

FORRESTDALKE LAKE AND ADJACENT BUSHLAND, FORRESTDALKE

Boundary Definition: protected area/bushland (part taken to cadastre)/conservation wetland boundary (Areas of bushland within the boundaries of the Site are not accurately mapped. The boundary has been drawn to include any unmapped bushland; Areas of bushland within the boundaries of the Site have been recently cleared. The boundary has been drawn to include cleared bushland; Boundary adjusted after vegetation survey and negotiations with land owner(s) in response to a submission to draft *Perth's Bushplan*.)

SECTION 1: LOCATION INFORMATION

Bush Forever Site no. 345

Area (ha): bushland 344.5 (Site also includes open water.)

Map no. 60, 61, 66

Map sheet series ref. no. 2033-I SE

Other Names: Submission Area 256

Local Authorities (Suburb): City of Armadale (Forrestdale, Brookdale)

Includes CALM Managed Land: Reserve 24781 (Conservation of Flora and Fauna)

System 6 (1983): M95 area of bushland goes beyond System area boundaries, all bushland described

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Pinjarra Plain

Guildford Formation (Qpa: Cs, Sc)

Bassendean Dunes

Bassendean Sands (Qpb: S8)

Bassendean Dunes/Pinjarra Plain

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

Wetlands (within the Bassendean Dunes/Pinjarra Plain)

Holocene Swamp Deposits (Qrw: Sp1, Sp2)

Lagoonal and Estuarine Deposits (within the Bassendean Dunes/Pinjarra Plain)

Lagoonal and Estuarine Deposits (Vasse) (Qhg: LS5)

Lagoonal Deposits in Bassendean Dunes (Qpw: S9)

VEGETATION AND FLORA

Vegetation Complexes

Bassendean Dunes

Bassendean Complex — Central and South

Combinations of Bassendean Dunes/Pinjarra Plain

Southern River Complex

Floristic Community Types

Supergroup 2: Seasonal Wetlands

4 *Melaleuca preissiana* damplands

8 Herb-rich shrublands in clay pans

10a Shrublands on dry clay flats

12 *Melaleuca teretifolia* and/or *Astartea* aff. *fascicularis* shrublands

Supergroup 3: Uplands centred on Bassendean Dunes and Dandaragan Plateau

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

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

WETLANDS

Wetland Types: lake, dampland, sumpland, palusplain, artificial channel

Natural Wetland Groups

Bassendean Dunes

Jandakot (B.3)

Pinjarra Plain

Keysbrook (P.1)

Bassendean—Pinjarra transition OR Bassendean with fluvial features

Bennett Brook (B/P.4)

Wetland Management Objectives: Conservation (402.5ha), Resource Enhancement, Multiple Use

Swan Coastal Plain Lakes EPP: 220.5ha + 0.7ha + 2.7ha + 1.8ha + 0.8ha + 1.8ha + 22.7ha = 251ha (total)

THREATENED ECOLOGICAL COMMUNITIES

Not assessed, Endangered (floristic community type 10a), Vulnerable (floristic community type 8)

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: open water, vegetated wetland, vegetated uplands

Vegetation and Flora: limited survey (CALM 1987, part Site — Clarke and Keighery 2000c, EPA and WAWA 1990, Gibson *et al.* 1994 (FL 01–10), Keighery, GJ, 1992a, Keighery, BJ, and Trudgen 1992)

Structural Units: mapping (CALM 1987, Keighery, BJ, and Trudgen 1992)

Uplands: *Eucalyptus calophylla* Open Woodland; *Banksia attenuata* and *B. menziesii* Open Forest to Woodland with *Nuytsia floribunda*; *Banksia littoralis* and *B. menziesii* Open Forest to Woodland with *Nuytsia floribunda*
Wetlands: *Eucalyptus rudis* Forest; *Melaleuca preissiana* and *M. raphiophylla* Low Open Forest with patches of *Eucalyptus rudis*; *Melaleuca preissiana* Open Woodland; *Melaleuca raphiophylla* Low Closed Forest; *Melaleuca uncinata*, *M. polygaloides* and *M. viminea* Closed Heath; *Regelia ciliata* Closed Heath; *Melaleuca teretifolia* and *M. viminea* Open Heath; mixed Closed Herbland; *Hypolaena exsulca*, *Lyginia barbata* and *Schoenus curvifolius* Closed Sedgeland; *Leptocarpus canus* Sedgeland; mixed Sedgelands; Closed Sedgelands dominated by *Baumea articulata*, **Typha orientalis* and *Bolboschoenus caldwellii*

Scattered Native Plants: *Melaleuca raphiophylla* Low Closed Forest to Low Open Woodland, *Banksia attenuata* and *B. menziesii* Open Forest to Woodland, scattered native shrubs

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

Total Flora: 312 native taxa (Keighery, GJ, 1992a) (estimated >75% expected flora)

Significant Flora: *Diuris purdiei* (R), *Drakaea elastica* (R); *Acacia lasiocarpa* subsp. *bracteolata* (1) (Keighery, GJ, 1992a), *Eryngium pinnatifidum* subsp. *palustre* ms (2), *Stylidium mimeticum* (3) (Keighery, GJ, 1992a), *Villarsia submersa* (4), *Drosera occidentalis* (4), *Verticordia lindleyi* subsp. *lindleyi* (4) (Keighery, GJ, 1992a), *Anthotium junciforme* (4) (Keighery, GJ, 1992a); *Pimelea imbricata* var. *major*, *Villarsia violifolia*, *Burchardia bairdiae*, *Leptocarpus* sp. Forrestdale Lake, *Myriocephalus helichrysoides*

Fauna: multiple survey for birds (135 species) (RAOU 1996 D, numerous visits, and CALM 1987), limited survey for native mammals (4 species), reptiles (15 species) and amphibians (7 species) (CALM). Important feeding area for exceptionally wide variety of waterbirds and a large assemblage (21 species) and population level of trans-equatorial wading birds protected under the JAMBA/CAMBA treaties. Significant bird species: category 1 (2), category 2 (21), category 3 (16) and category 4 (9). Significant mammal species: Quenda and Western Brush Wallaby. Significant reptile species: Swamp Skink (*Acritoscincus trilineatum*), Lined Skink (*Lerista lineata*) and Crowned Snake (*Notechis coronatus*)

Linkage: adjacent bushland to the north, south and east; part of Greenways 81, 118, 69, 97 (Tingay, Alan & Associates 1998a); part of a regionally significant fragmented bushland/wetland linkage (Part A, Map 7)

Other Special Attributes: 'wetland of special note' (Payne 1993a); majority Site Category One and Two Areas, Middle Canning Catchment Study (Evangelisti & Associates *et al.* 1995); National Trust of Australia (WA) Classification; contains plant communities representative of the eastern side of the Swan Coastal Plain

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Wetlands of International Importance (Ramsar); Directory of Important Wetlands in Australia; Entered in the Register of the National Estate (Forrestdale Lake); Indicative place (AHC 2000 D) (Forrestdale Lake Adjacent Wetlands); 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, Diversity, Rarity, Scientific or evolutionary importance, General criteria for the protection of wetland, streamline and estuarine fringing vegetation and coastal vegetation

Recommendation: Part A: Site with Some Existing Protection; the existing purpose, care, control and management of Reserve 24781 is endorsed. Parts of the Site are already reserved for Parks and Recreation in the Metropolitan Region Scheme, and should be added to Forrestdale Lake Nature Reserve. Part B: Rural Complementary Mechanism. Part C: Proposed Parks and Recreation Reservation (see Table 3, Volume 1).

FORRESTDAL Lake AND ADJACENT BUSHLAND, FORRESTDAL

Boundary Definition: protected area/bushland (part taken to cadastre)/conservation wetland boundary (Areas of bushland within the boundaries of the Bushplan Site are not accurately mapped. The boundary has been drawn to include any unmapped bushland.)

SECTION 1: CADASTRAL INFORMATION

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

Bushplan Site no. 345 **Map no.** 75, 76 **Map sheet series ref. no.** 2033-I SE
System 6 (1983): M95 area of bushland goes beyond System area boundaries, all bushland described

Other Names

Submission Area 256

Local Authorities (Suburb)

City of Armadale (Forrestdale, Brookdale)

Ownership Categories

Private, State Government, Local Government

Area (ha): total 658.2 (includes open water); bushland 344.5

Zoning

MRS: Parks and Recreation, Rural, Important Regional Roads, Controlled Access Highways

TPS: Landscape, Rural, General Rural

Lot/Location/Reserve numbers (Purpose),

Street name

75, 382 Forrest Rd; 11, 13, 276, 277, 278, 303, 381, 400, 500 Oxley Rd; 1 Nicholson Rd; 2, 12 Rowley Rd; 2, 3, 4, 5, 264 Lake Rd; 7, 8, 265, 279, 280, 281, 282, 283, 284, 405, 454, 459 Commercial Rd; 266, 267 Swamp Rd; 378, 379, 380 Stirling Rd; 111 street not identified

Crown Reserve

Reserve 24781 (Conservation of Flora and Fauna)

CALM Managed Land

SECTION 2: REGIONAL INFORMATION

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VEGETATION AND FLORA

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Bennett Brook (B/P.4)



Wetland Management Objectives: Conservation (446.8ha), Resource Enhancement, Multiple Use
Swan Coastal Plain Lakes EPP: 220.5ha + 0.7ha + 2.7ha + 1.8ha + 0.8ha + 1.8ha + 22.7ha = 251ha (total)

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Not assessed, Endangered (floristic community type 10a), Vulnerable (floristic community type 8)

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Vegetation and Flora: limited survey (part Bushplan Site — EPA and WAWA 1990, Gibson *et al.* 1994 (FL 01–10), Keighery, GJ, 1992a, Keighery, BJ, and Trudgen 1992)

Structural Units: mapping (CALM 1987, Keighery, BJ, and Trudgen 1992)

Uplands: *Eucalyptus calophylla* Open Woodland; *Banksia attenuata* and *B. menziesii* Open Forest to Woodland with *Nuytsia floribunda*; *Banksia littoralis* and *B. menziesii* Open Forest to Woodland with *Nuytsia floribunda*

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Fauna: surveyed by RAOU (1996 D), numerous visits, and CALM (1987) for birds (135), native mammals (4), reptiles (15) and amphibians (7). Important feeding area for exceptionally wide variety of waterbirds and a large assemblage (21 species) and population level of trans-equatorial wading birds protected under the JAMBA/CAMBA treaties. Significant bird species: category 1 (2), category 2 (21), category 3 (16) and category 4 (9). Significant mammal species: Quenda and Western Brush wallaby. Significant reptile species: Swamp Skink (*Acritoscincus trilineatum*), Lined Skink (*Lerista lineata*) and Crowned Snake (*Notechis coronatus*)

Linkage: adjacent bushland to the north, south, east and west; part of proposed Greenways 110, 134, 85, 96, 142 (Tingay, Alan & Associates 1997a); part of a regionally significant fragmented bushland/wetland linkage (Volume 2A, Map 8)

Other Special Attributes: 'wetland of special note' (Payne 1993a); majority Bushplan Site Category One and Two Areas, Middle Canning Catchment Study (Evangelisti & Associates *et al.* 1995); National Trust of Australia (WA) Classification; contains plant communities representative of the eastern side of the Swan Coastal Plain

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Wetlands of International Importance (RAMSAR); Directory of Important Wetlands in Australia, Indicative Place of the Register of the National Estate; Location for JAMBA/CAMBA species; Not listed; Indicative Place of the Register of the National Estate

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Diversity, Rarity, Scientific or evolutionary importance, General criteria for the protection of wetland, streamline and estuarine fringing and coastal vegetation

Opportunities and/or Constraints

Opportunities: Bushplan Site/part Bushplan Site subject to Swan Coastal Plain Lakes EPP, Peel-Harvey Estuary EPP/SPP, Swan and Canning Rivers EPP; location of Declared Rare Flora and Scheduled Fauna, conservation category wetlands; under MRS Parks and Recreation Reservation and Landscape Zoning, Crown Reserve

Constraints: private land; under MRD regional road requirements, General Mineral Resource Area (sand)

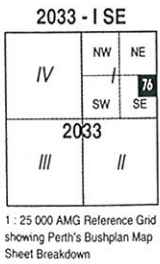
Recommendation: The existing purpose, care, control and management of Reserve 24781 is endorsed. Parts of the Bushplan Site are already reserved for Parks and Recreation in the Metropolitan Region Scheme, and should be added to Forrestdale Lake Nature Reserve. The most appropriate mechanism for the protection of the remainder of this Bushplan Site be considered through the public comment period in consultation with the land owner(s).





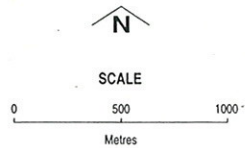
LEGEND

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

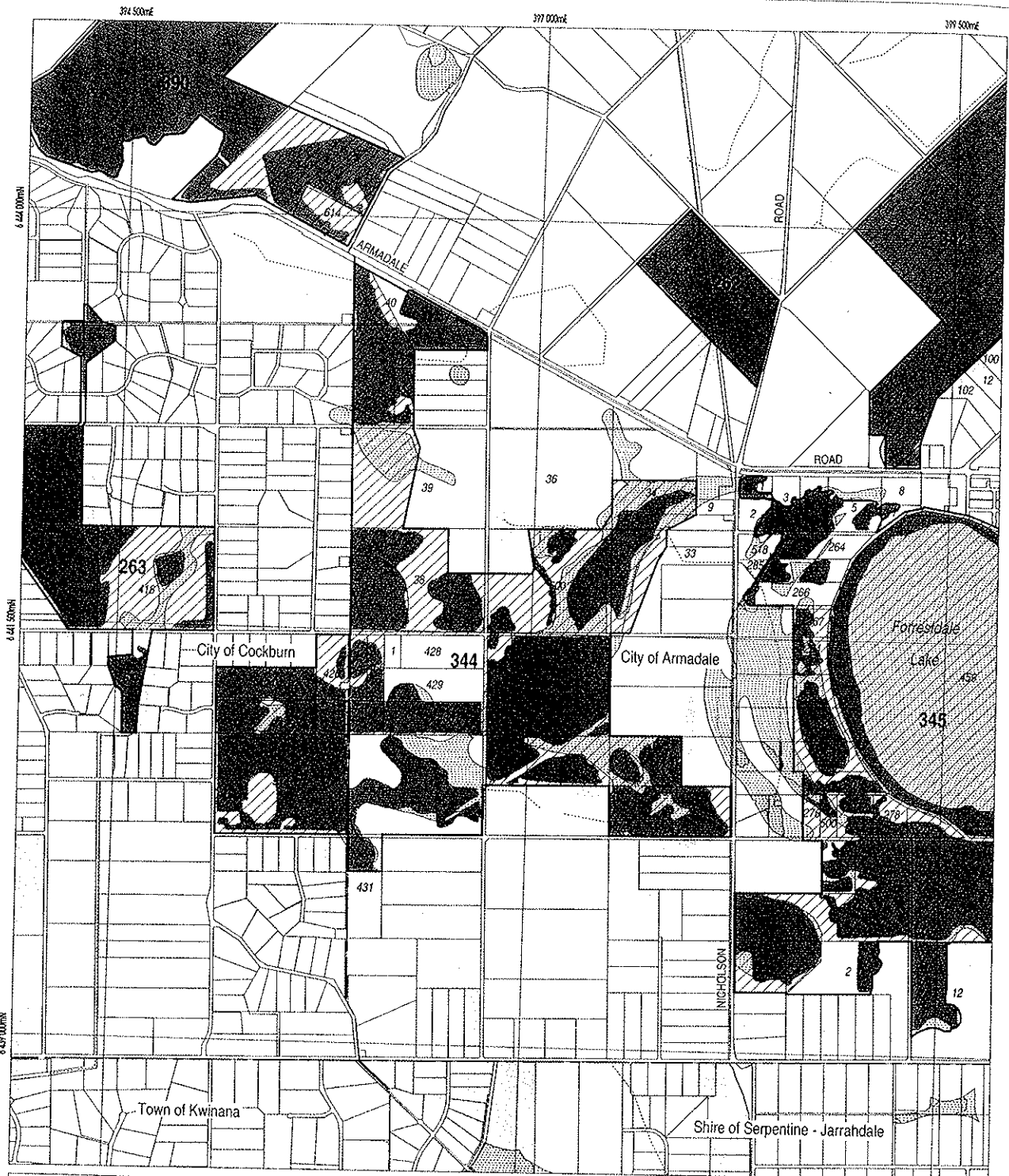


PERTH'S BUSHPLAN MAP INDEX

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Produced by Project Mapping Section
 Land Information Branch, Ministry for
 Planning, Perth W.A. November 1998
 ntw-map9/environ/bushplan/bushv2_76.dgn
 Cadastral Data supplied by Department
 of Land Administration, W.A.
 Wetlands Data supplied by
 Water and Rivers Commission
 Native Vegetation Extent for Study Area
 supplied by Agriculture Western Australia



