filiculoides</i>			Y, H	
Brassicaceae				
* <i>Brassica oxyrrhina</i>			Y	
* <i>Brassica tournefortii</i>			Ba, MG, F, 91	
* <i>Heliophila pusilla</i>			Ba, F, 91	
* <i>Lobularia maritima</i>			MG	
* <i>Sisymbrium orientale</i>			MG	
* <i>Raphanus raphanistrum</i>			BO, MG	
* <i>Rorippa nasturtium-aquaticum</i>			Ba, T	
Callitrichaceae				
* <i>Callitriche stagnalis</i>			Ba	
Campanulaceae				
* <i>Wahlenbergia capensis</i>			Ba, Y	
<i>Wahlenbergia preissii</i>			Ba, F	

Taxon	Erio Code	Geographic Range	Recorded Areas	32
Cannaceae				
* <i>Canna generalis</i>			MG	
* <i>Canna ochnoides</i>			MG	
Caryophyllaceae				
* <i>Arenaria serpyllifolia</i>			F	
* <i>Cerastium glomeratum</i>			Ba, F	
* <i>Minuartia hybrida</i>			F, 91	
* <i>Petrorhagia velutina</i>			Ba, T, Y, 91	
* <i>Sagina apetala</i>			Ba, F	
* <i>Sagina maritima</i>			F, 91	
* <i>Silene gallica</i>			Ba, T, Y, F, 91	
* <i>Stellaria media</i>			Ba, F, 91	
Casuarinaceae				
<i>Allocasuarina fraseriana</i>			P, Ba, M,, T, S, Y, F	
<i>Allocasuarina humilis</i>			P, Ba, M,, T, S, F, 91	
Centrolepidaceae				
<i>Centrolepis aristata</i>			Ba	
<i>Centrolepis drummondiana</i>			Ba, T, Y, F	
Chenopodiaceae				
<i>Atriplex cinerea</i>			F, 91	
<i>Atriplex hypoleuca</i>			Ma	
* <i>Atriplex prostrata</i>			T	
* <i>Chenopodium album</i>			MG	
* <i>Chenopodium ambrosioides</i>			Ba, T	
* <i>Chenopodium murale</i>			91	
<i>Chenopodium pumilio</i>	N	Balangup L	Ba	
<i>Rhagodia baccata</i>			F	
<i>Rhagodia baccata</i> subsp. <i>baccata</i>			91	
# <i>Rhagodia baccata</i> subsp. <i>dioica</i>			91	
<i>Sarcocornia quinqueflora</i>			MG, Ma, F, 91	
<i>Suaeda australis</i>			MG, 91	
<i>Threlkeldia diffusa</i>			F, 91	
Colchicaceae				
<i>Burchardia congesta</i>			P, Ba, Bo, M,, T, S, Y,F	
Commelinaceae				
<i>Cartonema philydroides</i>			Ba, M, T	
* <i>Tradescantia fluminense</i>			Bo	

Taxon	Prio Code	Geographic Range	Recorded Areas	33
Convolvulaceae				
# <i>Wilsonia backhousei</i>			91	
# <i>Wilsonia humilis</i>			91	
Crassulaceae				
<i>Crassula colorata</i>			P, Ba, Y, F, 91	
<i>Crassula exserta</i>			F, 91	
* <i>Crassula glomerata</i>			Ma, F, 91	
<i>Crassula pedicellosa</i>			F	
Cucurbitaceae				
* <i>Citrullus lanatus</i>			MG	
* <i>Cucumis myriocarpus</i>			S, MG	
Cuscutaceae				
* <i>Cuscuta epithymum</i>			Ba	
Cyperaceae				
<i>Baumea arthropphylla</i>			Ba, T	
<i>Baumea articulata</i>			P, Ba, M, T, S, F	
<i>Baumea juncea</i>			T, Y, F	
<i>Baumea preissi</i>			Ba, T	
<i>Baumea riparia</i>			Ba, T	
<i>Baumea rubigenosa</i>			Ba, T	
<i>Bolboschoenus caldwellii</i>			Ba, T, MG	
<i>Carex preissii</i>			F	
* <i>Cyperus congestus</i>			Ba, T, S, Y, MG	
* <i>Cyperus eragrostis</i>			Y	
<i>Cyperus polystachyos</i>			Ba, T	
* <i>Cyperus rotundus</i>			Bo, MG	
* <i>Cyperus tenellus</i>			P	
* <i>Cyperus tenuiflora</i>			Bo, M	
# <i>Eleocharis sphacelata</i>			K	
# <i>Fimbristylis vilata</i>			M, S	
<i>Gahnia trifida</i>			Ma, MG, F, MB	
<i>Isolepis cernua</i>			F, 91	
<i>Isolepis marginata</i>			Ba, T, F	
<i>Lepidosperma angustatum</i>			M, S, Y, F, 91	
<i>Lepidosperma costale</i>			Ba, T	
<i>Lepidosperma drummondii</i>			M	
# <i>Lepidosperma gracile</i>			M	
<i>Lepidosperma longitudinale</i>			Ba, Bo, M, T, S, F	

Taxon	Prio Code	Geographic Range	Recorded Areas	34
<i>Lepidosperma scabrum</i>			Ba, T, S	
<i>Lepidosperma</i> sp. (Coastal terete BJK & NG 231)			F	
<i>Lepidosperma tenue</i>			M, S	
<i>Lepidosperma squamatum</i>			Y, F	
<i>Mesomelaena pseudostygia</i>			P, Ba, M, T, S, Y, F	
<i>Mesomelaena tetragona</i>			P	
<i>Schoenus</i> aff. <i>laevigatus</i>			F	
<i>Schoenus brevisetis</i>			F	
<i>Schoenus brevifolius</i>			Ba, T	
<i>Schoenus clandestinus</i>			Ba, Y, F	
<i>Schoenus curvifolius</i>			Ba, M, T, S, Y, F	
<i>Schoenus grandiflorus</i>			Ba, T, S, Y, 91	
<i>Schoenus rodwayanus</i>			F	
<i>Schoenus subflavus</i>			Ba, T	
<i>Tetraria octandra</i>			P, M, Y, F	
Dasygogonaceae				
<i>Acanthocarpus preissii</i>			F, 91	
<i>Calectasia cyanea</i>			Ba, M, T, S	
<i>Dasygogon bromeliifolius</i>			P, Ba, M, T, S, F	
<i>Lomandra caespitosa</i>			F	
<i>Lomandra hermaphrodita</i>			F	
<i>Lomandra integra</i>			M	
<i>Lomandra maritima</i>			Ma, F, 91	
<i>Lomandra micrantha</i>			Ba	
<i>Lomandra nigricans</i>			Ba, T, F	
<i>Lomandra preissii</i>			F	
<i>Lomandra suaveolens</i>			Ba, M, F	
Dennstaedtiaceae				
<i>Pteridium esculentum</i>			Bo, T, S, P, H, N	
Dilleniaceae				
<i>Hibbertia acerosa</i>			91	
<i>Hibbertia huegelii</i>			Ba, M, T, Y, F	
<i>Hibbertia hypericoides</i>			P, Ba, M, T, S, Y, Ma F, 91	
<i>Hibbertia racemosa</i>			P, Ba, M, T, S, Y, F, 91	
<i>Hibbertia spicata</i> subsp. <i>leptotheca</i>	3	S	Yalgorup	F, 91
<i>Hibbertia stellaris</i>			P, M	
<i>Hibbertia subvaginata</i>			M, T, F	

Taxon	Prio Code	Geographic Range	Recorded Areas	35
Droseraceae				
<i>Drosera erythrorhiza</i>			Ba, M, T, S, Y, F	
<i>Drosera gigantea</i> subsp. <i>gigantea</i>			P	
<i>Drosera glanduligera</i>			Ba, M, T	
<i>Drosera macrantha</i>			Ba, M, T, S, F	
<i>Drosera menziesii</i> subsp. <i>penicillaris</i>			P, Ba, M, T, F	
<i>Drosera paleacea</i>			Ba, M, Y, F	
<i>Drosera pallida</i>			Ba, M, Y, F	
<i>Drosera stolonifera</i>			M, Y, F	
Epacridaceae				
<i>Acrotriche cordata</i>			91	
<i>Astroloma pallidum</i>			Ba, M, T, S, Y, F	
<i>Brachyloma preissii</i>			Ba, M, F	
<i>Conostephium pendulum</i>			P, T, S, Y, F	
<i>Conostephium preissii</i>			Ba, M, T, Y	
<i>Leucopogon australis</i>			P, M, 91	
<i>Leucopogon conostephioides</i>			Ba, M, T, Y	
<i>Leucopogon gracillimus</i>			F	
<i>Leucopogon oxycedrus</i>			Ba	
<i>Leucopogon parviflorus</i>			M, Ma, F	
<i>Leucopogon propinquus</i>			Ba, Bo, M, T, S, Y, F	
<i>Leucopogon racemulosus</i>			M, F	
<i>Lysinema ciliatum</i>			P, Ba, M, T, S	
Euphorbiaceae				
* <i>Euphorbia peplus</i>			Ba, T, Y, Ma, MG, F, 91	
* <i>Euphorbia terracina</i>			Y, Ma, 91	
<i>Monotaxis grandiflora</i>			P, Ba, M	
<i>Monotaxis occidentalis</i>			Ba, Y	
<i>Phyllanthus calycinus</i>			Ba, M, T, S, Ma, F, 91	
<i>Poranthera microphylla</i>			Ba, F	
* <i>Ricinus communis</i>			Y, MG	
Fagaceae				
* <i>Quercus suberus</i>			P	
* <i>Quercus</i> sp.			S	
Frankeniaceae				
<i>Frankenia pauciflora</i>			91	
Fumariaceae				
* <i>Fumaria capreolata</i>			Ba, T	

Taxon	Prio Code	Geographic Range	Recorded Areas	36
* <i>Fumaria muralis</i>			Ba, T	
Gentianaceae				
* <i>Centaurium erythraea</i>			F	
* <i>Centaurium spicatum</i>			Ba	
Geraniaceae				
* <i>Erodium botrys</i>			Ba, T	
* <i>Erodium cicutarium</i>			Ba, T, F, 91	
* <i>Geranium molle</i>			Ba, T, F, 91	
* <i>Pelargonium capitatum</i>			P, T, S, Ma, MG, F, 91	
* <i>Pelargonium domesticum</i>			Bo	
<i>Pelargonium littorale</i>			F	
Goodeniaceae				
<i>Dampiera linearis</i>			P, Ba, M, T, S, F	
# <i>Dampiera triloba</i>			M	
<i>Goodenia ?pulchella</i>			Ba, M, T	
# <i>Lechenaultia biloba</i>		W	M	
<i>Lechenaultia expansa</i>			Ba, T	
<i>Lechenaultia floribunda</i>			P, M, S, Y	
<i>Lechenaultia linarioides</i>		S	Spectacle S	
<i>Scaevola canescens</i>			Ba, M, T, S, Y	
<i>Scaevola crassifolia</i>			91	
<i>Scaevola globulifera</i>			M	
<i>Scaevola repens</i>			M, Y	
Haemodoraceae				
<i>Anigozanthos humilis</i>			P, Ba, M, T, S, Y, F	
<i>Anigozanthos manglesii</i>			P, Ba, M, T, S, Y	
<i>Anigozanthos viridis</i>			T	
<i>Conostylis aculeata</i>			P, Ba, M, T, S, Y, F, 91	
<i>Conostylis candicans</i>			P, M, T, F	
<i>Conostylis setigera</i>			P, Ba, M, T, Y, F	
<i>Haemodorum paniculatum</i>			Ba, M, T, Y	
<i>Haemodorum spicatum</i>			Ba, Bo, T, Y	
<i>Phlebocarya ciliata</i>			P, Ba, M, T, S, F	
<i>Tribonanthes ?uniflora</i>			P	
Gyrostemonaceae				
<i>Tersonia cyathiflora</i>			MB	
Haloragaceae				
<i>Glischrocaryon aureum</i>			Ba	

Taxon	Prio Code	Geographic Range	Recorded Areas	37
Gonocarpus cordiger			Ba	
Gonocarpus pithyoides			F	
Myriophyllum crispatum			Ba	
Myriophyllum integrifolia			Ba	
Iridaceae				
* Chasmanthe floribunda			S	
* Gladiolus caryophyllaceus			P, Ba, M, T, S, Y, F, 91	
* Hcmeria flaccida			Ba, Y, F, 91	
* Ixia paniculata			Ba	
Patersonia occidentalis			P, Ba, M, T, S, Y, F	
Patersonia occidentalis (swamp form)			N	
* Romulea rosea			Ba, M, T, S, Y, F, 91	
* Tritonia sp.			B	
Juncaceae				
* Juncus acutus			MG, C	
* Juncus articulatus			Ba	
* Juncus bufonius			Ba	
Juncus caespiticius			Ba	
Juncus kraussii			MG, Ma	
Juncus pallidus			P, Bo, M, T, S, Y	
Luzula meridionalis			Ba, T	
Juncaginaceae				
Triglochin calcitrapum			91	
Triglochin procerum			Ba, M, T, F	
Lamiaceae				
# Hemigenia sericea			MB	
Hemiandra pungens			P, Ba, M, T	
* Stachys arvensis			Ba	
Lauraceae				
Cassytha flava			F, 91	
Cassytha glabella			M	
Cassytha pubescens			91	
Cassytha racemosa			Ba, M, T, F, 91	
Lemnaceae				
Lemna disperma			Ba	
Lobeliaceae				
Lobelia alata			F	
Lobelia tenuior			F	

Taxon	Prio Code	Geographic Range	Recorded Areas	38
Loganiaceae				
Mitrasacme paradoxa			Ba	
Loranthaceae				
Nuytsia floribunda			P, Ba, Bo, M, T	
Lythraceae				
* Lythrum hyssopifolia			Ba	
Malvaceae				
Allogyne huegelii var. glabrescens		S Manning L. Ma		
* Lavatera plebeia		in Mabo area in Yalgarrup	MG, 91	
Lawrenzia spicata			91	
* Malva parviflora			MG	
Menyanthaceae				
Villarsia albiflora			Ba	
Villarsia ?capitata			Ba, T	
Mimosaceae				
Acacia cochlearis			Ba, T, Y, F	
Acacia cyclops			Ba, M, T, Y, MG, 91	
Acacia huegelii			Ba, M, T, Y, MG, 91	
Acacia lasiocarpa var. lasiocarpa			F, 91	
* Acacia longifolia			Y, Bl	
Acacia pulchella			P, Ba, Bo, M, T, Y, MG, F, 91	
Acacia rostellifera			T, Ma, F, 91	
Acacia saligna			P, Ba, Bo, M, T, Y, MG, Ma, F, 91	
Acacia stenoptera			Ba, M, T, S, Y, F	
Acacia truncata			Ma, 91	
Acacia willdenowiana			P, M, T, Y	
Molluginaceae				
Macarthuria australis			Ba, T	
Moraceae				
* Ficus carica			MG, H, Ma	
* Morus nigra			MG, Ma, S	
Myoporaceae				
Eremophila glabra			F, 91	
Myoporum insulare			91	
Myrtaceae				
Agonis linearifolia			M, N, H	
Astartea aff. fascicularis			Ba, Bo, M, T, S, Y, F	
Baekkea camphorosmae			Ba, T, S	

Taxon	Prio Code	Geographic Range	Recorded Areas	39
<i>Beaufortia elegans</i>			M	
<i>Calothamnus lateralis</i>			P	
<i>Calothamnus quadrifidus</i>			Ma, 91	
<i>Calytrix angulata</i>			Ba, T, S	
<i>Calytrix flavescens</i>			Ba, M, T, F	
<i>Calytrix fraseri</i>			Ba, M, T, F	
* <i>Chamelaucium uncinatum</i>	S	Bold Park	P, M, Ma, Y	
<i>Eremaea pasterocarpa</i>			Ba, T	
<i>Eremaea pauciflora</i>			Ba, M, T	
<i>Eucalyptus calophylla</i>			P, Ba, M, S, Y, F	
* <i>Eucalyptus citriodora</i>			P	
<i>Eucalyptus decipiens</i>			Ma, MB, 91	
<i>Eucalyptus gomphocephala</i>			Ba, M, T, S, Y, Ma, MG, MB, Ma, F	
<i>Eucalyptus marginata</i>			P, Ba, M, T, S, Y, F	
<i>Eucalyptus rudis</i>			P, Ba, Bo, M, T, S, Y, F	
<i>Eucalyptus todtiana</i>			Ba, T, Y, F	
<i>Hypocalymma angustifolium</i>			P, Ba, M, T, F	
<i>Hypocalymma robustum</i>			P, Ba, M, T, S, Y, F	
<i>Kunzea ericifolia</i>			Ba, M, T, S, Y, F	
* <i>Leptospermum laevigatum</i>			P, M, S, Y, MG	
<i>Melaleuca acerosa</i>			Ma, F, 91	
<i>Melaleuca cuticularis</i>			Co, MG	
<i>Melaleuca huegelii</i>			Ma, MB, 91	
<i>Melaleuca incana</i>			S	
* <i>Melaleuca lanceolata</i>			Ma	
<i>Melaleuca lateritia</i>			P, M, Ro, S, F	
<i>Melaleuca preissiana</i>			Ba, Bo, M, T, S, Y, F	
<i>Melaleuca raphiophylla</i>			P, Bo, M, S, Y, Ma, MG, Co, Ma, F	
<i>Melaleuca seriata</i>			Ba, M	
<i>Melaleuca teretifolia</i>			P, Ba, Bo, M, T, S, MG, F	
<i>Melaleuca thymoides</i>			P, Ba, M, T, F	
<i>Melaleuca viminea</i>			MG	
<i>Pericalymma ellipticum</i>			P, Ba, M, F	
<i>Regelia inops</i>			M	
<i>Scholtzia involucrata</i>			Ba, M, T, S, F	
<i>Verticordia drummondii</i>			Ba, T	
Oleaceae				
* <i>Olea europea</i>			MG	