LEGEND

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

2033 - I SE

IV	NW	NE
SW	12	SE

2033

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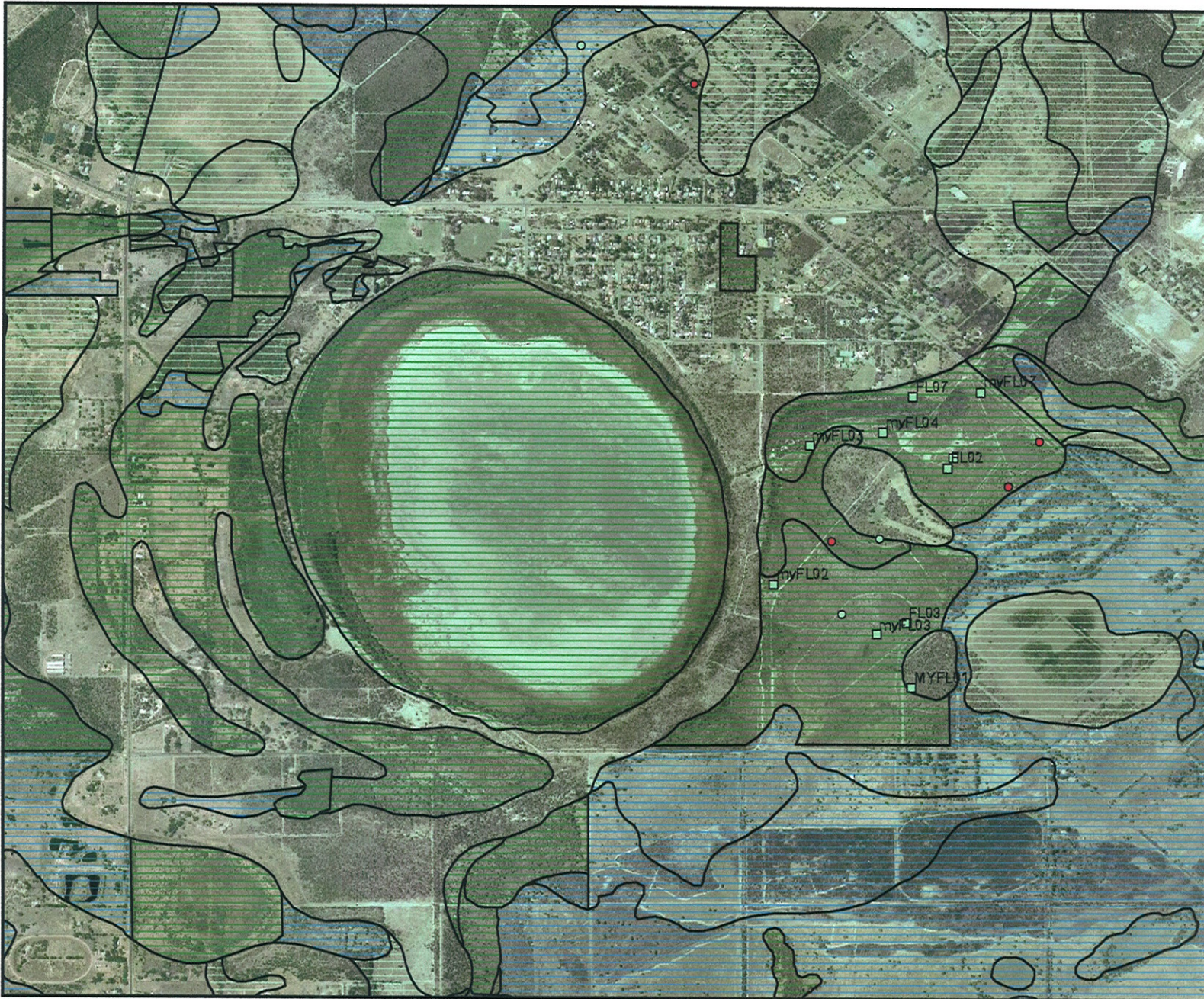
1 : 25 000 AMG Reference Grid showing Perth's Bushplan Map Sheet Breakdown

PERTH'S BUSHPLAN MAP INDEX

SCALE

0 500 1000
Metres

Produced by Project Mapping Section
Land Information Branch, Ministry for
Planning, Perth W.A. November 1998
nw-map91/environ/bushplan/bushv2_75.dgn
Cadastral Data supplied by Department
of Land Administration, W.A.
Wetlands Data supplied by
Water and Rivers Commission
Native Vegetation Extent for Study Area
supplied by Agriculture Western Australia



LEGEND

- Threatened Ecological Communities - CALM 15
- Priority 4 - Poorly Known Taxa
- Declared Rare Flora - Extant Taxa
- Conservation
- Multiple Use
- No longer a wetland
- Resource Enhancement

Swan Coastal Plain North 1m Orthomosaic - DL



Scale 1:21,959
(Approximate when reproduced at A4)

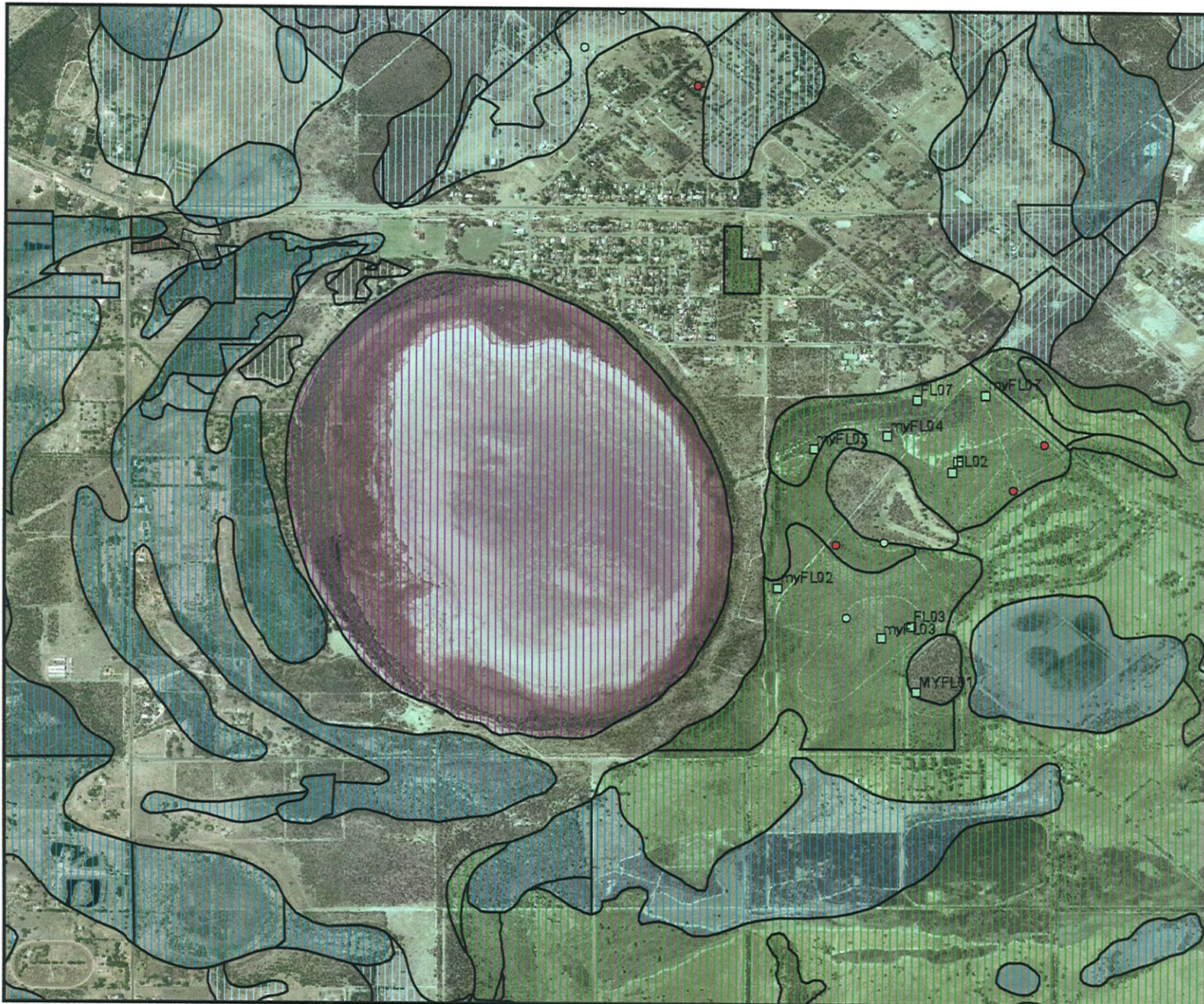
Geocentric Datum of Australia 1994
Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Prepared by: LawnJ
 Prepared for:
 Date: Thursday, 25 November 2004 17:15

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LEGEND

- Threatened Ecological Communities - CALM 15
 - Priority 4 - Poorly Known Taxa
 - Declared Rare Flora - Extant Taxa
 - Dampland
 - Lake
 - No longer a wetland
 - Palusplain
 - Sumpland
 - Upland
- Swan Coastal Plain North 1m Orthomosaic - DL1



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(Approximate when reproduced at A4)

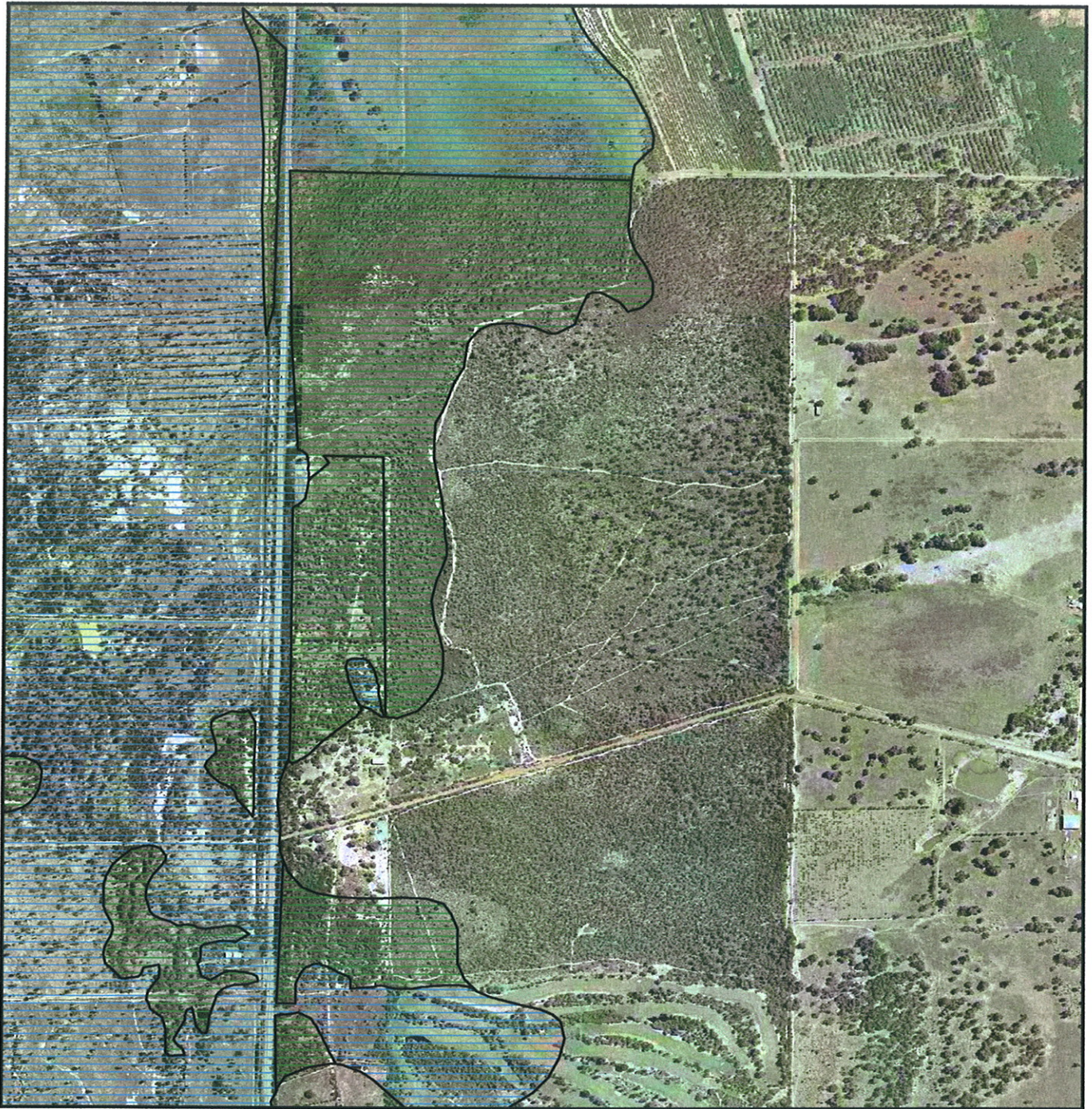
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LEGEND

-  Conservation
-  Multiple Use

Swan Coastal Plain North 1m Orthomosaic - DOLA 01/00

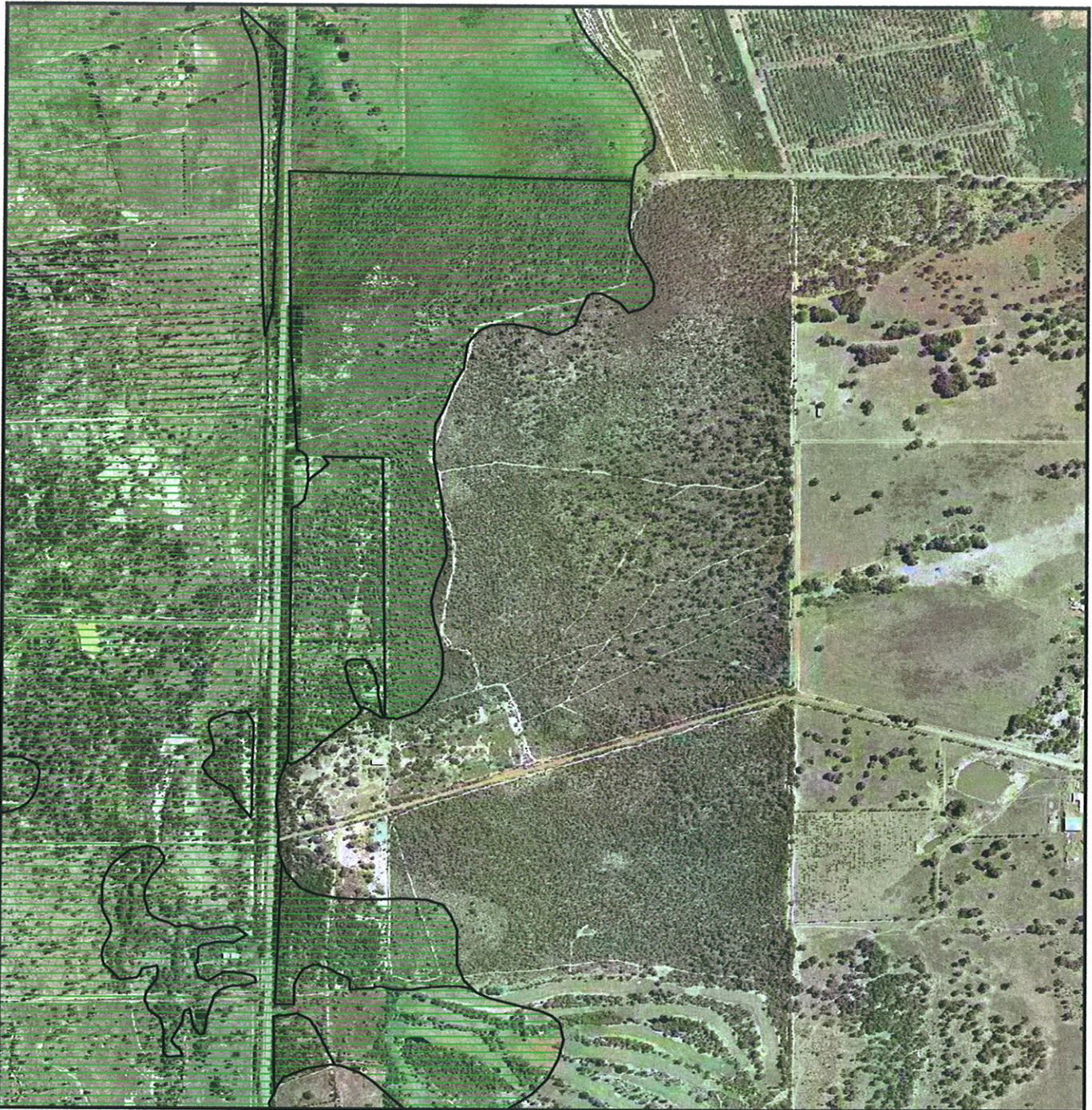


Geocentric Datum of Australia 1994
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LEGEND