Taxon	Prio Code	Geographic Range	Recorded Areas	40
Onagraceae				
Epilobium billardierianum			Ba, F	
Epilobium hirtigerum			Ba, F	
* Oenothera stricta			MG	
Orchidaceae				
Caladenia deformis			Ba, T, S, Y	
Caladenia denticulata			Ba, T	
Caladenia discoidea			Ba, T	
Caladenia flava			P, Ba, T, S, Y, F	
Caladenia gemmata			Ba, T	
Caladenia latifolia			Ba, T, Y, F, 91	
Caladenia longicauda			Ba, M, T	
Caladenia ?paludosa			Ba, M, T	
Diuris emarginata			Ba, T	
Diuris longifolia			P, Ba, M, T, F	
Elythranthera brunonis			P, Ba, M, T, F	
Elythranthera emarginata			M	
# Epiblema grandiflorum			Ba	
Leporella fimbriata			M	
Lyperanthus nigricans			Ba, M, Y	
Microtis media			Ba, M, T, Y, F	
* Monadenia bracteata			F, 91	
Prasophyllum fimbria			Ba	
Prasophyllum ovale			Ba, T	
Prasophyllum parvifolium			Ba	
Pterostylis aff. nana			M, T	
Pterostylis recurva			Ba	
Pterostylis scabra var. robusta			M	
Pterostylis vittata			M, S, Y	
Thelymitra benthamiana			F	
Thelymitra campanulata			Ba, M, T	
Thelymitra crinita			M	
Orobanchaceae				
* Orobanche minor			Ba, M, Y	
Oxalidaceae				
* Oxalis pes-caprae			Ba, T	
* Oxalis purpurea			Ba, T	

Taxon	Prio Code	Geographic Range	Recorded Areas	41
Papilionaceae				
<i>Aotus cordifolia</i>			P, Ba, M	
<i>Aotus gracillima</i>			P, Ba, M, T	
<i>Aotus procumbens</i>			M, Y	
<i>Bossiaea eriocarpa</i>			P, Ba, M, , S, YTF	
? <i>Callistachys lanceolata</i>			P	
* <i>Cystus prolifera</i>			M	
<i>Daviesia decurrens</i>			Ba, M, T, Y	
<i>Daviesia divaricata</i>			P, M, Y, F	
<i>Daviesia nudiflora</i>			Ba, M, T, Y	
<i>Daviesia physodes</i>			P, BL, Ba, M, T, S	
<i>Daviesia triflora</i>			P, Ba, M, T, S, Y, F	
<i>Eutaxia virgata</i>			E, Ba, M	
<i>Gompholobium confertum</i>			M	
<i>Gompholobium tomentosum</i>			P, Ba, M, T, S, Y, F	
<i>Hardenbergia comptoniana</i>			P, Ba, Bo, M, T, S, Y, MG, , 91F	
<i>Hovea pungens</i>			P, Ba, M, T, S, F	
<i>Hovea trisperma</i>			Ba, M, T, S, F	
<i>Isotropis cuneifolia</i>			Ba, M, T, S, Y, F	
<i>Jacksonia aff. sericea</i> (swamp form)	eP		N	
<i>Jacksonia furcellata</i>			P, Ba, Bo, M, T, S, Y, 91	
<i>Jacksonia sternbergiana</i>			P, Ba, Bo, M, T, S, Y, F	
<i>Kennedia coccinea</i>			91	
<i>Kennedia prostrata</i>			P, Ba, Bo, M, T, S, Y, F	
<i>Latrobea tenella</i>			Ba, M	
* <i>Lupinus angustissimus</i>			Y, MG	
* <i>Lupinus cosentinii</i>			Ba, T, S, Y, MG	
* <i>Medicago polymorpha</i>			Ba, T	
* <i>Melilotus indicus</i>			Ba, T, MG, F, 91	
<i>Nemcia capitata</i>			P, Ba, M, T, S, Y, F	
<i>Nemcia reticulata</i>			F, 91	
* <i>Ornithopus sativus</i>			Ba	
<i>Oxylobium lineare</i>			P, M	
<i>Pultenaea ochreatea</i>			Ba, M, T, S	
<i>Pultenaea reticulata</i>			P, Ba, T, S, F	
<i>Sphaerolobium vimineum</i>			Ba, M, F	
<i>Templetonia retusa</i>			Ma, MG	
* <i>Trifolium angustifolium</i>			Ba	

Taxon	Erio Code	Geographic Range	Recorded Areas	42
* <i>Trifolium arvense</i>			MG	
* <i>Trifolium campestre</i>			Ba, T, Y, F, 91	
* <i>Trifolium cernuum</i>			Ba, F, 91	
* <i>Trifolium dubium</i>			Ba, T	
* <i>Trifolium glomeratum</i>			Ba	
* <i>Trifolium pratense</i>			Ba, t	
* <i>Vicia hirsuta</i>			Ba, T	
* <i>Vicia sativa</i>			P, Ba, M, T, M, F	
<i>Viminaria juncea</i>			Ba, M, T, S	
Phytolaccaceae				
* <i>Phytolacca octandra</i>			91	
Phormiaceae				
<i>Dianella revoluta</i>			P, Ba, Bo, M, T, S, Y, MG,	
Pinaceae				
* <i>Pinus pinaster</i>			P, Ma	
Pittosporaceae				
<i>Pittosporum phylliraeoides</i>			MG	
<i>Pronaya fraseri</i>			Ba, M	
<i>Sollya heterophylla</i>			MG	
Plantaginaceae				
* <i>Plantago lanceolata</i>			MG	
Poaceae				
* <i>Aira caryophyllea</i>			Ba, Y, F, 91	
* <i>Aira cupaniana</i>			Ba	
* <i>Aira praecox</i>			Ba	
<i>Amphipogon laguroides</i>			Ba, M, T, F	
<i>Amphipogon turbinatus</i>			Ba, M, T, F	
* <i>Arundo donax</i>			Y, MG	
* <i>Avellinia michelii</i>			F	
* <i>Avena barbata</i>			P, Ba, T, F, 91	
* <i>Avena fatua</i>			Y, MG, F	
* <i>Briza maxima</i>			P, Ba, T, S, Y, F, 91	
* <i>Briza minor</i>			P, Ba, T, S, Y, MG, F, 91	
* <i>Bromus diandrus</i>			F, 91	
* <i>Bromus hordeaceus</i>			F, 91	
* <i>Catapodium rigidum</i>			91	
* <i>Cortaderia selleana</i>			T	
<i>Cynodon dactylon</i>			Bo, T, S, Y, MG	

Taxon	Prio Code	Geographic Range	Recorded Areas	43
<i>Danthonia occidentalis</i>			Ba, T, F, 91	
<i>Deyeuxia quadriseta</i>			Ba, T, F	
* <i>Diandrus gussonii</i>			Ba, T	
<i>Dichelachne crinita</i>			F	
* <i>Digitaria sanguinalis</i>			Ba	
* <i>Echinochloa crus-galli</i>			MG	
* <i>Ehrharta calycina</i>			P, Ba, Bo, T, S, Y, MG, F, 91	
* <i>Ehrharta longiflora</i>			Ba, T, Y, F	
<i>Hemarthria uncinata</i>			Ba, T	
* <i>Holcus setiger</i>			F	
* <i>Hordeum leporinum</i>			Y	
* <i>Lagurus ovatus</i>			Ba, T, Y, MG, F, 91	
* <i>Lolium multiflorum</i>			91	
* <i>Lolium perenne</i>			Ba, T	
* <i>Lolium rigidum</i>			Y, F	
<i>Microlaena stipoides</i>			Ba, T, F	
* <i>Paspalum dilatatum</i>			MG	
* <i>Paspalum distichum</i>			Y, MG	
* <i>Paspalum vaginatum</i>			Ba, T, Y	
* <i>Pennisetum clandestinum</i>			Bo, S, Y, MG, Ma	
* <i>Phalaris minor</i>			91	
* <i>Poa annua</i>			F	
<i>Poa drummondiana</i>			Ba, T, 91	
<i>Poa poiformis/porphyroclados</i>			Ba, F, 91	
* <i>Polypogon monspeliensis</i>			Ba, T	
* <i>Rhynchelytrum repens</i>			Y	
* <i>Secale cereale</i>			MG	
<i>Sporobolus virginicus</i>			Y, F, 91	
<i>Spinifex longifolius</i>			91	
* <i>Stenotaphrum secundatum</i>			Ba, Bo, T, MG	
<i>Stipa compressa</i>			Ba, T, Y, F	
<i>Stipa flavescens</i>			Ba, T, Y, 91	
<i>Stipa semibarbata</i>			Ba, T	
<i>Stipa variabilis</i>			Ba, T	
* <i>Vulpia bromoides</i>			Ba, T, F	
* <i>Vulpia myuros</i>			Ba, F, 91	
Polygalaceae				
<i>Ccnesperma calymega</i>			Ba, M, T, F	