 Palusplain

Swan Coastal Plain North 1m Orthomosaic - DOLA 01/00



Geocentric Datum of Australia 1994
Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

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BFS 345: Forrestdale Lake & Adjacent Bushland



Aerial Photography: Perth Metro Area - North West 2003

Floristic Survey Sites of the Southern Swan Coastal Plain

- GJKENV (Keighery 1996)
- GRIFFIN (Griffen 1994)
- SCP (Gibson et al 1994)
- SYS6ENV (DEP 1996 and Trudgen & Keighery 1995)
- SYS6ENV2 (DEP 1996 and Trudgen & Keighery 1995)
- Bush Forever 2002

Bush Forever, MRS Ammendments

- Swan Coastal Plain - Eastern Boundary
- Local Government Authority Boundaries

400 0 400 800 Meters



GDA
 Projection: Map Grid of Australia (MGA94)

Department of Environment
 Western Australia

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

BFSvsPlots_table.xls

	Shape	S6sites_	S6sites_id	Quadrat	Floristic	File	X_coord	Y_coord	Xxcov_	Xxcov_id	Bf_sites	Bf_mod	Site_id_tx
	Shape	466	468	FL01	4	SCP	401143.2	6441441	233	1870	345		BF 345
TEC *	Shape	467	469	FL02	10a	SCP	401089.2	6441498	233	1870	345		BF 345
TEC *	Shape	468	470	FL03 ✓	8	SCP	400953.8	6440866	233	1870	345		BF 345
	Shape	469	471	FL04	21a	SCP	401088.8	6440577	233	1870	345		BF 345
	Shape	470	472	FL05	21c	SCP	400348	6441744	233	1870	345		BF 345
	Shape	471	473	FL06	21c	SCP	400389.5	6441345	233	1870	345		BF 345
TEC *	Shape	472	474	FL07	8	SCP	400976.2	6441643	233	1870	345		BF 345
	Shape	474	476	FL09	4	SCP	399506.3	6439758	233	1870	345		BF 345
	Shape	475	477	FL10	12	SCP	399562.3	6440181	233	1870	345		BF 345

Forrestdale Lake - Site visit



LEGEND

Swan Coastal Plain North 1m Orthomosaic - DLI03



Scale 1:13,826

(Approximate when reproduced at A4)

Geocentric Datum of Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Prepared by: HigbidJ

Prepared for:

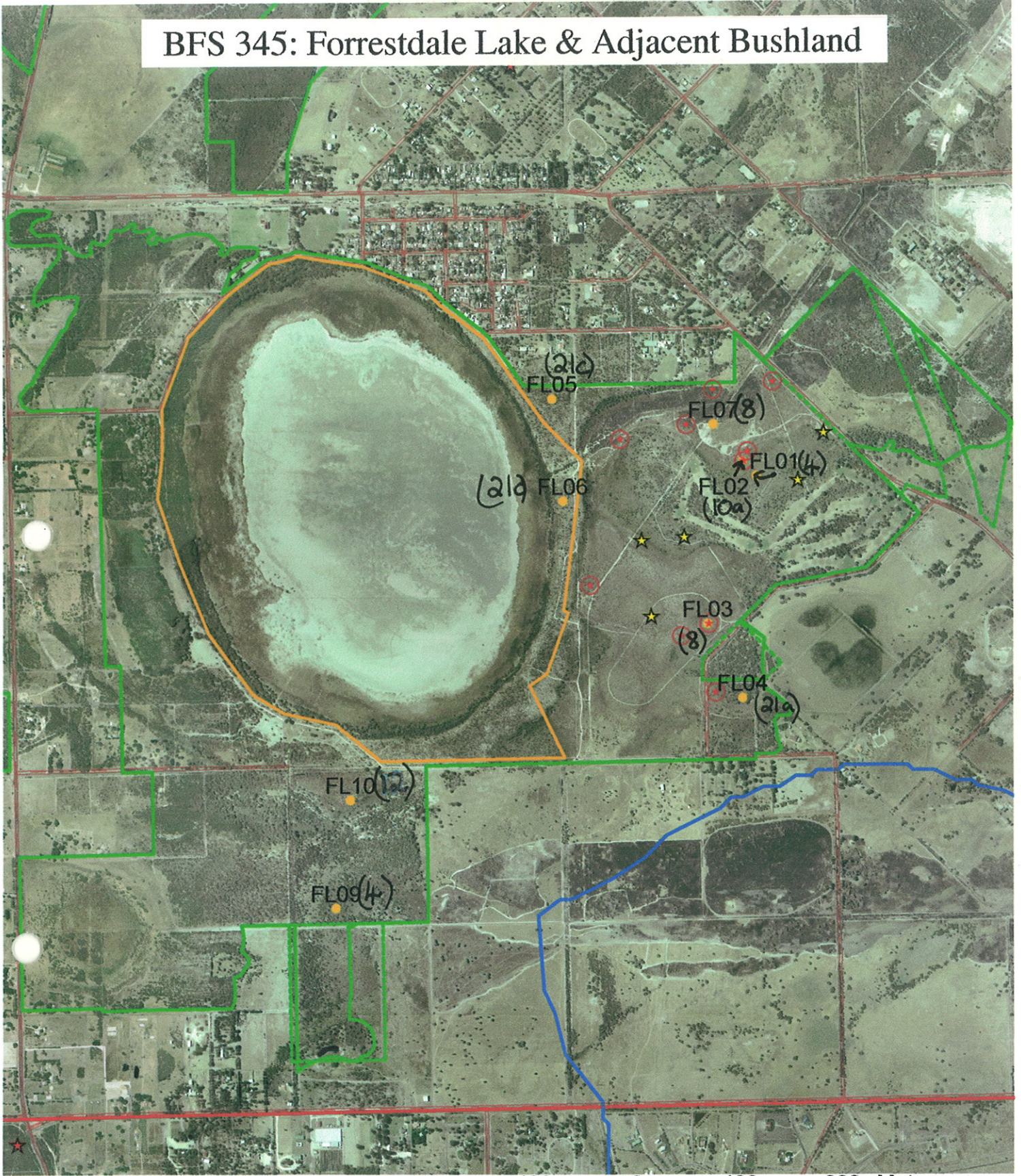
Date: Tuesday, 15 June 2004 10:54

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BFS 345: Forrestdale Lake & Adjacent Bushland



- ★ CALM Threatened Ecological Communities 2002
- ★ CALM Declared Rare Flora 2003
- Floristic Survey Sites of the Southern Swan Coastal Plain
 - GJKENV (Keighery 1996)
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- Bush Forever 2002
- Bush Forever, MRS Amendments
- Roads - Perth Metropolitan
- Swan Coastal Plain - Eastern Boundary
- Local Government Authority Boundaries

400 0 400 800 Meters

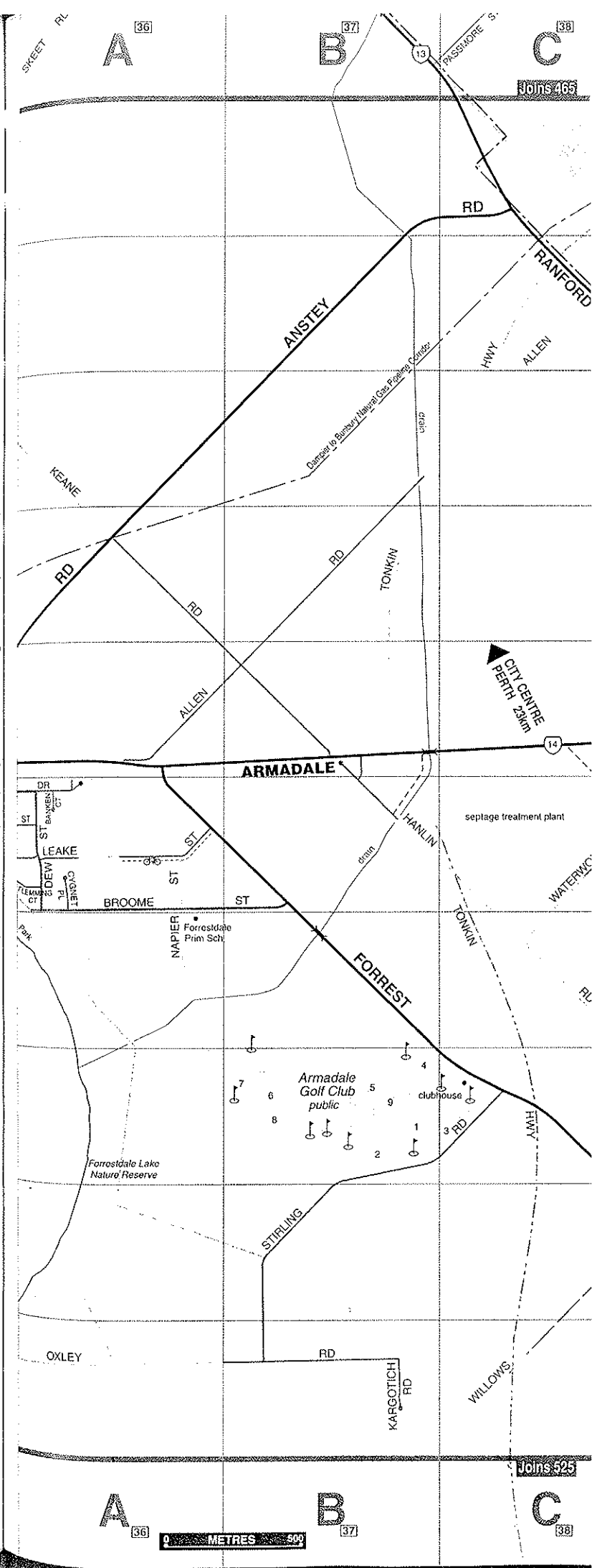
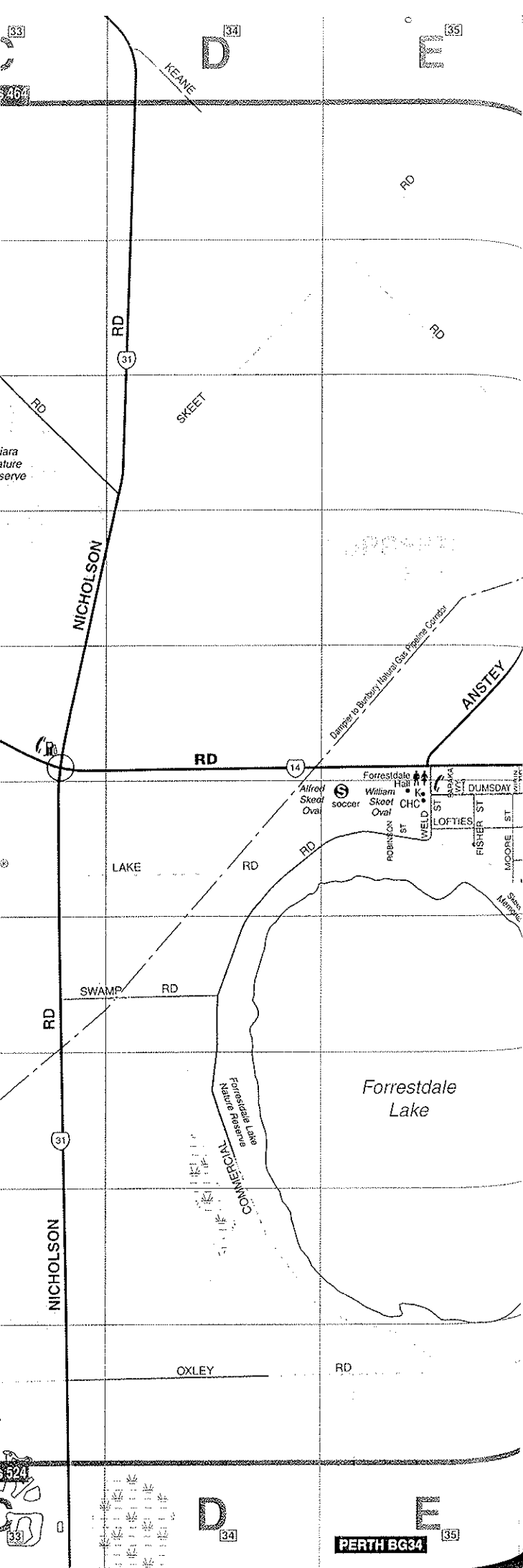


Projection: Map Grid of Australia (MGA94)

Department of Environment
Western Australia

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Aerial Photography: Perth Metro Area - North West 2003



Exc. Wetland only

15/6/04
NSIC VISIT
W BIK, Jennifer Boyd
& Christina? (WIF)

NE Power lines good land marks

FLO3 Bunt twice? 2/04



plots done
 Inundated in winter
 (not now through)
 2/04 weeds & success if
 springs used to detect
 condition
 clay based wetlands -
 need to assess in spring
 for condition.

Melrose dominant
 not present
 Gahfri
 Hakmorg

dominant
 Kunora
 wetlands on
 eastern side
 s. Marri -
 low in
 in landscape
 a common SGP

Stirling Rd.

Pr -> Public

PS
PHE

1. GA

Pr -> Public

LGA = Armadale

Melrose, Melrose (shown)
 Port oze, Ramon, Schrigns
 Loxocam

Phil cil;
 not a TEC, wetland
 Sandy rise over clay
 (Jack sparsa) Daisy of, Hypoxis,
 (only in damp lands)

resident to the west

L

CONTACT DR N. GIBSON CALM WOODVALE for further information.

Flora list for M95 Forrestdale Lake (extracted from Swan Coastal Plain database, Fl 1-10, 4/5/1995).

Department of Environmental Protection System 6 Update: Site Based Flora List M95 Forrestdale Lake

(extracted from the CALM Swan Coastal Plain database, Fl 1-10, 4/5/95)

Anthericaceae

Agrostocrinum scabrum
Arnocrinum preissii
Caesia occidentalis
Corynotheca micrantha
Dichopogon capillipes
Laxmannia sessiliflora subsp. australis
Laxmannia squarrosa
Sowerbaea laxiflora
Thysanotus arbuscula
Thysanotus manglesianus
Thysanotus multiflorus
Thysanotus sp. manglesianus/patersonii scps
Thysanotus sp. scps
Thysanotus thyrsoides
Thysanotus triandrus
Tricoryne elatior
Tricoryne tenella

Apiaceae

Eryngium pinnatifidum subsp. "palustre" scps map
Homalosciadium homalocarpum
Hydrocotyle callicarpa
Hydrocotyle sp. scps
Trachymene pilosa
Xanthosia huegelii

Araceae

* Zantedeschia aethiopica

Asteraceae

Brachyscome iberidifolia
Hyalosperma cotula
* Hypochaeris glabra
Millotia tenuifolia
Myriocephalus helichrysoides
Podolepis gracilis
Podolepis gracilis swamp (GJK 13126)
Podotheca chrysantha
Quinetia urvillei
Siloxerus humifusus
* Ursinia anthemoides
Waitzia sp. scps

Centrolepidaceae

Aphelia cyperoides
Brizula drummondii
Centrolepis aristata
Centrolepis drummondiana
Centrolepis polygyna

Colchicaceae

Burchardia bairdiae

CONTACT DR N. GIBSON CALM WOODVALE for further information.

Flora list for M95 Forrestdale Lake (extracted from Swan Coastal Plain database, FI 1-10, 4/5/1995).

Burchardia multiflora
Burchardia umbellata

Commelinaceae

Cartonema philydroides

Cyperaceae

Chorizandra enodis
Cyathochaeta avenacea
* Cyperus tenellus
Gahnia trifida
Isolepis cernua
* Isolepis marginata
Isolepis oldfieldiana
Lepidosperma "coastal terete" scps (BJK&NG 231)
Lepidosperma angustatum
Lepidosperma longitudinale
Schoenus aff. brevisetis scps
Schoenus curvifolius
Schoenus grandiflorus
Schoenus odontocarpus
Schoenus rigens
Schoenus rodwayanus
Schoenus sp. "no teeth" scps (BJK&NG 233)
Schoenus tenellus
Tricostularia neesii var. elatior

Dasypogonaceae

Dasypogon bromeliifolius
Lomandra caespitosa
Lomandra hermaphrodita
Lomandra micrantha
Lomandra sp. scps
Lomandra suaveolens

Dilleniaceae

Hibbertia racemosa

Droseraceae

Drosera erythrorhiza
Drosera gigantea
Drosera menziesii
Drosera menziesii subsp. menziesii
Drosera neesii
Drosera paleacea scps subsp. paleacea
Drosera pulchella

Epacridaceae

Brachyloma preissii
Conostephium pendulum
Leucopogon conostephioides

Gentianaceae

* Cicendia filiformis

Goodeniaceae

Dampiera linearis

CONTACT DR N. GIBSON CALM WOODVALE for further information.