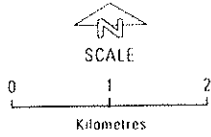
Taxon	Prio Code	Geographic Range	Recorded Areas	44
<i>Conesperma confertum</i>			F, 91	
<i>Conesperma flavum</i>			Ba	
<i>Conesperma virgatum</i>			Ba, M, T	
Polygonaceae				
* <i>Emex austrilis</i>			MG, Ma	
<i>Muehlenbeckia polybotrya</i>			Ba, T	
* <i>Polygonum aviculare</i>			MG, Ma	
<i>Polygonum salicifolium</i>			Bl, Bo, T	
* <i>Rumex acetosella</i>			Ba, T	
* <i>Rumex crispus</i>			Ba, T	
Portulacaceae				
<i>Calandrinia calyptrata</i>			F	
<i>Calandrinia corrigioloides</i>			Ba, T, F, 91	
<i>Calandrinia granulifera</i>			Ba	
<i>Calandrinia liniflora</i>			Y	
<i>Portulaca oleracea</i>			MG	
Primulaceae				
* <i>Anagallis arvensis</i>			P, Ba, M, T, S	
<i>Samolus junceus</i>			F, 91	
<i>Samolus repens</i>			F, 91	
Proteaceae				
<i>Adenanthos cygnorum</i>			P, Ba, M, T, S	
<i>Adenanthos obovatus</i>			S	
<i>Banksia attenuata</i>			P, Ba, Bo, M, T, S, Y, F, 91	
<i>Banksia grandis</i>			Ba, M, T, Y	
<i>Banksia illicifolia</i>			P, Ba, Bo, M, T, Y, F	
<i>Banksia littoralis</i>			P, Ba, Bo, M, T, F	
<i>Banksia menziesii</i>			P, Ba, Bo, M, T, S, Y, F, 91	
<i>Conospermum stoechadis</i>			Ba	
<i>Conospermum triplinervium</i>			Ba, T	
<i>Dryandra nivea</i>			Ba, T, S, Y, Ma, F, 91	
<i>Dryandra sessilis</i>			M, T, Y, Ma, F, 91	
<i>Grevillea preissii</i>			Ma, F, 91	
<i>Grevillea vestita</i>			Ba, Y, 91	
<i>Hakea lissocarpa</i>			Ba, S, 91	
<i>Hakea prostrata</i>			Ba, M, T, Y, Ma, F, 91	
<i>Persoonia saccata</i>			P, Ba, T, S, Y	
<i>Petrophile brevifolia</i>			Y	

Taxon	Prio Code	Geographic Range	Recorded Areas	45
<i>Petrophile linearis</i>			P, Ba, M, T, S, Y, F	
<i>Petrophile serruriae</i>			F, 91	
<i>Stirlingia latifolia</i>			P, Ba, M, T, S, Y, F	
<i>Synaphea spinulosa</i>			P, Ba, M, T, S, Y	
<i>Xylomelum occidentale</i>			Ba, M	
Ranunculaceae				
<i>Clematis pubescens</i>			Ba, M, T, Ma	
* <i>Ranunculus muricatus</i>			Ba, M, T	
Restionaceae				
<i>Alexgeorgea nitens</i>			Y	
# <i>Empodisma gracillimum</i>			M	
<i>Hypolaena exsulca</i>			Ba, M, T, F	
<i>Leptocarpus aristatus</i>			P, M, Y	
<i>Leptocarpus coangustatus</i>			F	
<i>Leptocarpus scariosus</i>			Ba	
<i>Lepyrodia muirii</i>			Ba, T	
<i>Loxocarya flexuosa</i>			M, S, Y, F, 91	
<i>Loxocarya pubescens</i>			Ba, T, S	
<i>Lyginia barbata</i>			P, M, T, S, Y	
<i>Restio stenostachyus</i>			Ba, T	
Rhamnaceae				
<i>Cryptandra mutila</i>			F, 91	
<i>Spyridium globulosum</i>			Ma, 91	
Rubiaceae				
* <i>Galium aparine</i>			F, 91	
* <i>Galium murale</i>			F	
<i>Opercularia hispidula</i>			Ba, F	
<i>Opercularia vaginata</i>			Ba, M, S, Y, F, Ma	
Rutaceae				
<i>Boronia crenulata</i>			Ba, M, T, F	
<i>Boronia ramosa</i>			M	
<i>Eriostemon spicatus</i>			P, Ba, M, T, S, Y, F	
Salicaceae				
* <i>Salix babylonica</i>			Bl, Bo, MG	
Santalaceae				
<i>Dodonaea aptera</i>			Y	
<i>Dodonaea hackettiana</i>	4	eW	Ba, T, S	
<i>Exocarpos sparteus</i>			Ba, Bo, M, T, S	

Taxon	Erio Code	Geographic Range	Recorded Areas	46
<i>Leptomeria cunninghamii</i>			F	
<i>Leptomeria empetriformis</i>			Ba, T	
<i>Leptomeria spinosa</i>			Ba	
<i>Santalum acuminatum</i>			Ba, 91	
Scrophulariaceae				
* <i>Bellardia trixago</i>			Ba, F	
* <i>Cymbalaria muralis</i>			Ba	
* <i>Dischisma arenarium</i>			Ba, F	
<i>Gratiola peruviana</i>			Ba	
* <i>Parentucellia latifolia</i>			Ba	
* <i>Parentucellia viscosa</i>			Ba, M, F, 91	
* <i>Verbascum virgatum</i>			M, T, 91	
* <i>Veronica arvensis</i>			F	
Solanaceae				
* <i>Nicotiana glauca</i>			Y, MG, 91	
* <i>Solanum nigrum</i>			Ba, T, S, MG, 91	
<i>Solanum symonii</i>			Y, MG, 91	
Stackhousiaceae				
<i>Stackhousia monogyna</i>			P, Ba, MG	
Sterculiaceae				
<i>Thomasia cognata</i>			F, 91	
Stylidiaceae				
<i>Levenhookia pusilla</i>			F	
<i>Levenhookia stipitata</i>			Ba, M, F	
<i>Stylidium brunonianum</i>			P, Ba, M, T, Y	
<i>Stylidium bulbiferum</i>			F, 91	
<i>Stylidium calcaratum</i>			Ba, M	
<i>Stylidium junceum</i>			P, Ba, T	
<i>Stylidium piliferum</i>			Ba, M, T, S, F	
<i>Stylidium repens</i>			Ba, M, T, F	
<i>Stylidium schoenoides</i>			Ba, M, T, Y, F	
Thymelaeaceae				
<i>Pimelea angustifolia</i>			Ba, M, T	
<i>Pimelea calcicola</i>			Ma, F, 91	
<i>Pimelea rosea</i>			P, Bo, M, T, S, Y, F	
<i>Pimelea sulphurea</i>			M, Y, F	
Tropaeolaceae				
* <i>Tropaeolum majus</i>			Y	

Taxon	Frio Code	Geographic Range	Recorded Areas	47
Tremandraceae				
Platytheca galioides			Ba, M, T	
Typhaceae				
Typha domingensis			Ba, T, S	
* Typha orientalis			Y, MG	
Urticaceae				
Parietaria debilis			91	
Verbenaceae				
* Lantana camera			Y	
Violaceae				
Hybanthus calycinus			P, Ba, M, T, S, Y, F, 91	
Vitaceae				
* Vitus vinifera			MG	
Xanthorrhoeaceae				
Xanthorrhoea brunonis			S	
Xanthorrhoea preissii			P, Ba, Bo, M, T, S, Ma, MG, F	
Zamiaceae				
Macrozamia riedlei			Ba, Bo, M, S, Y, F, 91	
Zygophyllaceae				
Zygophyllum fruticosum	S	Port Kennedy	91	
* Tribulus terrestris			MG	

Prepared by the Department of Planning
and Urban Development Perth, Western Australia
March 1990