Flora list for M95 Forrestdale Lake (extracted from Swan Coastal Plain database, FI 1-10, 4/5/1995).

Dampiera trigona
Goodenia micrantha
Goodenia pulchella

Haemodoraceae

Anigozanthos manglesii
Conostylis aculeata
Conostylis juncea
Haemodorum spicatum
Phlebocarya ciliata
Tribonanthes australis
Tribonanthes violacea

Haloragaceae

Gonocarpus pithyoides

Hypoxidaceae

Hypoxis occidentalis

Iridaceae

* Gladiolus caryophyllaceus
Patersonia occidentalis
Patersonia occidentalis (swamp form) sthest
* Romulea rosea

Juncaceae

* Juncus articulatus
* Juncus capitatus

Juncaginaceae

Triglochin calcitrapum

Lauraceae

Cassytha racemosa

Lobeliaceae

Lobelia tenuior
* Monopsis debilis

Loranthaceae

Nuytsia floribunda

Menyanthaceae

Villarsia violifolia

Mimosaceae

Acacia huegelii
Acacia lasiocarpa
Acacia pulchella
Acacia saligna

Molluginaceae

Macarthuria australis

Myrtaceae

Astartea aff. fascicularis sthest
Calothamnus lateralis

CONTACT DR N. GIBSON CALM WOODVALE for further information.

Flora list for M95 Forrestdale Lake (extracted from Swan Coastal Plain database, FI 1-10, 4/5/1995).

Calytrix flavescens
Calytrix fraseri
Eucalyptus calophylla
Hypocalymma angustifolium
Kunzea ericifolia
Kunzea micrantha
Melaleuca lateriflora var. acutifolia FPR
Melaleuca lateritia
Melaleuca preissiana
Melaleuca teretifolia
Melaleuca thymoides
Melaleuca uncinata
Melaleuca viminea
Pericalymma ellipticum
Regelia ciliata
Scholtzia involucrata
Verticordia densiflora
Verticordia drummondii
Verticordia plumosa

Onagraceae

Epilobium billardierianum

Orchidaceae

Caladenia flava
Caladenia sp. scps
Diuris laxiflora
Eriochilus dilatatus
Eriochilus helonomos scps
Leporella fimbriata
Microtis unifolia
Prasophyllum drummondii
Pterostylis vittata
Thelymitra sp. scps

Papilionaceae

Aotus sp. scps
Bossiaea eriocarpa
Daviesia physodes
Euchilopsis linearis
Eutaxia virgata
Gompholobium tomentosum
Hovea trisperma var. trisperma
Isotropis cuneifolia
Jacksonia aff. sericea "swamp form" scps
Jacksonia furcellata
Kennedia prostrata
* Lotus suaveolens

Philydraceae

Philydrella drummondii

Phormiaceae

Dianella revoluta
Stypandra glauca

CONTACT DR N. GIBSON CALM WOODVALE for further information.

Flora list for M95 Forrestdale Lake (extracted from Swan Coastal Plain database, Fl 1-10, 4/5/1995).

Poaceae

- * *Aira caryophyllea*
- * *Aira praecox*
- * *Aira sp. scps*
- * *Avellinia michelii*
- * *Briza maxima*
- * *Briza minor*
- Danthonia occidentalis*
- Dichelachne crinita*
- * *Ehrharta calycina*
- Eragrostis elongata*
- * *Holcus sp. scps*
- Microlaena stipoides*
- Neurachne alopecuroidea*
- Stipa compressa*
- * *Vulpia bromoides*
- * *Vulpia myuros*
- * *Vulpia sp. scps*

Proteaceae

- Adenanthos cygnorum*
- Adenanthos obovatus*
- Banksia attenuata*
- Banksia menziesii*
- Dryandra nivea*
- Hakea marginata*
- Hakea sulcata*
- Hakea varia*
- Petrophile linearis*
- Stirlingia latifolia*

Restionaceae

- Hypolaena exsulca*
- Leptocarpus canus*
- Leptocarpus coangustatus*
- Leptocarpus sp. large rhizome - Forrestdale Lake scps*
- Loxocarya fasciculata*
- Loxocarya flexuosa*
- Loxocarya pubescens*
- Lyginia barbata*
- Restio tremulus*

Rutaceae

- Boronia spathulata*
- Eriostemon spicatus*

Scrophulariaceae

- * *Parentucellia viscosa*

Selaginellaceae

- Selaginella gracillima*

Stylidiaceae

- Levenhookia stipitata*
- Stylidium brunonianum*
- Stylidium dichotomum*
- Stylidium divaricatum*

CONTACT DR N. GIBSON CALM WOODVALE for further information.

Flora list for M95 Forrestdale Lake (extracted from Swan Coastal Plain database, Fl 1-10, 4/5/1995).

Stylidium ecorne
Stylidium emarginatum
Stylidium inundatum
Stylidium repens

Thymelaeaceae

Pimelea imbricata var. major

Xanthorrhoeaceae

Xanthorrhoea preissii

Zamiaceae

Macrozamia riedlei

R. A. O. U. T R A C K I N G D A T A B A S E

23/06/96

PARK SIGHTINGS REPORT

Page No.

1

Forrestdale Lake N.R. (M95)

ORDER:	REF:	BIRD NAME	NO. SIGHTINGS
0011	0950	Common Pheasant	1
0018	0216	Blue-billed Duck	3
0019	0217	Musk Duck	4
0022	0203	Black Swan	14
0025	0207	Australian Shelduck	13
0028	0202	Australian Wood Duck	2
0032	0208	Pacific Black Duck	13
0033	0212	Australasian Shoveler	12
0035	0211	Grey Teal	14
0036	0210	Chestnut Teal	3
0039	0213	Pink-eared Duck	12
0040	0215	Hardhead	7
0041	0061	Australasian Grebe	8
0042	0062	Hoary-headed Grebe	9
0129	0100	Little Pied Cormorant	7
0135	0106	Australian Pelican	5
0139	0188	White-faced Heron	13
0142	0189	White-necked Heron	6
0145	0187	Great Egret	7
0147	0977	Cattle Egret	2
0150	0192	Nankeen Night Heron	2
0156	0178	Glossy Ibis	1
0157	0179	Australian White Ibis	8
0158	0180	Straw-necked Ibis	7
0160	0182	Yellow-billed Spoonbill	10
0165	0232	Black-shouldered Kite	1
0170	0228	Whistling Kite	9
0172	0226	White-bellied Sea-Eagle	1
0174	0219	Swamp Harrier	9
0175	0221	Brown Goshawk	1
0177	0222	Collared Sparrowhawk	1
0181	0225	Little Eagle	1
0187	0240	Nankeen Kestrel	3
0198	0049	Australian Spotted Crake	2
0200	0051	Spotless Crake	2
0204	0058	Purple Swamphen	15
0205	0056	Dusky Moorhen	4
0206	0055	Black-tailed Native-hen	2
0208	0059	Eurasian Coot	12
0221	0152	Black-tailed Godwit	1
0231	0158	Common Greenshank	8
0233	0154	Wood Sandpiper	5
0244	0162	Red-necked Stint	8

0245	0965	Long-toed Stint	2	2
0248	0978	Pectoral Sandpiper	2	1
0249	0163	Sharp-tailed Sandpiper	2	6
0251	0161	Curlew Sandpiper	2	4
0267	0146	Black-winged Stilt		13
0268	0147	Banded Stilt		6
0269	0148	Red-necked Avocet		9
0275	0143	Red-capped Plover		7
0282	0144	Black-fronted Dotterel		8
0283	0138	Hooded Plover	2	1
0284	0132	Red-kneed Dotterel	2	6
0297	0125	Silver Gull		8
0324	0957	Rock Dove		6
0326	0988	Laughing Turtle-Dove		13
0327	0989	Spotted Turtle-Dove		11
0330	0034	Common Bronzewing	3	6
0359	0273	Galah		6
0371	0259	Purple-crowned Lorikeet		1
0378	0278	Regent Parrot		2
0386	0294	Australian Ringneck		13
0387	0290	Red-capped Parrot		15
0405	0337	Pallid Cuckoo		1
0410	0342	Horsfield's Bronze-Cuckoo		4
0411	0344	Shining Bronze-Cuckoo		3
0429	0313	Tawny Frogmouth		3
0446	0322	Laughing Kookaburra		12
0451	0326	Sacred Kingfisher		8
0453	0329	Rainbow Bee-eater		5
0471	0532	Splendid Fairy-wren	3	21
0492	0976	Striated Pardalote		10
0500	0488	White-browed Scrubwren	3	2
0517	0463	Western Gerygone		16
0524	0476	Inland Thornbill	3	19
0528	0472	Western Thornbill	3	1
0531	0486	Yellow-rumped Thornbill	3	16
0537	0638	Red Wattlebird		15
0539	0637	Little Wattlebird	4	8
0550	0635	Yellow-throated Miner		4
0561	0608	Singing Honeyeater		15
0583	0597	Brown Honeyeater		17
0587	0631	New Holland Honeyeater	4	15
0588	0632	White-cheeked Honeyeater	4	1
0590	0593	Tawny-crowned Honeyeater	4	2
0597	0592	Western Spinebill		11
0607	0448	White-fronted Chat		1
0613	0380	Scarlet Robin	3	6
0614	0381	Red-capped Robin		1
0644	0549	Varied Sittella	3	4
0653	0401	Rufous Whistler		15
0658	0408	Grey Shrike-thrush	3	7
0671	0415	Magpie-Lark		19

0673	0361	Grey Fantail	21
0676	0364	Willie Wagtail	17
0678	0424	Black-faced Cuckoo-shrike	11
0691	0546	Black-faced Woodswallow	1
0695	0702	Grey Butcherbird	16
0698	0705	Australian Magpie	19
0706	0930	Australian Raven	18
0763	0357	Welcome Swallow	18
0765	0359	Tree Martin	10
0768	0524	Clamorous Reed-Warbler	5
0772	0522	Little Grassbird	17
0781	0574	Silvereye	

4

*** END OF REPORT ***

①
 ② 10
 ③ 15
 ④ 9.

SUMMARY REPORT

TOTAL BIRDS SIGHTED	:	106
TOTAL NUMBER OF CARDS	:	21

*** END OF SUMMARY ***



M95 Forresdale Lake
Part CALM Management Plan

Friends Advocate Management

Other Names:

Specific Study/studies Miscellaneous studies

Flora

Vegetation Map	(1)	(2)	3	
Flora list	1	(2)	3	4
Significant Taxa		(done / suitable)		doubtful

Fauna

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

Vegetation Condition Map (Sites) (Comment)

Disturbance Factors (Comment) Management

(Swan Coastal Plain Floristic Survey)

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

Notes

M95 Forrestdale Lake
Part CALM Management Plan

M95.1 Regional park recommendations be applied to this area.

Unresolved Issues

DPUD proposes that the area be included in the Jandskot Botanic Park which was proposed as a regional park in Metroplan. DPUD has reserved the area for Parks and Recreation. CALM's draft Forest Strategy recommends that Forrestdale Lake Nature Reserve (A24781) retain its present purpose. The nature reserve has a management plan which is to be revised.

Forrestdale Lake has been listed under the RAMSAR Treaty, recognising its international significance.

Wetlands Conservation Society, Waterbirds Conservation Group and Friends of Forrestdale Lake have an interest in this area.

PC

Please circle the appropriate response or respond in the space provided.

Area M <u>95</u> Name <u>Forrestdale Lake</u>
Title <u>A Survey of the Brown Bandicoot</u>
Published/ <u>Unpublished</u> Date <u>3/1993</u>
Author/s <u>Paul Brown</u>
Location of Publication <u>Kalamscott CALM</u>
Purpose (why was the report prepared?)
Government
Corporate
Community Group
Management Plan

Soils
Units mapped described referenced

Landscape
Features described referenced

Flora
Vegetation Map
Units Mapped Site based (no)
Veg Units Comparable Heddle <i>et al</i> Compared Heddle <i>et al</i> Unit not mapped by Heddle <i>et al</i> .
Flora list
Timing %completion Significant Taxa
Trees Shrubs Herbs Sedges Weeds DRF CALM Priority Other

Fauna
Timing %completion Significant Taxa
<u>2 wks</u> <u>(to trapping nights)</u> <u>Mammals</u> <u>95%</u> Birds <u>(Sched 1)</u> Sched 2 Other
Reptiles Invertebrates

Vegetation Condition
Site based Mapped Units

Disturbance Factors
Phytophthora observed Other incidental
tested itemised

Notes

Please circle the appropriate response or respond in the space provided.

Area M95 Name	<u>Forrestdale Lake</u>
	<u>(part)</u>
Title	

Author: Bartle J. Graham G. Lane J.A.K. and Moore S.A.
 Date: 1987
 Title: Forrestdale Lake Nature Reserve management plan 1987-1992
 Source: C.A.L.M. Management Plan No. 3

Location of Publication	<u>CALM</u>
Purpose (why was the report prepared?)	<u>Management</u>
Government	<u>CALM</u>
Corporate	
Community Group	
Management Plan	

Soils			
Units	mapped	described	referenced

Landscape	
Features	described referenced

<u>Flora</u>	
Vegetation Map	
Units	Site based (no)
Mapped	
Veg Units	Comparable Heddle <i>et al</i> Compared Heddle <i>et al</i> Unit not mapped by Heddle <i>et al</i> .
Flora list	
Timing	%completion Significant Taxa
	Trees Shrubbs Herbs Sedges Weeds DRF CALM Priority Other

<u>Fauna</u>	
Timing	%completion Significant Taxa
	Mammals <u>Birds</u> <u>RH</u> Sched1 Sched2 Other
	Reptiles Invertebrates

Vegetation Condition	
Site based	Mapped Units
Disturbance Factors	
Phytophthora	observed Other incidental
	tested itemised

Notes	

AREA INFORMATION

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

MA95

Conservation Area	
Nature Reserve	Forestdale Lake
Reserve No	A24781
National Park	
Reserve No	
Local Government	
Reserve No	WA Wildlife Auth
Other	C37016 Gr. Recreation & Protection Flood & Fauna
Proposed Conservation Areas	
Local Government	Town of Armadale
Reserve No	227165 (Recreation)
Other	PRIVATE - remainder

Conservation Area

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

TOTAL AREA

Bushland Area	hectares
Completely Degraded	

AREA MAPPED FLORISTIC UNITS

Units	Site (Condition)	Code G : FL	Bound	Area (ha)
4	01 (25)	09 (25)		
8	03 (25)	07 (35)		
10a	02 (25)			
12	10 (-)			
21a	04 (25)			
21c	05 (3)	06 (4)		

Boundaries determined by use of

aerial photograph	Metro Regional Area run 12 5198 run 13 5117
orthophoto	2033 1 SE Aug 1991
vegetation map	
soil map	

15/12/92

rptBFS345ForrestdaleLakePlotInfo

QUADRAT	<input type="text" value="FL01"/>	ALTITUDE	<input type="text" value="20"/>
FLORISTIC	<input type="text" value="4"/>	ERROR	<input type="text"/>
BOTAN01	<input type="text" value="ng."/>	GPS	<input type="text" value="30"/>
DATE01	<input type="text" value="5/8/92"/>	LATDEG	<input type="text"/>
BOTAN02	<input type="text" value="bjk"/>	LATMIN	<input type="text"/>
DATE02	<input type="text" value="10/31/92"/>	LONGDEG	<input type="text"/>
BOTAN03	<input type="text"/>	LONGMIN	<input type="text"/>
DATE03	<input type="text"/>	TENURE	<input type="text" value="nr"/>
DOM1	<input type="text" value="Hypolaena exsulca, Lyginia barbata"/>		
VEGE1	<input type="text" value="dls"/>		
DOM2	<input type="text"/>		
VEGE2	<input type="text"/>		
DOM3	<input type="text"/>		
VEGE3	<input type="text"/>		
DOM4	<input type="text"/>		
VEGE4	<input type="text"/>		
TOPO_POS	<input type="text" value="7"/>	TOPO_QUAL	<input type="text" value="a"/>
SLOPE	<input type="text" value="1"/>	DRAINAGE	<input type="text" value="3"/>
ASPECT	<input type="text"/>	WET	<input type="text" value="2"/>
SOILSURFA	<input type="text" value="grey sand"/>	WETLANDSU	<input type="text"/>
SOILSUBSU	<input type="text" value="grey sand"/>	WETLANDTY	<input type="text"/>
VEGECOND	<input type="text" value="2.5"/>	ENVIROGEO	<input type="text"/>