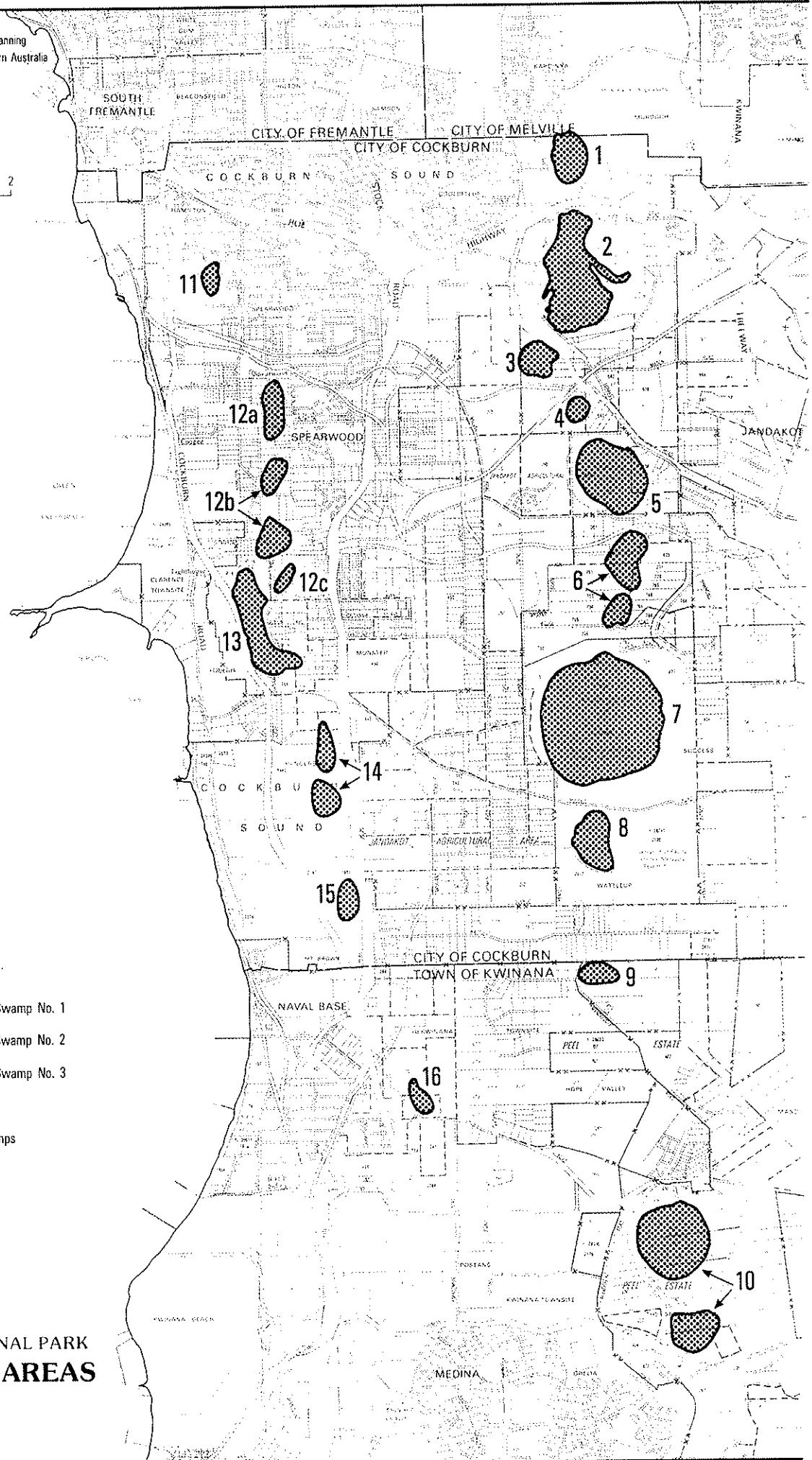
LEGEND



Wetland areas

- 1 North Lake
- 2 Bibra Lake
- 3 South Lake
- 4 Little Rush Lake
- 5 Yangebup Lake
- 6 Kogolup Lake
- 7 Thomsons Lake
- 8 Banganup Lake
- 9 Wattleup Lake
- 10 The Spectacles
- 11 Manning Lake
- 12a Market Garden Swamp No. 1
- 12b Market Garden Swamp No. 2
- 12c Market Garden Swamp No. 3
- 13 Lake Coogee
- 14 Brownman Swamps
- 15 Lake Mt. Brown
- 16 Long Swamp

**BEELIAR REGIONAL PARK
WETLAND AREAS**



Keigheny

MARKET GARDEN SWAMPS ENVIRONMENTAL MANAGEMENT PLAN



City of Cockburn

Draft

**MARKET
GARDEN
SWAMPS**

**BS 429
BS 435**

SEAR

MARKET GARDEN SWAMPS ENVIRONMENTAL MANAGEMENT PLAN

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PART E BIOLOGICAL ENVIRONMENT

5.1 Vegetation

The vegetation of the Market Garden Swamp study area is dominated by Melaleuca Woodlands/Forests consisting primarily of *Melaleuca cuticularis* and *Melaleuca raphiophylla*. Other vegetation types occurring in the area include Tuart Woodland, Sedgeland and Samphire communities. The vegetation of the study area has been extensively modified due to previous land uses, resulting in extensive weed communities fringing the core wetland vegetation. The weed communities are have a high species diversity while the diversity of the native vegetation is limited. Various disturbance factors have played a major role in modifying the vegetation of the study area. Many areas have been cleared, some since early European settlement, for market gardening use. Other areas are currently in the process of being subdivided for residential use.

TABLE 3: *Vegetation Communities*

Major Vegetation Community	Dominant Species	Variations	Characteristics
Forest (Mc)	<i>Eucalyptus gomphocephala</i> (Tuart)		Small area of remnant Tuart Forest understorey of <i>Foeniculum vulgare</i> , <i>Acacia cyclops</i> , <i>H. comptoniana</i>
Dense Low Forest A (LAd)	<i>Melaleuca raphiophylla</i>	Interspersed with <i>M. cuticularis</i> around edges	Very dense in places, 100% cover
Low Forest A (LAc)	<i>Melaleuca cuticularis</i>	Interspersed with <i>M. raphiophylla</i>	
Low Woodland A (LAI)	<i>M. cuticularis</i> <i>M. cuticularis</i> and <i>M. raphiophylla</i> <i>M. cuticularis</i> and <i>M. viminea</i>		Over Herb B Over Sedge A
Low Woodland B (LBI)	<i>M. cuticularis</i>	Area of low growing <i>M. cuticularis</i>	
Thicket (Sc)	* <i>Arundo donax</i>		Understorey of Buffalo Grass growing in Abandoned Market Gardens
Heath A (SAc)	<i>Foeniculum vulgare</i>		Grows as monoculture in places
Sedgeland	<i>Juncus kauraiissi</i>	Mixed in Places with <i>Gahania trifida</i>	Contains sharp ended sedge.
Grassland	<i>Weed Species</i>		
Wetland Basin	<i>Seuda australis</i>		
Market Garden	<i>Planted Exotics</i>		

APPENDIX 1: Flora of the Study Area

COMMON NAME	NAME	FAMILY
Orange Wattle	* <i>Acacia saligna</i>	MIMOSACEAE
Red-Eyed Wattle	* <i>Acacia cyclops</i>	MIMOSACEAE
Prickly Moses	* <i>Acacia pulchella</i>	MIMOSACEAE
Pimpernel	* <i>Anagallis arvensis</i>	PRIMULACEAE
Potato Creeper	* <i>Anredera cordifolia</i>	
Bamboo	* <i>Arundo donax</i>	
Wild Oat	* <i>Avena fatua</i>	
Marsh Club-rush	* <i>Bolboschoenus caldwellii</i>	CYPERACEAE
Wild Turnip	* <i>Brassica tournefortii</i>	CRUCIFERAE
Shivery Grass	* <i>Briza minor</i>	
Canna Lilly	* <i>Canna x orchiodes</i>	
Carob	* <i>Ceratonia siliqua</i>	
Fat Hen	* <i>Chenopodium album</i>	
Spear Thistle	* <i>Cirsium vulgare</i>	
Pie Melon	* <i>Citrullus lanatus</i>	
Flaxleaf Fleabane	* <i>Conyza bonariensis</i>	
Prickly Paddy Melon	* <i>Cucumis myriocarpus</i>	
Couch	* <i>Cynodon dactylon</i>	
Nut Grass	* <i>Cyperus rotundus</i>	CYPERACEAE
Dense Flat-sedge	* <i>Cyperus congestus</i>	CYPERACEAE
Dianella	* <i>Dianella divaricata</i>	PHORMIACEAE
Stinkwort	* <i>Dittrichia graveolens</i>	ASTERACEAE
Barnyard Grass	* <i>Echinochloa crus-galli</i>	POACEAE
Veldt Grass	* <i>Ehrharta calycina</i>	POACEAE
Doublegee	* <i>Emex australis</i>	POLYGONACEAE
African Love Grass	* <i>Eragrostis curvula</i>	POACEAE
Coral Tree	* <i>Erythraea abyssinica</i>	FABACEAE
Tuart	* <i>Eucalyptus ghomplocephalla</i>	MYRTACEAE
Petty Spurge	* <i>Euphorbia peplus</i>	
Edible Fig	* <i>Ficus carica</i>	
Fennel	* <i>Foeniculum vulgare</i>	
Coast Saw-sedge	* <i>Gahnia trifida</i>	CYPERACEAE
Narrow Leaf Cotton Bush	* <i>Gomphocarpus fruticosus</i>	
Native Wisteria	* <i>Hardenbergia comptoniana</i>	FABACEAE
Sunflower	* <i>Helianthus annuus</i>	
Smooth Catsear	* <i>Hypochaeris glabra</i>	ASTERACEAE
Sea Rush	* <i>Juncus kraussii</i>	JUNCACEAE
Hares Tail Grass	* <i>Lagurus ovatus</i>	
Victorian Tea Tree	* <i>Leptospermum laevigatum</i>	
Sweet Alyssum	* <i>Lobularia maritima</i>	
Western Australian Blue Lupin	* <i>Lupinus cosentinii</i>	
Narrowleaf Lupin	* <i>Lupinus angustifoliuss</i>	
Swamp Paperbark	* <i>M. raphiophlla</i>	MYRTACEAE
Mohan	* <i>M. viminea</i>	MYRTACEAE
Banbar	* <i>M. teretifolia</i>	MYRTACEAE
Marshmallow	* <i>Malva parviflora</i>	
Saltwater Paperbark	* <i>Melaleuca cuticularis</i>	MYRTACEAE

Cape Lilac	* <i>Melia azedarach</i>	
King Island Melilot	* <i>Melilotus indica</i>	
Black Mulberry	* <i>Morus nigra</i>	
Tree Tobacco	* <i>Nicotiana glauca</i>	SOLANACEAE
Common Evening Primrose	* <i>Oenothera stricta</i>	ONAGRACEAE
Olive	* <i>Olea europaea</i>	
Water Couch	* <i>Paspalum distichum</i>	
Paspalum	* <i>Paspalum dilatatum</i>	
Pelargonium	* <i>Pelargonium capitatum</i>	
Kikuyu	* <i>Pennisetum clandestinum</i>	
Cape Goosberry	* <i>Physalis pruinosa</i>	
Cheesewood	* <i>Pittosporum phylliraeoides</i>	PITTOSPORACEAE
Ribwort Plantain	* <i>Plantago lanceolata</i>	
Wireweed	* <i>Polygonum aviculare</i>	POLYGONACEAE
Purslane	* <i>Portulaca oleracea</i>	PORTULACACEAE
Wild Raddish	* <i>Raphanus raphanistrum</i>	
Castor Oil Bush	* <i>Ricinus communis</i>	
Weeping willow	* <i>Salix babylonica</i>	
Beaded Samphire	* <i>Sarcocornia quinqueflora</i>	CACTACEAE
Rye	* <i>Secale cereale</i>	
Indian Hedge Mustard	* <i>Sisymbrium orientale</i>	
Black Berry Nightshade	* <i>Solanum nigrum</i>	SOLANACEAE
Apple of Sodom	* <i>Solanum sodomaeum</i>	
Canada Goldenrod	* <i>Solidago canadensis</i>	ASTERACEAE
Australian Bluebell	* <i>Sollya heterophylla</i>	PITTOSPORACEAE
	<i>Spp B Herb</i>	
	<i>Spp A Shrub</i>	
Buffalo Grass	* <i>Stenotaphrum secundatum</i>	
Suaeda	* <i>Suaeda australis</i>	CACTACEAE
Dandelion	* <i>Taraxacum officinale</i>	ASTERACEAE
Templetonia	* <i>Templetonia retusa</i>	FABACEAE
Caltrop	* <i>Tribulus terrestris</i>	ZYGOPHYLLACEAE
Hares Foot Clover	* <i>Trifolium arvense</i>	FABACEAE
Bullrush	* <i>Typha orientalis</i>	
Common Vetch	* <i>Vicia sativa</i>	
Grape	* <i>Vitis vinifera</i>	
Blackboy	* <i>Xanthorea priessii</i>	XANTHORRHOEACEAE
Arum Lily	* <i>Zantedeschia aethiopica</i>	

Notes.

- 1 Species names and common names follow Marchant et al (1987) unless otherwise indicated

APPENDIX 2: *Indigenous Plant Species of the Study Area*

COMMON NAME	NAME	FAMILY
Native Wisteria	<i>Hardenbergia comptoniana</i>	FABACEAE
Templetonia	<i>Templetonia retusa</i>	FABACEAE
Blackboy	<i>Xanthorea priessii</i>	XANTHORRHOEACEAE
Prickly Moses	<i>Acacia pulchella</i>	MIMOSACEAE
Red-Eyed Wattle	<i>A. cyclops</i>	MIMOSACEAE
Orange Wattle	<i>A. saligna</i>	MIMOSACEAE
Dianella	<i>Dianella divaricata</i>	PHORMIACEAE
Coast Saw-sedge	<i>Gahnia trifida</i>	CYPERACEAE
Saltwater Paperbark	<i>Melaleuca cuticularis</i>	MYRTACEAE
Swamp Paperbark	<i>M. raphiophlla</i>	MYRTACEAE
Banbar	<i>M. teretifolia</i>	MYRTACEAE
Mohan	<i>M. viminea</i>	MYRTACEAE
Sea Rush	<i>Juncus kraussii</i>	JUNCACEAE
Australian Bluebell	<i>Sollya heterophylla</i>	PITTOSPORACEAE
Cheesewood	<i>Pittosporum phylliraeoides</i>	PITTOSPORACEAE
Tuart	<i>Eucalyptus ghomplocephalla</i>	MYRTACEAE
Beaded Samphire	<i>Sarcocornia quinqueflora</i>	CACTACEAE
Marsh Club-rush	<i>Bolboschoenus caldwellii</i>	CYPERACEAE
Suaeda	<i>Suaeda australis</i>	CACTACEAE
	<i>Spp A Shrub</i>	
	<i>Spp B Herb</i>	

APPENDIX 3: Weed Species of the Study Area

COMMON NAME	NAME	FAMILY
Pimpernel	<i>Anagallis arvensis</i>	PRIMULACEAE
Potato Creeper	<i>Anredera cordifolia</i>	
Bamboo	<i>Arundo donax</i>	
Wild Oat	<i>Avena fatua</i>	
Wild Turnip	<i>Brassica tournefortii</i>	CRUCIFERAE
Shivery Grass	<i>Briza minor</i>	
Canna Lilly	<i>Canna x orchiodes</i>	
Carob	<i>Ceratonia siliqua</i>	
Fat Hen	<i>Chenopodium album</i>	
Spear Thistle	<i>Cirsium vulgare</i>	
Pie Melon	<i>Citrullus lanatus</i>	
Flaxleaf Fleabane	<i>Conyza bonariensis</i>	
Prickly Paddy Melon	<i>Cucumis myriocarpus</i>	
Couch	<i>Cynodon dactylon</i>	
Dense Flat-sedge	<i>Cyperus congestus</i>	CYPERACEAE
Nut Grass	<i>Cyperus rotundus</i>	CYPERACEAE
Coral Tree	<i>Erythraea abyssinica</i>	FABACEAE
Stinkwort	<i>Dittrichia graveolens</i>	ASTERACEAE
Barnyard Grass	<i>Echinochloa crus-galli</i>	POACEAE
Veldt Grass	<i>Eharharta calycina</i>	POACEAE
Doublegee	<i>Emex australis</i>	POLYGONACEAE
African Love Grass	<i>Eragrostis curvula</i>	POACEAE
Petty Spurge	<i>Euphorbia peplus</i>	
Edible Fig	<i>Ficus carica</i>	
Fennel	<i>Foeniculum vulgare</i>	
Narrow Leaf Cotton Bush	<i>Gomphocarpus fruticosus</i>	
Sunflower	<i>Helianthus annuus</i>	
Smooth Catsear	<i>Hypochaeris glabra</i>	ASTERACEAE
Hares Tail Grass	<i>Lagurus ovatus</i>	
Victorian Tea Tree	<i>Leptospermum laevigatum</i>	
Sweet Alyssum	<i>Lobularia maritima</i>	
Western Australian Blue Lupin	<i>Lupinus cosentinii</i>	
Narrowleaf Lupin	<i>Lupinus angustifoliuss</i>	
Marshmallow	<i>Malva parviflora</i>	
Cape Lilac	<i>Melia azedarach</i>	
King Island Melilot	<i>Melilotus indica</i>	
Black Mulberry	<i>Morus nigra</i>	
Tree Tobacco	<i>Nicotiana glauca</i>	SOLANACEAE
Common Evening Primrose	<i>Oenothera stricta</i>	ONAGRACEAE

Olive	<i>Olea europaea</i>	
Water Couch	<i>Paspalum distichum</i>	
Paspalum	<i>Paspalum dilatatum</i>	
Pelargonium	<i>Pelargonium capitatum</i>	
Kikuyu	<i>Pennisetum clandestinum</i>	
Cape Goosberry	<i>Physalis pruinosa</i>	
Ribwort Plantain	<i>Plantago lanceolata</i>	
Wireweed	<i>Polygonum aviculare</i>	POLYGONACEAE
Purslane	<i>Portulaca oleracea</i>	PORTULACACEAE
Wild Raddish	<i>Raphanus raphanistrum</i>	
Castor Oil Bush	<i>Ricinus communis</i>	
Weeping willow	<i>Salix babylonica</i>	
Rye	<i>Secale cereale</i>	
Indian Hedge Mustard	<i>Sisymbrium orientale</i>	
Black Berry Nightshade	<i>Solanum nigrum</i>	SOLANACEAE
Apple of Sodom	<i>Solanum sodomium</i>	
Buffalo Grass	<i>Stenotaphrum secundatum</i>	
Caltrop	<i>Tribulus terrestris</i>	ZYGOPHYLLACEAE
Hares Foot Clover	<i>Trifolium arvense</i>	FABACEAE
Bullrush	<i>Typha orientalis</i>	
Common Vetch	<i>Vicia sativa</i>	
Grape	<i>Vitis vinifera</i>	
Arum Lily	<i>Zantedeschia aethiopica</i>	
Dandelion	<i>Taraxacum officinale</i>	ASTERACEAE
Canada Goldenrod	<i>Solidago canadensis</i>	ASTERACEAE

Notes.