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FLORISTIC	<input type="text" value="10a"/>	ERROR	<input type="text"/>
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DATE01	<input type="text" value="5/8/92"/>	LATDEG	<input type="text"/>
BOTAN02	<input type="text" value="bjk"/>	LATMIN	<input type="text"/>
DATE02	<input type="text" value="10/31/92"/>	LONGDEG	<input type="text"/>
BOTAN03	<input type="text"/>	LONGMIN	<input type="text"/>
DATE03	<input type="text"/>	TENURE	<input type="text" value="nr"/>
DOM1	<input type="text" value="Regelia ciliata"/>		
VEGE1	<input type="text" value="dhb"/>		
DOM2	<input type="text"/>		
VEGE2	<input type="text"/>		
DOM3	<input type="text"/>		
VEGE3	<input type="text"/>		
DOM4	<input type="text"/>		
VEGE4	<input type="text"/>		
TOPO_POS	<input type="text" value="7"/>	TOPO_QUAL	<input type="text" value="a"/>
SLOPE	<input type="text" value="1"/>	DRAINAGE	<input type="text" value="3"/>
ASPECT	<input type="text"/>	WET	<input type="text" value="2"/>
SOILSURFA	<input type="text" value="grey sand"/>	WETLANDSU	<input type="text"/>
SOILSUBSU	<input type="text" value="grey sand"/>	WETLANDTY	<input type="text"/>
VEGECOND	<input type="text" value="2.5"/>	ENVIROGEO	<input type="text"/>

QUADRAT	FL03	ALTITUDE	20
FLORISTIC	8	ERROR	
BOTAN01	ng,	GPS	100
DATE01	5/12/92	LATDEG	
BOTAN02	bjk	LATMIN	
DATE02	10/31/92	LONGDEG	
BOTAN03		LONGMIN	
DATE03		TENURE	nr
DOM1	Melaleuca uncinata		
VEGE1	lsb		
DOM2	Leptocarpus spp.		
VEGE2	ls		
DOM3			
VEGE3			
DOM4			
VEGE4			
TOPO_POS	5	TOPO_QUAL	
SLOPE	1	DRAINAGE	3
ASPECT		WET	2
SOILSURFA	grey sand	WETLANDSU	
SOILSUBSU	grey sand	WETLANDTY	
VEGECOND	2.5	ENVIROGEO	

QUADRAT	<input type="text" value="FL04"/>	ALTITUDE	<input type="text" value="20"/>
FLORISTIC	<input type="text" value="21a"/>	ERROR	<input type="text"/>
BOTAN01	<input type="text" value="ng,"/>	GPS	<input type="text" value="100"/>
DATE01	<input type="text" value="5/12/92"/>	LATDEG	<input type="text"/>
BOTAN02	<input type="text" value="bjk"/>	LATMIN	<input type="text"/>
DATE02	<input type="text" value="10/31/92"/>	LONGDEG	<input type="text"/>
BOTAN03	<input type="text"/>	LONGMIN	<input type="text"/>
DATE03	<input type="text"/>	TENURE	<input type="text" value="nr"/>
DOM1	<input type="text" value="Eucalyptus calophylla"/>		
VEGE1	<input type="text" value="ow"/>		
DOM2	<input type="text" value="Banksia menzeisii, B. attenuata"/>		
VEGE2	<input type="text" value="lwa"/>		
DOM3	<input type="text" value="mixed"/>		
VEGE3	<input type="text" value="dls"/>		
DOM4	<input type="text"/>		
VEGE4	<input type="text"/>		
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SLOPE	<input type="text" value="1"/>	DRAINAGE	<input type="text" value="2"/>
ASPECT	<input type="text"/>	WET	<input type="text" value="2"/>
SOILSURFA	<input type="text" value="grey sand"/>	WETLANDSU	<input type="text"/>
SOILSUBSU	<input type="text" value="grey sand"/>	WETLANDTY	<input type="text"/>
VEGECOND	<input type="text" value="2.5"/>	ENVIROGEO	<input type="text"/>

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DATE01	<input type="text" value="5/12/92"/>	LATDEG	<input type="text"/>
BOTAN02	<input type="text" value="bjk"/>	LATMIN	<input type="text"/>
DATE02	<input type="text" value="11/25/92"/>	LONGDEG	<input type="text"/>
BOTAN03	<input type="text"/>	LONGMIN	<input type="text"/>
DATE03	<input type="text"/>	TENURE	<input type="text" value="nr"/>
DOM1	<input type="text" value="Banksia attenuata, B.menzeisii, Nuytsia floribunda"/>		
VEGE1	<input type="text" value="lfa"/>		
DOM2	<input type="text" value="Calytrix fraseri, Jacksonia furcellata"/>		
VEGE2	<input type="text" value="olsb"/>		
DOM3	<input type="text" value="mixed"/>		
VEGE3	<input type="text" value="dls"/>		
DOM4	<input type="text"/>		
VEGE4	<input type="text"/>		
TOPO_POS	<input type="text" value="7"/>	TOPO_QUAL	<input type="text" value="b"/>
SLOPE	<input type="text" value="1"/>	DRAINAGE	<input type="text" value="1"/>
ASPECT	<input type="text"/>	WET	<input type="text"/>
SOILSURFA	<input type="text" value="grey sand"/>	WETLANDSU	<input type="text"/>
SOILSUBSU	<input type="text" value="grey sand"/>	WETLANDTY	<input type="text"/>
VEGECOND	<input type="text" value="3"/>	ENVIROGEO	<input type="text"/>

<i>QUADRAT</i>	<input type="text" value="FL06"/>	<i>ALTITUDE</i>	<input type="text" value="20"/>
<i>FLORISTIC</i>	<input type="text" value="21c"/>	<i>ERROR</i>	<input type="text"/>
<i>BOTAN01</i>	<input type="text" value="ng,"/>	<i>GPS</i>	<input type="text" value="100"/>
<i>DATE01</i>	<input type="text" value="5/12/92"/>	<i>LATDEG</i>	<input type="text"/>
<i>BOTAN02</i>	<input type="text" value="bjk"/>	<i>LATMIN</i>	<input type="text"/>
<i>DATE02</i>	<input type="text" value="11/25/92"/>	<i>LONGDEG</i>	<input type="text"/>
<i>BOTAN03</i>	<input type="text"/>	<i>LONGMIN</i>	<input type="text"/>
<i>DATE03</i>	<input type="text"/>	<i>TENURE</i>	<input type="text" value="nr"/>
<i>DOM1</i>	<input type="text" value="Banksia attenuata, B.menzeisii"/>		
<i>VEGE1</i>	<input type="text" value="lwa"/>		
<i>DOM2</i>	<input type="text" value="Calytrix fraseri"/>		
<i>VEGE2</i>	<input type="text" value="olsb"/>		
<i>DOM3</i>	<input type="text" value="Erhartia calycina, Briza maxima"/>		
<i>VEGE3</i>	<input type="text" value="g"/>		
<i>DOM4</i>	<input type="text"/>		
<i>VEGE4</i>	<input type="text"/>		
<i>TOPO_POS</i>	<input type="text" value="8"/>	<i>TOPO_QUAL</i>	<input type="text" value="i"/>
<i>SLOPE</i>	<input type="text" value="2"/>	<i>DRAINAGE</i>	<input type="text" value="1"/>
<i>ASPECT</i>	<input type="text" value="2"/>	<i>WET</i>	<input type="text"/>
<i>SOILSURFA</i>	<input type="text" value="grey sand"/>	<i>WETLANDSU</i>	<input type="text"/>
<i>SOILSUBSU</i>	<input type="text" value="grey sand"/>	<i>WETLANDTY</i>	<input type="text"/>
<i>VEGECOND</i>	<input type="text" value="4"/>	<i>ENVIROGEO</i>	<input type="text"/>

<i>QUADRAT</i>	<input type="text" value="FL07"/>	<i>ALTITUDE</i>	<input type="text" value="20"/>
<i>FLORISTIC</i>	<input type="text" value="8"/>	<i>ERROR</i>	<input type="text"/>
<i>BOTAN01</i>	<input type="text" value="ng,"/>	<i>GPS</i>	<input type="text" value="100"/>
<i>DATE01</i>	<input type="text" value="5/12/92"/>	<i>LATDEG</i>	<input type="text"/>
<i>BOTAN02</i>	<input type="text" value="bjk"/>	<i>LATMIN</i>	<input type="text"/>
<i>DATE02</i>	<input type="text" value="10/31/92"/>	<i>LONGDEG</i>	<input type="text"/>
<i>BOTAN03</i>	<input type="text"/>	<i>LONGMIN</i>	<input type="text"/>
<i>DATE03</i>	<input type="text"/>	<i>TENURE</i>	<input type="text" value="nr"/>
<i>DOM1</i>	<input type="text" value="Melalueca viminea"/>		
<i>VEGE1</i>	<input type="text" value="s"/>		
<i>DOM2</i>	<input type="text" value="mixed native and exotic"/>		
<i>VEGE2</i>	<input type="text" value="dh"/>		
<i>DOM3</i>	<input type="text"/>		
<i>VEGE3</i>	<input type="text"/>		
<i>DOM4</i>	<input type="text"/>		
<i>VEGE4</i>	<input type="text"/>		
<i>TOPO_POS</i>	<input type="text" value="5"/>	<i>TOPO_QUAL</i>	<input type="text"/>
<i>SLOPE</i>	<input type="text" value="1"/>	<i>DRAINAGE</i>	<input type="text" value="3"/>
<i>ASPECT</i>	<input type="text"/>	<i>WET</i>	<input type="text" value="2"/>
<i>SOILSURFA</i>	<input type="text" value="grey brown sand"/>	<i>WETLANDSU</i>	<input type="text"/>
<i>SOILSUBSU</i>	<input type="text" value="grey brown sand/clay"/>	<i>WETLANDTY</i>	<input type="text"/>
<i>VEGECOND</i>	<input type="text" value="3.5"/>	<i>ENVIROGEO</i>	<input type="text"/>

QUADRAT	<input type="text" value="FL09"/>	ALTITUDE	<input type="text" value="20"/>
FLORISTIC	<input type="text" value="4"/>	ERROR	<input type="text"/>
BOTAN01	<input type="text" value="ng."/>	GPS	<input type="text" value="100"/>
DATE01	<input type="text" value="5/12/92"/>	LATDEG	<input type="text"/>
BOTAN02	<input type="text" value="bjk"/>	LATMIN	<input type="text"/>
DATE02	<input type="text" value="11/25/92"/>	LONGDEG	<input type="text"/>
BOTAN03	<input type="text"/>	LONGMIN	<input type="text"/>
DATE03	<input type="text"/>	TENURE	<input type="text" value="nr"/>
DOM1	<input type="text" value="Melalueca preissiana"/>		
VEGE1	<input type="text" value="olw"/>		
DOM2	<input type="text" value="mixed"/>		
VEGE2	<input type="text" value="dhb"/>		
DOM3	<input type="text"/>		
VEGE3	<input type="text"/>		
DOM4	<input type="text"/>		
VEGE4	<input type="text"/>		
TOPO_POS	<input type="text" value="5"/>	TOPO_QUAL	<input type="text"/>
SLOPE	<input type="text" value="1"/>	DRAINAGE	<input type="text" value="3"/>
ASPECT	<input type="text"/>	WET	<input type="text" value="2"/>
SOILSURFA	<input type="text" value="grey sand"/>	WETLANDSU	<input type="text"/>
SOILSUBSU	<input type="text" value="grey sand"/>	WETLANDTY	<input type="text"/>
VEGECOND	<input type="text" value="2.5"/>	ENVIROGEO	<input type="text"/>

QUADRAT	<input type="text" value="FL10"/>	ALTITUDE	<input type="text" value="20"/>
FLORISTIC	<input type="text" value="12"/>	ERROR	<input type="text"/>
BOTAN01	<input type="text" value="ng"/>	GPS	<input type="text"/>
DATE01	<input type="text" value="5/12/92"/>	LATDEG	<input type="text"/>
BOTAN02	<input type="text"/>	LATMIN	<input type="text"/>
DATE02	<input type="text"/>	LONGDEG	<input type="text"/>
BOTAN03	<input type="text"/>	LONGMIN	<input type="text"/>
DATE03	<input type="text"/>	TENURE	<input type="text" value="nr"/>
DOM1	<input type="text" value="Melalueca spp"/>		
VEGE1	<input type="text" value="hb"/>		
DOM2	<input type="text" value="mixed"/>		
VEGE2	<input type="text" value="dts"/>		
DOM3	<input type="text"/>		
VEGE3	<input type="text"/>		
DOM4	<input type="text"/>		
VEGE4	<input type="text"/>		
TOPO_POS	<input type="text" value="5"/>	TOPO_QUAL	<input type="text"/>
SLOPE	<input type="text" value="1"/>	DRAINAGE	<input type="text" value="3"/>
ASPECT	<input type="text"/>	WET	<input type="text" value="2"/>
SOILSURFA	<input type="text" value="black clayey sand"/>	WETLANDSU	<input type="text"/>
SOILSUBSU	<input type="text" value="black clayey sand"/>	WETLANDTY	<input type="text"/>
VEGECOND	<input type="text" value="2.5"/>	ENVIROGEO	<input type="text"/>

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
FL-1	Mimosaceae	ACAPUL	Y		Acacia	pulchella				
FL-1	Haemodoraceae	ANIMANMA	Y		Anigozanthos	manglesii	subsp.	manglesii		
FL-1	Centrolepidaceae	APHCYP	Y		Aphelia	cyperoides				
FL-1	Poaceae	AUSOCC	Y		Austrodanthonia	occidentalis				
FL-1	Asteraceae	BRAIBE	Y		Brachyscome	iberidifolia				
FL-1	Colchicaceae	BURMUL	Y		Burchardia	multiflora				
FL-1	Centrolepidaceae	CENARI	Y		Centrolepis	aristata				
FL-1	Haemodoraceae	CONJUN	Y		Conostylis	juncea				
FL-1	Cyperaceae	CYAAVE	Y		Cyathochaeta	avenacea				
FL-1	Goodeniaceae	DAMLIN	Y		Dampiera	linearis				
FL-1	Dasygogonaceae	DASBRO	Y		Dasygogon	bromeliifolius				
FL-1	Restionaceae	DEFAS	Y		Desmocladius	fasciculatus				
FL-1	Poaceae	DICCRI	Y		Dichelachne	crinita				
FL-1	Droseraceae	DRONEENE	Y		Drosera	neesii	subsp.	neesii		
FL-1	Proteaceae	DRYLIN	Y		Dryandra	lindleyana				
FL-1	Haemodoraceae	HAESPI	Y		Haemodorum	spicatum				
FL-1	Apiaceae	HOMHOM	Y		Homalosciadium	homalocarpum				
FL-1	Apiaceae	HYDCAL	Y		Hydrocotyle	callicarpa				
FL-1	Myrtaceae	HYPANG	Y		Hypocalymma	angustifolium				
FL-1	Restionaceae	HYPUB	Y		Hypolaena	pubescens				
FL-1	Restionaceae	HYPEXS	Y		Hypolaena	exsulca				
FL-1	Papilionaceae	JACGRA	N		Jacksonia	gracillima			MS	
FL-1	Myrtaceae	KUNMICMI	Y		Kunzea	micrantha	subsp.	micrantha		
FL-1	Anthericaceae	LAXSESAU	Y		Laxmannia	sessiliflora	subsp.	australis		
FL-1	Cyperaceae	LEPSCO	N		Lepidosperma	(BJ Keighery and N				
FL-1	Dasygogonaceae	LOMHER	Y		Lomandra	hermaphrodita				
FL-1	Restionaceae	LYGBAR	Y		Lyginia	barbata				
FL-1	Poaceae	NEUALO	Y		Neurachne	alopecuroidea				
FL-1	Iridaceae	PATOCC	Y		Patersonia	occidentalis				
FL-1	Myrtaceae	PERELL	Y		Pericalymma	ellipticum				
FL-1	Rutaceae	PHISPI	Y		Philothea	spicata				
FL-1	Thymelaeaceae	PIMIMBMA	Y		Pimelea	imbricata	var.	major		
FL-1	Cyperaceae	SCHCUR	Y		Schoenus	curvifolius				
FL-1	Asteraceae	SILHUM	Y		Siloxerus	humifusus				
FL-1	Stylidiaceae	STYBRUBR	Y		Stylidium	brunonianum	subsp.	brunonianum		
FL-1	Anthericaceae	THYTHY	Y		Thysanotus	thyrsoides				
FL-1	Anthericaceae	THYMUL	Y		Thysanotus	multiflorus				
FL-1	Apiaceae	TRAPIL	Y		Trachymene	pilosa				
FL-1	Anthericaceae	TRIELA	Y		Tricoryne	elatior				
FL-1	Xanthorrhoeaceae	XANPRE	Y		Xanthorrhoea	preissii				
FL-1	Apiaceae	XANHUEHU	N		Xanthosia	huegelii	subsp.	huegelii	MS	
FL-1	Poaceae	AIRCAR	Y	*	Aira	caryophyllea				
FL-1	Poaceae	BRIMAX	Y	*	Briza	maxima				
FL-1	Asteraceae	HYPGLA	Y	*	Hypochaeris	glabra				
FL-1	Asteraceae	URSANT	Y	*	Ursinia	anthemoides				