- 1 Species names and common names follow Marchant et al (1987) unless otherwise indicated

APPENDIX 4: *Bird Species of the Study Area*

Bird species		Species Occurrence				
		1	2	3	4	5
Pacific Black Duck	<i>Anas superciliosa</i>	1				
Grey Teal	<i>Anas gracilis</i>	1				
White-faced Heron	<i>Egretta novaehollandiae</i>	3				
Great Egret	<i>Egretta alba</i>					
Straw-necked Ibis	<i>Threskiornis spinicollis</i>					
Brown Goshawk	<i>Accipiter fasciatus</i>					
Purple Swamphen	<i>Porphyrio porphyrio</i>					
Eurasian Coot	<i>Fulica atra</i>	1				
Common Greenshank	<i>Tringa nebularia</i>					
Black-winged Stilt	<i>Himantopus himantopus</i>					
Red-capped Plover	<i>Charadrius ruficapillus</i>					
Black-fronted Plover	<i>Euseiornis melanops</i>	1				
Silver Gull	<i>Larus novaehollandiae</i>					
*Rock Dove	<i>Columba livia</i>					
*Laughing Turtle-Dove	<i>Streptopelia senegalensis</i>					
Australian Ringneck	<i>Barnardius zonarius</i>					
*Laughing Kookaburra	<i>Dacelo novaeguineae</i>					
Rainbow Bee-eater	<i>Merops ornatus</i>					
Western Thornbill	<i>Acanthiza inornata</i>	1				
Red Wattlebird	<i>Anthochaera carunculata</i>	1				
Singing Honeyeater	<i>Lichenostomus virescens</i>					
White-fronted Chat	<i>Epthianura albifrons</i>					
Magpie-lark	<i>Grallina cyanoleuca</i>	1				
Grey Fantail	<i>Rhipidura fuliginosa</i>	1				
Willie Wagtail	<i>Rhipidura leucophrys</i>	1				
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>					
Grey Butcherbird	<i>Cracticus torquatus</i>					
Australian Magpie	<i>Gymnorhina tibicen</i>	1				
Australian Raven	<i>Corvus coronoides</i>					
Welcome Swallow	<i>Hirundo neoxena</i>					
Tree Martin	<i>Hirundo nigricans</i>					
Silvereye	<i>Zosterops lateralis</i>					

NOTES:

- 1 Information from Newman 1976. The Cockburn Wetlands - An Environmental Study. Dr P. Newman Ed., March 1976.
Information was collected between 9/1/76 - 13/2/76. Species presence was noted and a three tiered rating of abundance developed.
Abundance Rating 1 = Present
 2 = Present in a significant number (for the species)
 3 = Abundant (for the species)
- 2 Species recorded by B Carr during preliminary field visit, December 1994
- 3 Species recorded by B Carr on 2-3-95 between 0935 - 1215 hours
- 4 Species recorded by B Carr on 10-3-95 between 0950 - 1120 hours
- 5 Species recorded by B Carr on 15-3-95 between 0920 - 1220 hours
- 6 Species names, common names and taxonomy follow Christidis and Boles (1994)
- 7 Species are listed in taxonomic order
- 8 * = Introduced Species

APPENDIX 5: Bird Species of Lake Coogee

(Source: Crossley (1995))

Species	23	24	23	19	20	31	25	25	37	31	31	39	39	39	47	44	43	51	48	38	49	43	
	10/2/93	14/5/93	10/6/93	3/7/93	17/7/93	1/8/93	11/8/93	4/9/93	19/9/93	1/10/93	4/10/93	11/10/93	17/10/93	27/10/93	2/11/93	12/11/93	27/11/93	12/12/93	2/1/94	11/1/94	1/2/94	11/2/94	1/3/94
106 Pelican																							
99 Pied Cormorant	/																						
100 Little Pied Corm.		/																					
1097 Little Black Corm.			/																				
158 White-faced Heron	/	/	/						/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
157 Great Egret		/	/						/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
179 Sacred Ibis	/																						
203 Black Swan		/		/																			
207 Shelduck	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
208 Pacific Black Duck	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
211 Grey Teal		/																					
217 Mask Duck	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
152 Yellow-billed Spoonbill																							
232 Black Shouleded Kf	/								/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
221 Whistling Kite																							
201 Brown Noshawk																							
249 Kestrel																							
58 Purple Swamphen		/			/			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
104 Black-headed Plover	/	/																					
146 Black-winged Stilt	/	/																					
158 Greenshank	/																						
148 Red-necked Avocet	/																						
145 Silver Gull	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
189 Laughing Kookaburra	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
216 White-tailed Black Cat			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
213 Galah			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
290 Red-capped Parrot			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
294 Port Lincoln T/S			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
337 Pallid Cuckoo																							
338 Fan-tailed Cuckoo		/																					
342 Laughing Kookaburra		/	/	/				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
326 Sacred Kingfisher																							
357 Welcome Swallows	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
359 Tree Martin					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
White-browed Scrub Wren																						/	/
Marsh Warbler																						/	/

Lake Coogee (cont.)

Species	10/2/93	14/5/93	10/6/93	3/7/93	17/7/93	1/8/93	11/8/93	4/9/93	19/9/93	1/10/93	4/10/93	11/10/93	17/10/93	27/10/93	2/11/93	12/11/93	27/11/93	12/12/93	2/1/94	11/1/94	1/2/94	11/2/94	1/3/94	
647 Richard's Pipit																								
624 Black-faced Cuckoo-shrike	/			/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
361 Grey Fantail			/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
364 Willie Wagtail	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
443 Western Gerygone		/																						
716 Inland Thornbill					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
432 Western Thornbill					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
486 Yellow-rumped T/S					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
639 Red Wattlebird		/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
608 Singing Honeyeater	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
581 Brown Honeyeater	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
448 White-fronted Chat	/																							
916 Striped Pardalote					/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
514 Silveryeye	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
615 Magpie Lark	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
702 Grey Sulphurbird	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
705 Magpie	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
920 Raven	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
59 Coot																								
712 Shoveler																								
645 Weebill																								
448 Grey Shrike Thrush																								
60 Sooty Great Crested Grebe																								
557 Feral Pigeon																								
632 White Checkered Warbler																								
62 Hoary-headed Grebe																								
Rainbow Bee Eater																								
Rufous Whistler																								
Splendid Wren																								
Horsfield's Cuckoo																								
Ear-tailed Godwit																								
Tawny Frogmouth																								
Rufous Night Heron																								
New Holland HE																								
Red-capped Plover																						/	/	/
Little Eagle																						/	/	/
Common Sandpiper																						/	/	/
Curllew																						/	/	/

	51	50	57	35	39	44	46	42	51	41	58	49	53	55	56	47	48	41	46	53
	12/1/94	17/1/94	24/1/94	27/1/94	29/1/94	1/4/94	17/4/94	21/4/94	25/4/94	27/4/94	17/10/94	31/11/94	1/1/95	27/1/95	5/4/94	27/4/94	11/10/94	17/1/95	27/1/95	27/1/95
60 Great Crested Grebe																				
62 Busy Lizard Grebe																				
106 Australian Pelican																				
100 Little Red Cormorant	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
97 Little Black Cormorant	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
85 White faced Heron	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
187 Great Egret	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
192 Rufous Kingbird Heron	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
179 Sacred Ibis																				
182 Yellow billed Spoonbill																				
203 Black Swan																				
207 Shelduck	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
208 Pacific Black Duck	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
211 Grey Teal	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
212 Shoveler	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
217 Musk Duck	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
232 Black Shouldered Kite	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
208 Whistling Kite	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
201 Brown Goshawk	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
205 Little Eagle	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
219 Marsh Harrier	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
200 Australian Kestrel	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
51 Spotted Crane	(N)																			
58 Turak Swanynhen	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
59 Eurasian Coot	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
143 Red Gonyed Plover	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
146 Black fronted Plover	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
146 Black Winged Stilt	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
148 Red Necked Avocet	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
151 Common Sandpiper	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
158 Greenshank	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
153 Bar Tailed Godwit	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
161 Curlew Sandpiper	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
125 Silver Gull	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

(N) verification required

	12/1/94	17/1/94	24/1/94	27/1/94	29/1/94	1/4/94	17/4/94	21/4/94	25/4/94	27/4/94	17/10/94	31/11/94	1/1/95	27/1/95	5/4/94	27/4/94	11/10/94	17/1/95	27/1/95	27/1/95
957 Great Pigeon	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
981 Laughing Turtle Dove	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
206 White Tailed Black Cuckoo	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
273 Galah	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
290 Red capped Parrot	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
294 Fort Lincoln Parrot	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
337 Pallid Cuckoo	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
338 Inn-tailed Cuckoo	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
342 Horsfield's Bronze Cuckoo	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
313 Tawny Frogmouth	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
322 Laughing Kookaburra	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
526 Sacred Kingfisher	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
329 Rainbow Bee-eater	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
351 White backed Swallow	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
357 Welcome Swallow	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
359 Tree Martin	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
447 Richard's Pini	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
424 Black faced Cuckoo Shrike	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
401 Rufous Whistler	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
408 Grey Shrike Thrush	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
364 Willie Wagtail	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
532 Splendid Fairy Wren	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
441 White Browed Scrub Wren	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
465 Weebill	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
463 Western Gerygone	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
476 Inland Thornbill	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
496 Yellow Rumped Thornbill	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
631 Red Wattlebird	/B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
601 Singing Honeyeater	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
591 Brown Honeyeater	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
631 New Holland Honeyeater	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
631 White Cheeked Honeyeater	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
448 White fronted Chat	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
500 Mistlebe Bird	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