Seasonal wetland, grey sand, flat
 "Low sedgeland" $\leq 0.5m$ $> 80\%$? sedges Dense low Sedges
 Condition 2.5

Excellent/Very Good

Unicode *
 Condition
 Scale

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
FL-2	Mimosaceae	ACASAL	Y		Acacia	saligna				
FL-2	Mimosaceae	ACAPUL	Y		Acacia	pulchella				
FL-2	Centrolepidaceae	APHCYP	Y		Aphelia	cyperoides				
FL-2	Asteraceae	BRAIBE	Y		Brachyscome	iberidifolia				
FL-2	Centrolepidaceae	CENARI	Y		Centrolepis	aristata				
FL-2	Droseraceae	DROGIGGI	Y		Drosera	gigantea	subsp.	gigantea		
FL-2	Orchidaceae	ERIHHEL	Y		Eriochilus	helonomos			MS	
FL-2	Orchidaceae	ERIDILDI	Y		Eriochilus	dilatatus	subsp.	dilatatus	MS	
FL-2	Goodeniaceae	GOOPUL	Y		Goodenia	pulchella				
FL-2	Proteaceae	HAKVAR	Y		Hakea	varia				
FL-2	Proteaceae	HAKSUL	Y		Hakea	sulcata				
FL-2	Restionaceae	HYPPUB	Y		Hypolaena	pubescens				
FL-2	Cyperaceae	ISOOLD	Y		Isolepis	oldfieldiana				
FL-2	Papilionaceae	JACGRA	N		Jacksonia	gracillima			MS	
FL-2	Myrtaceae	KUNMICMI	Y		Kunzea	micrantha	subsp.	micrantha		
FL-2	Cyperaceae	LEPSPCO	N		Lepidosperma	(BJ Keighery and N				
FL-2	Restionaceae	LYGBAR	Y		Lyginia	barbata				
FL-2	Philydraceae	PHIDRU	Y		Philydrella	drummondii				
FL-2	Orchidaceae	PRADRU	Y		Prasophyllum	drummondii				
FL-2	Myrtaceae	REGCIL	Y		Regelia	ciliata				
FL-2	Cyperaceae	SCHRIG	Y		Schoenus	rigens				
FL-2	Cyperaceae	SCHODO	Y		Schoenus	odontocarpus				
FL-2	Cyperaceae	SCHBRE	Y		Schoenus	brevisetis				
FL-2	Anthericaceae	THYTHY	Y		Thysanotus	thyrsoides				
FL-2	Myrtaceae	VERDRU	Y		Verticordia	drummondii				
FL-2	Myrtaceae	VERDEN	Y		Verticordia	densiflora				
FL-2	Poaceae	BRIMIN	Y	*	Briza	minor				
FL-2	Cyperaceae	CYPTEN	Y	*	Cyperus	tenellus				

Seasonal wetland, grey sand, flat

Regelia ciliata Dense Heath B (90%, 1.5-1.0m)

Condition 2.5

Excellent/Very Good

Fire ~ 2y ago

Plots	Family	SpCode	Curt	Nat	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
FL-3	Centrolepidaceae	APHDRU	Y		Aphelia	drummondii				
FL-3	Restionaceae	APOCER	Y		Apodasmia	ceramophila			MS	P2
FL-3	Myrtaceae	AST_FAG	N		Astartea	(Gibson et al.				
FL-3	Asteraceae	BRAIBE	Y		Brachyscome	iberidifolia				
FL-3	Colchicaceae	BURBAI	Y		Burchardia	bairdiae				
FL-3	Centrolepidaceae	CENARI	Y		Centrolepis	aristata				
FL-3	Cyperaceae	CHOENO	Y		Chorizandra	enodis				
FL-3	Goodeniaceae	DAMTRI	Y		Dampiera	trigona				
FL-3	Orchidaceae	DIULAX	Y		Diuris	laxiflora				
FL-3	Droseraceae	DROMENME	Y		Drosera	menziesii	subsp.	menziesii		
FL-3	Droseraceae	DROERYER	Y		Drosera	erythrorhiza	subsp.	erythrorhiza		
FL-3	Orchidaceae	ERIHHEL	Y		Eriochilus	helonomos			MS	
FL-3	Apiaceae	ERYPINPA	Y		Eryngium	pinnatifidum	subsp.	palustre	MS	
FL-3	Papilionaceae	EUTVIR	Y		Eutaxia	virgata				
FL-3	Cyperaceae	GAHTRI	Y		Gahnia	trifida				
FL-3	Haloragaceae	GONPIT	Y		Gonocarpus	pithyoides				
FL-3	Goodeniaceae	GOOMIC	Y		Goodenia	micrantha				
FL-3	Proteaceae	HAKMAR	Y		Hakea	marginata				
FL-3	Myrtaceae	HYPANG	Y		Hypocalymma	angustifolium				
FL-3	Cyperaceae	ISOCER	Y		Isolepis	cernua				
FL-3	Myrtaceae	KUNMICMI	Y		Kunzea	micrantha	subsp.	micrantha		
FL-3	Restionaceae	MEECAN	Y		Meeboldina	cana				
FL-3	Myrtaceae	MELUNC	Y		Melaleuca	uncinata				
FL-3	Myrtaceae	MELLATAC	Y		Melaleuca	lateriflora	subsp.	acutifolia		
FL-3	Orchidaceae	MICUNI	N		Microtis	unifolia				
FL-3	Asteraceae	MYRHEL	Y		Myriocephalus	helichrysoides				
FL-3	Philydraceae	PHIDRU	Y		Philydrella	drummondii				
FL-3	Thymelaeaceae	PIMIMBMA	Y		Pimelea	imbricata	var.	major		
FL-3	Asteraceae	PODGRA_	N		Podolepis	form) (GJ Keighery				
FL-3	Orchidaceae	PRADRU	Y		Prasophyllum	drummondii				
FL-3	Asteraceae	QUIURV	Y		Quinetia	urvillei				
FL-3	Cyperaceae	SCHODO	Y		Schoenus	odontocarpus				
FL-3	Selaginellaceae	SELGRA	Y		Selaginella	gracillima				
FL-3	Asteraceae	SILHUM	Y		Siloxerus	humifusus				
FL-3	Stylidiaceae	STYEMAEM	Y		Stylidium	emarginatum	subsp.	emarginatum		
FL-3	Stylidiaceae	STYECO	Y		Stylidium	ecorne				
FL-3	Stylidiaceae	STYDIV	Y		Stylidium	divaricatum				
FL-3	Stylidiaceae	STYDIC	Y		Stylidium	dichotomum				
FL-3	Anthericaceae	THYMAN	Y		Thysanotus	manglesianus				
FL-3	Haemodoraceae	TRIVIO	Y		Tribonanthes	violacea				
FL-3	Haemodoraceae	TRIAUS	Y		Tribonanthes	australis				
FL-3	Cyperaceae	TRINEEEL	Y		Tricostularia	neesii	var.	elatior		
FL-3	Myrtaceae	VERPLU	Y		Verticordia	plumosa				
FL-3	Poaceae	AIRCAR	Y	*	Aira	caryophyllea				
FL-3	Poaceae	BRIMIN	Y	*	Briza	minor				
FL-3	Poaceae	BRIMAX	Y	*	Briza	maxima				
FL-3	Cyperaceae	CYPTEN	Y	*	Cyperus	tenellus				
FL-3	Poaceae	HOLSP	N	*	Holcus	sp. scps				
FL-3	Asteraceae	HYPGLA	Y	*	Hypochoeris	glabra				
FL-3	Juncaceae	JUNCAP	Y	*	Juncus	capitatus				
FL-3	Lobeliaceae	MONDEB	Y	*	Monopsis	debilis				
FL-3	Scrophulariaceae	PARVIS	Y	*	Parentucella	viscosa				
FL-3	Poaceae	VULBRO	Y	*	Vulpia	bromoides				

Seasonal wetland, grey sand, flat

Melaleuca uncinata Low Scrub B (10-20%, 1.5-1.0m)
 over Meeboldina cana Low Sedges (30-50%, <0.5m)

Condition 2.5

Excellent/Very Good

** Fix Vert. plumosa var?

* Condition 16/6/04

Ex/VG, Fire at least once maybe twice again

Drosera - early flw
 Styl - late flw - need active insects

sp Pinjara (wetland transitional spp)

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfraspRank	InfraspName	Informal	ConsCode
FL-4	Mimosaceae	ACALASBR	Y		Acacia	lasiocarpa	var.	long peduncle	PN	PT
FL-4	Mimosaceae	ACAHUE	Y		Acacia	huegelii				
FL-4	Anthericaceae	AGRSCA	Y		Agrostocrinum	scabrum				
FL-4	Anthericaceae	ARNPRE	Y		Arnocrinum	preissii				
FL-4	Proteaceae	BANMEN	Y		Banksia	menziesii				
FL-4	Proteaceae	BANATT	Y		Banksia	attenuata				
FL-4	Papilionaceae	BOSERI	Y		Bossiaea	eriocarpa				
FL-4	Colchicaceae	BURCON	N		Burchardia	congesta				
FL-4	Anthericaceae	CAEOCC	Y		Caesia	occidentalis				
FL-4	Orchidaceae	CALFLAFL	Y		Caladenia	flava	subsp.	flava		
FL-4	Epacridaceae	CONPEN	Y		Conostephium	pendulum				
FL-4	Haemodoraceae	CONJUN	Y		Conostylis	juncea				
FL-4	Haemodoraceae	CONACU	Y		Conostylis	aculeata				
FL-4	Anthericaceae	CORMICMI	Y		Corynotheca	micrantha	var.	micrantha		
FL-4	Dasygogonaceae	DASBRO	Y		Dasygogon	bromeliifolius				
FL-4	Papilionaceae	DAVPHY	Y		Daviesia	physodes				
FL-4	Restionaceae	DEFAS	Y		Desmocladius	fasciculatus				
FL-4	Restionaceae	DEFAS	Y		Desmocladius	fasciculatus				
FL-4	Phormiaceae	DIAREVDI	Y		Dianella	revoluta	var.	divaricata		
FL-4	Anthericaceae	DICCAP	Y		Dichopogon	capillipes				
FL-4	Droseraceae	DROMENPE	Y		Drosera	menziesii	subsp.	penicillaris		
FL-4	Myrtaceae	EUCAL	N		Eucalyptus	calophylla				
FL-4	Papilionaceae	GOMTOM	Y		Gompholobium	tomentosum				
FL-4	Haloragaceae	GONPIT	Y		Gonocarpus	pithyoides				
FL-4	Papilionaceae	HOVTRITR	Y		Hovea	trisperma	var.	trisperma		
FL-4	Asteraceae	HYACOT	Y		Hyalosperma	cutula				
FL-4	Restionaceae	HYPPUB	Y		Hypolaena	pubescens				
FL-4	Restionaceae	HYPEXS	Y		Hypolaena	exsulca				
FL-4	Papilionaceae	JACGRA	N		Jacksonia	gracillima			MS	
FL-4	Papilionaceae	KENPRO	Y		Kennedia	prostrata				
FL-4	Myrtaceae	KUNGLA	Y		Kunzea	glabrescens				
FL-4	Cyperaceae	LEPSQU	Y		Lepidosperma	squamatum				
FL-4	Lobeliaceae	LOBTEN	Y		Lobelia	tenuior				
FL-4	Dasygogonaceae	LOMMICMI	Y		Lomandra	micrantha	subsp.	micrantha		
FL-4	Restionaceae	LYGBAR	Y		Lyginia	barbata				
FL-4	Orchidaceae	MICUNI	N		Microtis	unifolia				
FL-4	Iridaceae	PATOCSSW	N		Patersonia	(Swamp form) (N)				
FL-4	Myrtaceae	PERELL	Y		Pericalymma	ellipticum				
FL-4	Rutaceae	PHISPI	Y		Philothea	spicata				
FL-4	Haemodoraceae	PHLCIL	Y		Phlebocarya	ciliata				
FL-4	Orchidaceae	PTEVIT	Y		Pterostylis	vittata				
FL-4	Cyperaceae	SCHEFO	Y		Schoenus	efolius				
FL-4	Phormiaceae	STYGLA	Y		Stypantra	glauca				
FL-4	Anthericaceae	THYTRI	Y		Thysanotus	triandrus				
FL-4	Anthericaceae	THYMUL	Y		Thysanotus	multiflorus				
FL-4	Anthericaceae	THYMPC	N		Thysanotus	sonii complex				
FL-4	Anthericaceae	TRITEN	Y		Tricoryne	tenella				
FL-4	Anthericaceae	TRIELA	Y		Tricoryne	elatior				
FL-4	Apiaceae	XANHUEHU	N		Xanthosia	huegelii	subsp.	huegelii	MS	
FL-4	Poaceae	BRIMAX	Y	*	Briza	maxima				
FL-4	Poaceae	EHRCAL	Y	*	Ehrharta	calycina				
FL-4	Asteraceae	HYPGLA	Y	*	Hypochoeris	glabra				

Eastern SCP

Wetland Pinjara / Bass

Handwritten signature/initials

Upland?, grey sand, flat (transitional wetland) not >15m
 Eucalyptus calophylla Open Woodland (<10% >15m) over
 Banksia sp? low Woodland A (10-30%, 5-15m)
 over mixed Rensselaersedges (>70%, <0.5m)

Condition 2.5
 Excellent / Very Good

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
FL-5	Mimosaceae	ACAPUL	Y		Acacia	pulchella				
FL-5	Mimosaceae	ACAHUE	Y		Acacia	huegelii				
FL-5	Proteaceae	ADECYGCY	Y		Adenanthos	cygnorum	subsp.	cygnorum		
FL-5	Haemodoraceae	ANIMANMA	Y		Anigozanthos	manglesii	subsp.	manglesii		
FL-5	Proteaceae	BANMEN	Y		Banksia	menziesii				
FL-5	Proteaceae	BANATT	Y		Banksia	attenuata				
FL-5	Papilionaceae	BOSERI	Y		Bossiaea	eriocarpa				
FL-5	Epacridaceae	BRAPRE	Y		Brachyloma	preissii				
FL-5	Colchicaceae	BURCON	N		Burchardia	congesta				
FL-5	Myrtaceae	CALFRA	Y		Calytrix	fraseri				
FL-5	Commelinaceae	CARPHI	Y		Cartonema	philydroides				
FL-5	Haemodoraceae	CONACU	Y		Conostylis	aculeata				
FL-5	Dasygogonaceae	DASBRO	Y		Dasygogon	bromeliifolius				
FL-5	Restionaceae	DEFBAS	Y		Desmocladius	fasciculatus				
FL-5	Phormiaceae	DIAREVDI	Y		Dianella	revoluta	var.	divaricata		
FL-5	Papilionaceae	GOMTOM	Y		Gompholobium	tomentosum				
FL-5	Dilleniaceae	HIBRAC	Y		Hibbertia	racemosa				
FL-5	Papilionaceae	JACFUR	Y		Jacksonia	furcellata				
FL-5	Epacridaceae	LEUCON	Y		Leucopogon	conostephioides				
FL-5	Dasygogonaceae	LOMMICMI	Y		Lomandra	micrantha	subsp.	micrantha		
FL-5	Dasygogonaceae	LOMHER	Y		Lomandra	hermaphrodita				
FL-5	Dasygogonaceae	LOMCAE	Y		Lomandra	caespitosa				
FL-5	Restionaceae	LYGBAR	Y		Lyginia	barbata				
FL-5	Zamiaceae	MACRIE	Y		Macrozamia	riedlei				
FL-5	Poaceae	NEUALO	Y		Neurachne	alopeкуроidea				
FL-5	Loranthaceae	NUYFLO	Y		Nuytsia	floribunda				
FL-5	Iridaceae	PATOCC	Y		Patersonia	occidentalis				
FL-5	Proteaceae	PETLIN	Y		Petrophile	linearis				
FL-5	Rutaceae	PHISPI	Y		Philotheca	spicata				
FL-5	Orchidaceae	PTEVIT	Y		Pterostylis	vittata				
FL-5	Cyperaceae	SCHCUR	Y		Schoenus	curvifolius				
FL-5	Anthericaceae	SOWLAX	Y		Sowerbaea	laxiflora				
FL-5	Proteaceae	STILAT	Y		Stirlingia	latifolia				
FL-5	Stylidiaceae	STYREP	Y		Stylidium	repens				
FL-5	Stylidiaceae	STYBRUBR	Y		Stylidium	brunonianum	subsp.	brunonianum		
FL-5	Anthericaceae	THYMPC	N		Thysanotus	sonii complex				
FL-5	Anthericaceae	THYARB	Y		Thysanotus	arbuscula				
FL-5	Poaceae	BRIMAX	Y	*	Briza	maxima				
FL-5	Poaceae	EHRCAL	Y	*	Ehrharta	calycina				
FL-5	Asteraceae	HYPGLA	Y	*	Hypochaeris	glabra				
FL-5	Araceae	ZANAET	Y	*	Zantedeschia	aethiopica				