	12/1/94	17/1/94	20/1/94	27/2/94	20/3/94	1/4/94	17/4/94	7/5/94	12/6/94	28/6/94	9/7/94	17/7/94	31/7/94	17/8/94	27/8/94	5/9/94	22/9/94	14/10/94	12/11/94	27/12/94	27/1/95
976 Striated Pardalote	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4 Silveryeye	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13 Magnic Lark	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
132 Grey Butcher bird	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
705 Magnic	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
930 Raven	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
61 Grey Fantail			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
146 Buff Banded Rail		(v)							/	/	/	/	/	/	/	/	/			/	
147 Banded Stilt			/	/	/	/	/														
135 Banded Lapwing			/		/																/
61 Darter			/		/																/
144 Shining Bronze Cuckoo			/								/					/					/
102 Red necked Stint					/	/									/						
948 Mallard Duck					/	/															
87 Peregrine Falcon					/	/															
85 Hobby							/	/		/				/							
41 Osprey							/	/	/					/							
180 Straw Necked Ibis							/	/													
61 Little Corella										/											/
White Bellied Sea Eagle											/	/	/	/	/	/					/
856 Dusky Moorhen											/	/	/	/	/	/	/	/	/	/	/
? 30 Common Bronzewing											/	/	/	/	/	/	/	/	/	/	/
79 Western Rosella											/										/
Little Wattlebird												/									
Pied Cormorant												/									
Hardhead												/									
3 Legent Parrot													/								
Great Cormorant														/							
Little Egret															/						
Spotless Crake																					/

(v) verification required

APPENDIX 6: *Mammal Species of the Study Area*

Southern Brown Bandicoot	<i>Isoodon obesulus fusciventer</i>
Rabbit	<i>Ortolagus cuniculus</i>
Cat	<i>Felix cattus</i>
Fox	<i>Vulpes vulpes</i>
House Mouse	<i>Mus musculus</i>
Black Rat	<i>Rattus rattus</i>
Brown Rat	<i>Rattus norvegicus</i>
Water Rat	<i>Hydromys chrysogaster</i>

APPENDIX 7: *Reptiles and Amphibians of the Study Area*

Frogs

Humming Frog

Neobatrachus pelobatoides

Ranidella insignifera

Crinia georgiana

Reptiles

Tiger Snake

Notichus ater

Fence Skink

Crypto belepherous fhalerougs

Yellow Bellied Skink

Hermiergis quadralineatum

Skink

Morethia obscura

Unidentified Gecko

Long Neck Tortoise

Chelodina oblonga

BS 244
BASS. STA
NTH LAKE

BS 263
BASS. S.
W. LABBS

BS 346
SPEAR. S.
COOGE

BS 390
BASS S
FORREST

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

BS 248
BASS. S.
BIBRA

BS 273
+ BS 404
SPEAR. S.

Final
Full document
available
on request

BS 254
BASS. S.

CASUARINA

MODONG

HARRY WAKE

STA. LK.

BS 342

BS 353

BS 435
BS 429
SPEAR. S.

BS 256
BASS. S.

BASSEND S.

BASS. S.

ANST. KEAN

BANKSLA

MARKER

YANGEB.

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.

BS 388

L. COOGE



Ministry for Planning

BASS. S.

JANDAKOT

BS 262

BS 344

March 1995

BS 389

BASS. S.

BASS. S.

BASS. STA

PIARRA

DE YOUNG

EAST d JAND

Newman, P (editor) (1976), The students of Murdoch University Australia...

Van Delft, R (1988), 'Birding Australia Press, Nedlands.

Western Australian Water Resources of groundwater problems. Govern...

Full document available on request

Prepared by
estern
estern
review

10.3 MARKET GARDEN SWAMPS BS 435, 429
10.3.1 GENERAL INFORMATION

LOCAL AUTHORITY: City of Cockburn
MRS ZONE: Urban deferred
MANAGEMENT: Private landowners, Water Authority
LAND OWNERSHIP: Reserve 22227 (drainage) and Freehold
SYSTEM 6 RECOMMENDATION: M92
WAC CLASSIFICATION: Le.f/b.m.p.so
DRAINAGE: Local drainage inputs; future major drainage function.

10.3.2 PHYSIOGRAPHY AND GEOLOGICAL SETTING

The Market Garden Swamps lie in a pronounced north-south trending depression within the Spearwood Dunes.

10.3.3 AREAS

(i) Swamps north of Mayor Road:

Total area of wetland	59.8 ha
Paperbark	25.2 ha
Sedgeland	3.2 ha
Samphire	0.5 ha
Open water	6.5 ha
Modified	24.4 ha
Ski-tow pond	3.6 ha

(ii) Swamp south of Mayor Road:

Total area of wetland	16.1 ha
Paperbark	6.9 ha
Sedgeland/samphire	1.6 ha
Open water	4.2 ha
Modified	3.4 ha

10.3.4 HYDROLOGY (Figure 10.5)

Concern about increasing salinity in bore water used for market gardens in the Coogee area led to a study of the hydrology of the region (Western Australian Water Resources Council. 1984).

Landfill, Lot 23 Fawcett Road, Munster

M Tolich

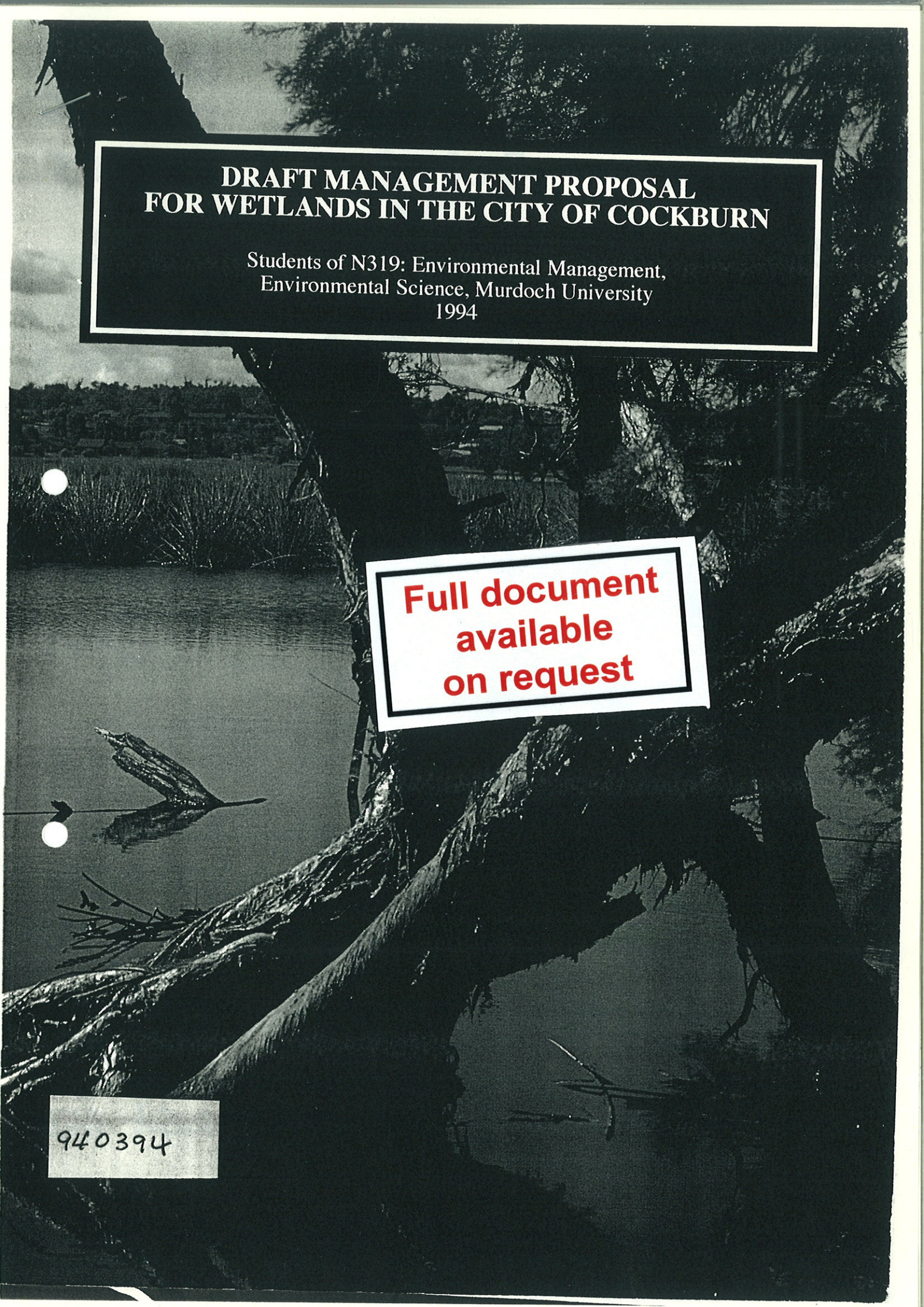
Report and recommendations
of the Environmental Protection Authority

**Full document
available
on request**

MARKET
GARDEN SWP

BS 435
BS 429 STEAR

Environmental Protection Authority
Perth, Western Australia
Bulletin No 586
Assessment No 559
October 1991



**DRAFT MANAGEMENT PROPOSAL
FOR WETLANDS IN THE CITY OF COCKBURN**

Students of N319: Environmental Management,
Environmental Science, Murdoch University
1994

**Full document
available
on request**

940394

BS 435/429 Spear. S.

THE COCKBURN WETLANDS :
AN ENVIRONMENTAL STUDY

**Full document
available
on request**

WILD 1574 UAGA
Nº 13037 152,72

GOOD
↖ Market
↖ Garden
↖ Swamps
v. GOOD - GOOD