Upland ? Flat , grey sand, flat

Banksia sp? & Nuytsia floribunda Low Forest A (20-50%
5-15m)
over Calytrix fraseri? & Jacksonia furcellata? Open Low Scrub B (2-10%
1.5-1.0m)
over mixed Dense Low Sedges (>70% , <0.5m)

Condition 3

Very Good

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
FL-6	Mimosaceae	ACAPUL	Y		Acacia	pulchella				
FL-6	Mimosaceae	ACAHUE	Y		Acacia	huegelii				
FL-6	Haemodoraceae	ANIMANMA	Y		Anigozanthos	manglesii	subsp.	manglesii		
FL-6	Anthericaceae	ARNPRE	Y		Arnocrinum	preissii				
FL-6	Proteaceae	BANMEN	Y		Banksia	menziesii				
FL-6	Proteaceae	BANATT	Y		Banksia	attenuata				
FL-6	Colchicaceae	BURCON	N		Burchardia	congesta				
FL-6	Myrtaceae	CALFRA	Y		Calytrix	fraseri				
FL-6	Commelinaceae	CARPHI	Y		Cartonema	philydroides				
FL-6	Haemodoraceae	CONACU	Y		Conostylis	aculeata				
FL-6	Anthericaceae	CORMICMI	Y		Corynotheca	micrantha	var.	micrantha		
FL-6	Restionaceae	DEFAS	Y		Desmocladius	fasciculatus				
FL-6	Droseraceae	DROMENPE	Y		Drosera	menziesii	subsp.	penicillaris		
FL-6	Papilionaceae	GOMTOM	Y		Gompholobium	tomentosum				
FL-6	Dilleniaceae	HIBRAC	Y		Hibbertia	racemosa				
FL-6	Papilionaceae	JACFUR	Y		Jacksonia	furcellata				
FL-6	Epacridaceae	LEUCON	Y		Leucopogon	conostephioides				
FL-6	Dasyogonaceae	LOMHER	Y		Lomandra	hermaphrodita				
FL-6	Dasyogonaceae	LOMCAE	Y		Lomandra	caespitosa				
FL-6	Restionaceae	LYGBAR	Y		Lyginia	barbata				
FL-6	Molluginaceae	MACAUS	Y		Macarthuria	australis				
FL-6	Zamiaceae	MACRIE	Y		Macrozamia	riedlei				
FL-6	Asteraceae	MILTEN	Y		Millotia	tenuifolia				
FL-6	Poaceae	NEUALO	Y		Neurachne	alopecuroidea				
FL-6	Iridaceae	PATOCC	Y		Patersonia	occidentalis				
FL-6	Asteraceae	PODCHR	Y		Podotheca	chrysantha				
FL-6	Asteraceae	QUIURV	Y		Quinetia	urvillei				
FL-6	Cyperaceae	SCHGRA	Y		Schoenus	grandiflorus				
FL-6	Myrtaceae	SCHINV	Y		Scholtzia	involucrata				
FL-6	Stylidiaceae	STYREP	Y		Stylidium	repens				
FL-6	Anthericaceae	THYMPC	N		Thysanotus	sonii complex				
FL-6	Apiaceae	TRAPIL	Y		Trachymene	pilosa				
FL-6	Poaceae	AIRPRA	Y	*	Aira	praecox				
FL-6	Poaceae	BRIMAX	Y	*	Briza	maxima				
FL-6	Poaceae	EHRCAL	Y	*	Ehrharta	calycina				
FL-6	Iridaceae	GLACAR	Y	*	Gladiolus	caryophyllaceus				
FL-6	Asteraceae	HYPGLA	Y	*	Hypochaeris	glabra				
FL-6	Asteraceae	URSANT	Y	*	Ursinia	anthemoides				
FL-6	Poaceae	VULPSP	N	*	Vulpia	sp. scps				

Upland, grey sand, gentle NE aspect

Banksia sp. ? low Woodland A (20-30%, 5-15m)

over Calytrix fraseri Open Low Scrub B (2-10%, 1.5-1.0m)

over _____ ? low Sedgeland/Grassland (50-70%, <0.5m)

Condition 4

Good

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfrasRank	InfrasName	Informal	ConsvCode
FL-7	Asteraceae	BRAIBE	Y		Brachyscome	iberidifolia				
FL-7	Centrolepidaceae	CENPOL	Y		Centrolepis	polygyna				
FL-7	Centrolepidaceae	CENARI	Y		Centrolepis	aristata				
FL-7	Asteraceae	HYACOT	Y		Hyalosperma	cotula				
FL-7	Cyperaceae	ISOCER	Y		Isolepis	cernua				
FL-7	Myrtaceae	MELVIMVI	Y		Melaleuca	viminea	subsp.	viminea		
FL-7	Myrtaceae	MELLAT	Y		Melaleuca	lateritia				
FL-7	Orchidaceae	MICUNI	N		Microtis	unifolia				
FL-7	Asteraceae	PODGRA	N		Podolepis	form) (GJ Keighery				
FL-7	Asteraceae	PODGRA	Y		Podolepis	gracilis				
FL-7	Orchidaceae	PRADRU	Y		Prasophyllum	drummondii				
FL-7	Cyperaceae	SCHTEN	Y		Schoenus	tenellus				
FL-7	Stylidiaceae	STYINU	Y		Stylidium	inundatum				
FL-7	Juncaginaceae	TRIMUERE	N		Triglochin	muelleri	subsp.	recurvum		
FL-7	Poaceae	AIRCAR	Y	*	Aira	caryophyllea				
FL-7	Poaceae	AVEMIC	Y	*	Avellinia	michelii				
FL-7	Poaceae	BRIMIN	Y	*	Briza	minor				
FL-7	Poaceae	BRIMAX	Y	*	Briza	maxima				
FL-7	Gentianaceae	CICFIL	Y	*	Cicendia	filiformis				
FL-7	Cyperaceae	CYPTEN	Y	*	Cyperus	tenellus				
FL-7	Poaceae	HOLSP	N	*	Holcus	sp. scps				
FL-7	Asteraceae	HYPGLA	Y	*	Hypochaeris	glabra				
FL-7	Juncaceae	JUNCAP	Y	*	Juncus	capitatus				
FL-7	Papilionaceae	LOTSUBW	N	*	Lotus	subbiflorus				
FL-7	Lobeliaceae	MONDEB	Y	*	Monopsis	debilis				
FL-7	Scrophulariaceae	PARVIS	Y	*	Parentucellia	viscosa				
FL-7	Asteraceae	URSANT	Y	*	Ursinia	anthemoides				
FL-7	Poaceae	VULMYU	Y	*	Vulpia	myuros				

Seasonal wetland, grey-brown sand-clay, flat

Melaleuca viminea subsp viminea Scrub (>2m, 20-30%)
 over mixed Herbs (<0.5m, ?)

Condition 3.5

Very Good/Good

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
FL-8	Poaceae	AUSOCC	Y		Austrodanthonia	occidentalis				
FL-8	Poaceae	AUSCOM	Y		Austrostipa	compressa				
FL-8	Proteaceae	BANMEN	Y		Banksia	menziesii				
FL-8	Proteaceae	BANATT	Y		Banksia	attenuata				
FL-8	Colchicaceae	BURCON	N		Burchardia	congesta				
FL-8	Myrtaceae	CALFLA	Y		Calytrix	flavescens				
FL-8	Centrolepidaceae	CENDRU	Y		Centrolepis	drummondiana				
FL-8	Haemodoraceae	CONACU	Y		Conostylis	aculeata				
FL-8	Restionaceae	DEFAS	Y		Desmocladus	fasciculatus				
FL-8	Droseraceae	DROPALPA	Y		Drosera	paleacea	subsp.	paleacea		
FL-8	Droseraceae	DROMENPE	Y		Drosera	menziesii	subsp.	penicillaris		
FL-8	Papilionaceae	GOMTOM	Y		Gompholobium	tomentosum				
FL-8	Dilleniaceae	HIBRAC	Y		Hibbertia	racemosa				
FL-8	Papilionaceae	JACFUR	Y		Jacksonia	furcellata				
FL-8	Anthericaceae	LAXSQU	Y		Laxmannia	squarrosa				
FL-8	Cyperaceae	LEPSQU	Y		Lepidosperma	squamatum				
FL-8	Orchidaceae	LEPFIM	Y		Leporella	fimbriata				
FL-8	Stylidiaceae	LEVSTI	Y		Levenhookia	stipitata				
FL-8	Dasygogonaceae	LOMSUA	Y		Lomandra	suaveolens				
FL-8	Dasygogonaceae	LOMHER	Y		Lomandra	hermaphrodita				
FL-8	Myrtaceae	MELTHY	Y		Melaleuca	thymoides				
FL-8	Poaceae	MICSTI	Y		Microlaena	stipoides				
FL-8	Asteraceae	MILTEN	Y		Millotia	tenuifolia				
FL-8	Iridaceae	PATOCC	Y		Patersonia	occidentalis				
FL-8	Proteaceae	PETLIN	Y		Petrophile	linearis				
FL-8	Cyperaceae	SCHCUR	Y		Schoenus	curvifolius				
FL-8	Stylidiaceae	STYREP	Y		Stylidium	repens				
FL-8	Poaceae	BRIMAX	Y	*	Briza	maxima				
FL-8	Poaceae	EHRCAL	Y	*	Ehrharta	calycina				
FL-8	Asteraceae	HYPGLA	Y	*	Hypochaeris	glabra				
FL-8	Asteraceae	URSANT	Y	*	Ursinia	anthemoides				
FL-8	Poaceae	VULPSP	N	*	Vulpia	sp. scps				

Upland, grey sand, flat

Banksia attenuata + B. menziesii low Woodland A (5-15m, 20-30%)

over mixed weedy _____ Herbs (<0.5m, 70-80%)

(9 in spring * Ehrharta calycina Open low Grass. (<0.5m, 10-20%))

Condition - 5 (Heavily grazed)

Degraded

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfraspRank	InfraspName	Informal	ConsvCode
FL-9	Proteaceae	ADEOBO	Y		Adenanthos	obovatus				
FL-9	Centrolepidaceae	APHCYP	Y		Aphelia	cyperoides				
FL-9	Myrtaceae	AST_FAG	N		Astartea	(Gibson et al.				
FL-9	Rutaceae	BORSPA	Y		Boronia	spathulata				
FL-9	Colchicaceae	BURBAI	Y		Burchardia	bairdiae				
FL-9	Centrolepidaceae	CENARI	Y		Centrolepis	aristata				
FL-9	Goodeniaceae	DAMLIN	Y		Dampiera	linearis				
FL-9	Dasyogonaceae	DASBRO	Y		Dasyogon	bromeliifolius				
FL-9	Droseraceae	DRONEENE	Y		Drosera	neesii	subsp.	neesii		
FL-9	Papilionaceae	EUCLIN	Y		Euchitopsis	linearis				
FL-9	Papilionaceae	EUTVIR	Y		Eutaxia	virgata				
FL-9	Myrtaceae	HYPANG	Y		Hypocalymma	angustifolium				
FL-9	Restionaceae	HYPEXS	Y		Hypolaena	exsulca				
FL-9	Hypoxidaceae	HYPOCCOC	Y		Hypoxis	occidentalis	var.	occidentalis		
FL-9	Papilionaceae	ISOCUNCU	Y		Isotropis	cuneifolia	subsp.	cuneifolia		
FL-9	Myrtaceae	MELPRE	Y		Melaleuca	preissiana				
FL-9	Iridaceae	PATOCC	Y		Patersonia	occidentalis				
FL-9	Myrtaceae	PERELL	Y		Pericalymma	ellipticum				
FL-9	Myrtaceae	REGCIL	Y		Regelia	ciliata				
FL-9	Cyperaceae	SCHODO	Y		Schoenus	odontocarpus				
FL-9	Cyperaceae	SCHEFO	Y		Schoenus	efolius				
FL-9	Myrtaceae	SCHINV	Y		Scholtzia	involutrata				
FL-9	Asteraceae	SILHUM	Y		Siloxerus	humifusus				
FL-9	Stylidiaceae	STYREP	Y		Stylidium	repens				
FL-9	Stylidiaceae	STYBRUBR	Y		Stylidium	brunonianum	subsp.	brunonianum		
FL-9	Anthericaceae	THYTHY	Y		Thysanotus	thyrsoides				
FL-9	Apiaceae	XANHUEHU	N		Xanthosia	huegeli	subsp.	huegeli	MS	
FL-9	Poaceae	AIRPRA	Y	*	Aira	praecox				
FL-9	Poaceae	AIRCAR	Y	*	Aira	caryophyllea				
FL-9	Poaceae	BRIMIN	Y	*	Briza	minor				
FL-9	Poaceae	BRIMAX	Y	*	Briza	maxima				
FL-9	Asteraceae	HYPGLA	Y	*	Hypochaeris	glabra				
FL-9	Cyperaceae	ISOMAR	Y	*	Isolepis	marginata				
FL-9	Papilionaceae	LOTSUBW	N	*	Lotus	subbiflorus				
FL-9	Poaceae	VULPSP	N	*	Vulpia	sp. scps				
FL-9	Araceae	ZANAET	Y	*	Zantedeschia	aethiopica				

Seasonal Wetland, grey sand, flat

Melaleuca preissiana Open Woodland (>15m, 2-10%)
 over mixed Dense Heath B (Shrubs 1.5-1.0m, >70%)

Condition 2.5

Excellent/Very Good

Plots	Family	SpCode	Currt	Nat	Genus	Species	InfraspRank	InfraspName	Informa	ConsvCode
FL-10	Myrtaceae	AST_FAG	N		Astartea	(Gibson et al.				
FL-10	Myrtaceae	CALLAT	Y		Calothamnus	lateralis				
FL-10	Lauraceae	CASRAC	Y		Cassytha	racemosa				
FL-10	Centrolepidaceae	CENDRU	Y		Centrolepis	drummondiana				
FL-10	Droseraceae	DROPUL	Y		Drosera	pulchella				
FL-10	Onagraceae	EPIBIL	Y		Epilobium	billardioreanum				
FL-10	Poaceae	ERAELO	Y		Eragrostis	elongata				
FL-10	Goodeniaceae	GOOMIC	Y		Goodenia	micrantha				
FL-10	Cyperaceae	LEPLON	Y		Lepidosperma	longitudinale				
FL-10	Restionaceae	MEECOA	Y		Meeboldina	coangustata				
FL-10	Myrtaceae	MELVIMVI	Y		Melaleuca	viminea	subsp.	viminea		
FL-10	Myrtaceae	MELTER	Y		Melaleuca	teretifolia				
FL-10	Cyperaceae	SCHSPNT2	N		Schoenus	Keighery and N				
FL-10	Restionaceae	TRETRE	Y		Tremulina	tremula				
FL-10	Menyanthaceae	VILVIO	Y		Villarsia	violifolia				
FL-10	Juncaceae	JUNART	Y	*	Juncus	articulatus				
FL-10	Papilionaceae	LOTSUBW	N	*	Lotus	subbiflorus				
FL-10	Scrophulariaceae	PARVIS	Y	*	Parentucellia	viscosa				

Seasonal wetland, brown? clay-sand, flat

Malaleuca sp? Heath B' (1.5-1.0m, 20-50%)

over mixed Dense Tall Sedges (>0.5m, >70%)

Condition ?

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

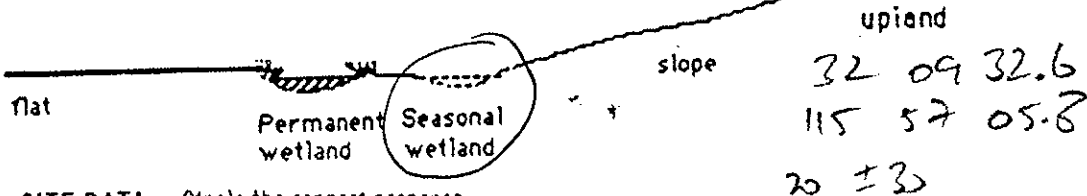
QUADRAT No. FL 1 VEGETATION TYPE Low Sedge
 DATE TRIP 8/5/92 BOTANIST 3/11/92
 VOLUNTEERS NS PB JA NE PB BJK

1. LOCATION of the QUADRAT

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

b. Photograph Photographer's name NG COND 2.5

c. Topographic position - Circle position of quadrat



2. SITE DATA - Circle the correct response

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

% Bare ground 10 Drainage well mod poor Wet All year winter/spring

Litter (% cover) 50 Surface soil GY SAND Sub-surface soil GY SAND

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

FL 1

3. VEGETATION STRUCTURE AND COVER Record appropriate cover class

Cover Class - percentage classes
 0% under 2% 2-10% 10-20% 20-30% 0-50% 50-70% over 70%

LIFE FORM	TREES		MALLEES	
	> 15m or 5-15m 	Under 5m 	MALLEE SHRUB less than 8m 	MALLEE TREE 8m or more
COVER CLASS (%)	> 15m 5-15m			

LIFE FORM	SHRUBS				
	over 2m 	2.0-1.5m 	1.5-1.0m 	1.0m - .5m 	under 5m
COVER CLASS (%)					

LIFE FORM	MAT PLANTS	BUNCH GRASSES	HERBS	SEDGES
	under 10cm 	under .5m 	under .5m (except creepers) 	over .5m
COVER CLASS (%)			> 80%	

Height (metres)

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

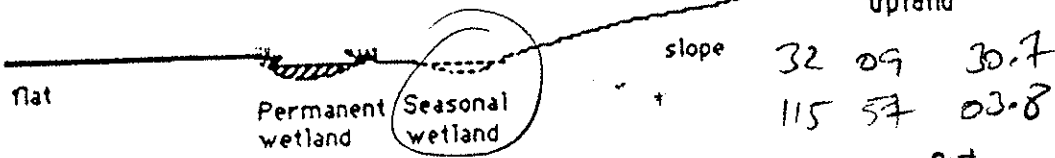
QUADRAT No. FL2 VEGETATION TYPE Regelin DH
 DATE TRIP 01/5/92 BOTANIST 3/1/10/92
 VOLUNTEERS JA PB NS NG PB BJK

1. LOCATION of the QUADRAT

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

b. Photograph Photographer's name _____

c. Topographic position - Circle position of quadrat



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

2. SITE DATA - Circle the correct response

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

% Bare ground 70 Drainage well mod poor Wet All year winter/spring

Litter (% cover) 10 Surface soil SY SAND Sub-surface soil SY SAND

3. VEGETATION STRUCTURE AND COVER. Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES		MALLEES		Height (metres)	
	50-70%	LIFE FORM	under 5m	MALLEE SHRUB less than 8m	MALLEE TREE 8m or more		
	COVER CLASS (%)	2-15m 5-15m					
20-30%	SHRUBS		Regelin		SHRUBS		
10-20%	LIFE FORM	over 2m	2.0-1.5m	1.5-1.0m	1.0m - .5m		under 5m
COVER CLASS (%)				90%			
2-10%	MAT PLANTS		BUNCH GRASSES	HERBS	SEDGES		
0%	LIFE FORM	under 10cm	under 15m	under .5m (except creepers)	over .5m	under .5m	

- within each stratum try to record the most common species first and the most uncommon last.
- as each species is collected label it with a numbered tag and use this number on your recording sheet
- indicate if the species is in flower

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

QUADRAT No.
 FL3 12/5/92

rees		No	ID	SHRUBS		No	ID	Herbs		No	ID
				X	31/0/92			X	31/10/92		
				X	Giant weed <i>Holcus</i> = RH	25	✓	X	<i>Dampiera trigona</i>	9	VSP
				X	* <i>Briem</i> sp.	36	X	X	<i>Galium palustre</i>	11	✓
				X	<i>Vilp</i> sp.	47	✓	X	<i>Psilolepis gracilis</i> WHITE SWIFT	12	X
				X	* <i>Ara can</i>	48	X	X	<i>Stylidium</i> sp.	13	X
				X	ADJ <i>Burchardia bairdii</i>			X	<i>Drosera</i> sp.	14	X
				X	<i>Brizula drummondii</i>			X	<i>Stylidium divaricatum</i>	17	✓
				X	<i>Cyperus kneri</i>			X	<i>Phyllodactylus drum</i>	18	X
				X	<i>Nancus capillatus</i>			X	<i>Sida</i> sp.	22	✓
				X	<i>Stylidium amarg.</i>			X	<i>Tetraneura violaceae</i>	23	✓
				X	<i>Myroceph. heli</i>			X	* <i>Boea rosea</i>	31	✓
				X	<i>Oenadenia micrantha</i>			X	<i>Quin uvill</i>	32	✓
				X	<i>Brachycome</i> sp.			X	* <i>Amphisp simplex</i>	34	✓
				X	Bunch Grasses			X	(<i>Hesperia</i> sp. = <i>Myko</i>)	35	✓
				X	* <i>Bryen major</i>	21	✓	X	<i>Pycnanthemum drummondii</i>	39	✓
				X				X	<i>Stylidium</i> sp.	40	✓
				X				X	<i>Sida</i> sp.	41	✓
				X				X	<i>Selaginella</i> sp.	42	✓
				X				X	Sedges		
				X	Herbs			X	<i>Haplo. cymosus</i>	24	VSP
				X	<i>Drosera</i> (with branches) <i>Stylidium</i>			X	<i>Leptocarpus</i> sp.	29	✓
				X	<i>Ptilo. grac</i> (with swamps)			X	<i>Sida</i> sp.	26	✓
				X	<i>Tetraneura</i> sp.	28	✓	X	<i>Tetraneura</i> sp.		
				X	<i>Epidendrum holianum</i>	37	✓	X	(<i>Alphacanthus</i> sp.)		
				X	* <i>Racem. viscosus</i>			X			
				X	<i>Thysan. pat / mang.</i>	10	✓	X			
				X	* <i>Drosera</i> sp.			X			
				X	31/10/92			X			
				X	* <i>Hylo. glab</i>	44	✓	X	<i>Candollea</i> sp.	4	✓
				X	<i>Drosera laxiflora</i>	45	✓	X	<i>Sida</i> sp.	20	✓
				X	<i>Micranth. unith.</i> = RH	46	✓	X	<i>Attalea</i> sp. = <i>Brizula</i>	33	✓
				X				X	<i>Tetraneura</i> sp. = <i>Brizula</i>	33	VSP
				X				X	Plot burnt some years ago.		
				X				X	<i>Cyperus</i> sp.	43	✓
				X				X	<i>Chrys. anod</i>	45	✓

Mallees

HRUBS

<i>Stel. ?</i>	1	X
<i>Mel. ?</i>	-	
<i>D. marginata</i>	3	✓
<i>H. arguta</i>	2	✓
<i>E. virgata</i>	5	✓
<i>V. sp.</i>	5	✓
<i>D. sp.</i>	6	✓

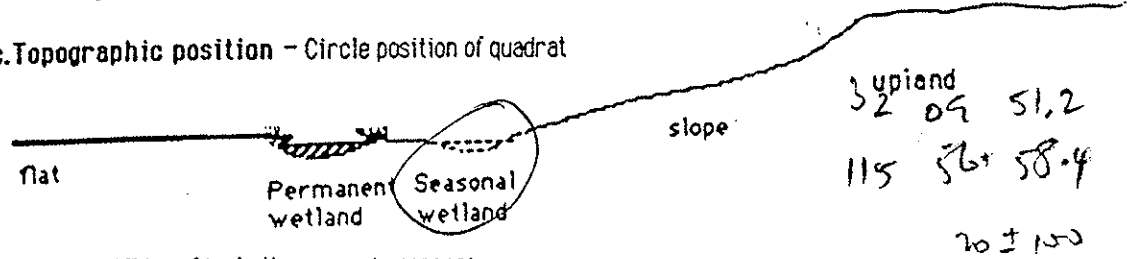
31/10/92
Melaleuca latiflora
P. imbricata
 (intl hairy, stem glabrous)

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

QUADRAT No. FL3 VEGETATION TYPE Mel ^{unclear} 20-30 + left bank DS
 DATE TRIP 12/5/92 BOTANIST NS PB
 VOLUNTEERS 7/10/92 BJK NS PB

1. LOCATION of the QUADRAT

- a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet →
- b. Photograph Photographer's name NS 13
- c. Topographic position - Circle position of quadrat



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

2. SITE DATA - Circle the correct response

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

% Bare ground <10 Drainage well mod poor Wet All year winter/spring

Litter (% cover) 50 Surface soil GY SAND Sub-surface soil GY SAND

3. VEGETATION STRUCTURE AND COVER. Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES				MALLEES				Height (metres)			
	50-70%	or > 15m 5-15m	Under 5m	MALLEE SHRUB less than 8m	MALLEE TREE 8m or more	15m	10m	5m					
	50-50%	> 15m 5-15m											
20-30%	SHRUBS				SHRUBS								
10-20%	over 2m				2.0-1.5m	1.5-1.0m	1.0m-0.5m	under 0.5m	3m	2m	1m		
2-10%													
2-10%						10-20							
0%	MAT PLANTS		BUNCH GRASSES		HERBS		SEDGES						
0%	under 10cm		under 0.5m		under 0.5m (except creepers)		over 0.5m		under 0.5m	2.0m	1.5m	1.0m	0.5m
									30-50				

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

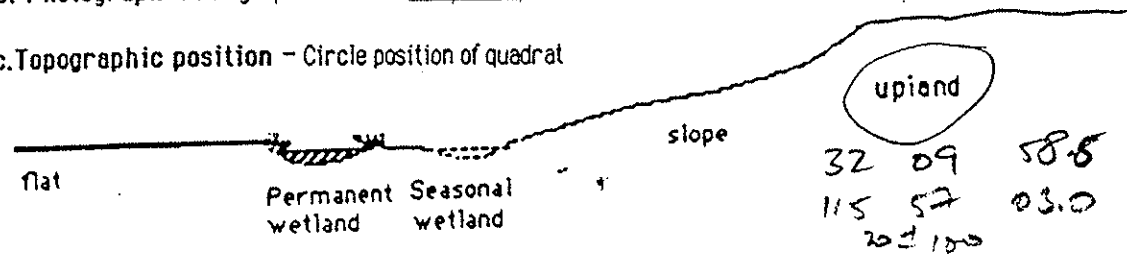
QUADRAT No. FL4 VEGETATION TYPE Marric
 DATE TRIP 12/5/92 BOTANIST NC RB
 VOLUNTEERS 3/10/93 PB NC BJK

1. LOCATION of the QUADRAT

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

b. Photograph Photographer's name NS12

c. Topographic position - Circle position of quadrat



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

2. SITE DATA

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

% Bare ground 0 Drainage well mod poor Wet All year winter/spring

Litter (% cover) 72 Surface soil GY SAND Sub-surface soil GY SAND

3. VEGETATION STRUCTURE AND COVER

Cover Class - percentage classes	over 70%	TRESSES <u>Marric</u>		MALLEES		Height (metres)
	50-70%	<u>Banksia</u>		MALLEE SHRUB less than 8m	MALLEE TREE 8m or more	
	30-50%	FORM		FORM	FORM	
	30-50%	COVER CLASS (%) <u>>15m <10%</u> <u>5-15m 10-30</u>				
	20-30%	SHRUBS				
	10-20%	LIFE FORM		LIFE FORM		
	2-10%	COVER CLASS (%)				
	under 2%	MAT PLANTS	BUNCH GRASSES	HERBS	SEDGES	
	0%	LIFE FORM	LIFE FORM	LIFE FORM	LIFE FORM	

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

QUADRAT No. FL5 VEGETATION TYPE Banksia wood
 DATE TRIP 12/5/92 BOTANIST NS PB
 VOLUNTEERS 25/1/92 BTR NG

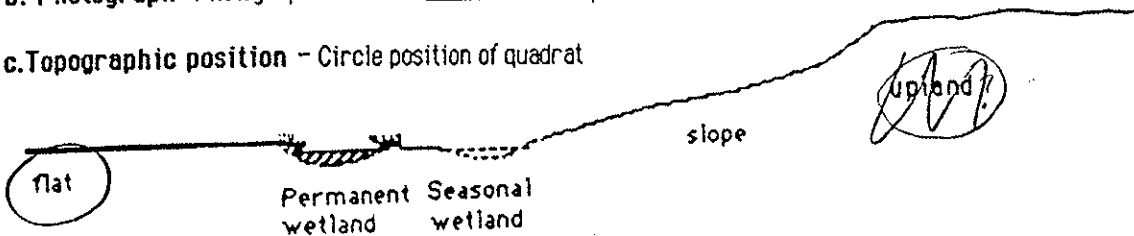
1. LOCATION of the QUADRAT

COND 3

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

b. Photograph Photographer's name NS 14

c. Topographic position - Circle position of quadrat



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

2. SITE DATA - Circle the correct response

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

% Bare ground 0 Drainage well mod poor Wet All year winter/spring

Litter (% cover) 30-50 Surface soil SY SAND Sub-surface soil SY SAND

3. VEGETATION STRUCTURE AND COVER

Record appropriate cover class

Cover Class - percentage classes
 over 70%
 50-70%
 30-50%
 20-30%
 10-20%
 2-10%
 under 2%
 0%

LIFE FORM	TREES	MALLEES	
	<p><i>Banksia - dryistic</i></p> <p>over 15m 5-15m</p>	<p>under 5m</p>	<p>MALLEE SHRUB less than 8m</p>
COVER CLASS (%)	<p>2-15m 5-15m 30-50</p>		

LIFE FORM	SHRUBS				
	<p><i>Wright - Junco</i></p> <p>over 2m</p>	<p>2.0-1.5m</p>	<p>1.5-1.0m</p>	<p>1.0m - 5m</p>	<p>under 5m</p>
COVER CLASS (%)			2-10%		

LIFE FORM	MAT PLANTS	BUNCH GRASSES	HERBS	SEDGES
	<p>under 10cm</p>	<p>under .5m</p>	<p>under .5m (except creepers)</p>	<p>over .5m</p>
COVER CLASS (%)			<p>mixed under .5m 70%</p>	

Height (metres)

QUADRAT No.
FL6 12/5/92

- within each stratum try to record the most common species first and the most uncommon last.
- as each species is collected label it with a numbered tag and use this number on your recording sheet
- indicate if the species is in flower

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

Trees	No	ID	SHRUBS	No	ID	Herbs	No	ID
<p>Banksia many</p> <p>Banksia other</p>			<p>25/11/92 (✓ 18/3/93)</p> <p>Lomandra hum</p> <p>* <i>Curtainia phyllode</i></p> <p>* <i>Vulpia</i> NO ID</p> <p>* <i>Aiza procum.</i></p> <p><i>Mitella tenuis</i></p> <p><i>Leucopogon</i> sp seedling</p> <p>* <i>Hypodermis glab</i></p> <p><i>Pod. theca dringentia</i></p> <p><i>Amorpha prostrata</i></p> <p><i>Trich. pilosum</i></p> <p><i>Quercus unilob</i></p>					
Mallees								
SHRUBS								
<p><i>Lal. Arix forar</i></p> <p>Seal on jar collected</p> <p>• <i>Ac. pulch</i></p> <p><i>Ac. ...</i></p> <p><i>Ac. ...</i> (seed) #156</p> <p>Growth of <i>Acacia</i></p> <p><i>Platanus</i> red (seed)</p> <p>Large off <i>Acacia</i></p> <p>= some soft islets</p> <p>A = <i>Scholyma in w</i></p>			<p>Bunch Grasses</p> <p>* <i>Vet grass pericard = Exhaust</i> caly ✓</p> <p>* <i>Daisy</i> ✓</p> <p><i>New Zealand alopecur</i></p>					
			Herbs			Sedges		
			<p>white lily = <i>Macarthura australis</i></p> <p><i>Conostylis ocul</i></p> <p><i>Stylid. repens</i></p> <p>* <i>Yerdie</i> sp</p> <p><i>Chrysanthemum (sp) caespitosum</i> (RH) ✓</p> <p><i>Burch umb</i></p> <p><i>Gorge ...</i></p> <p><i>Angonia ...</i></p> <p>Hills FLS = <i>pauciflora</i></p> <p>* <i>Uranium anth.</i></p> <p>Pat etc</p> <p>• Dros off hvel ? many</p> <p>* <i>Calceolaria (pt) sp</i></p> <p><i>Ango ...</i></p>			<p><i>Scheuchzeria</i></p> <p>long hils</p> <p>Woo + flen</p> <p>* <i>Lyg ...</i></p> <p><i>Apoc. ...</i></p> <p>8 = <i>ARNOLD. TRISII</i></p>		

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

QUADRAT No. FL 6 VEGETATION TYPE Bank Wood
 DATE TRIP 12/5/92 BOTANIST NS. PB
 VOLUNTEERS 25/11/92 LTK ML

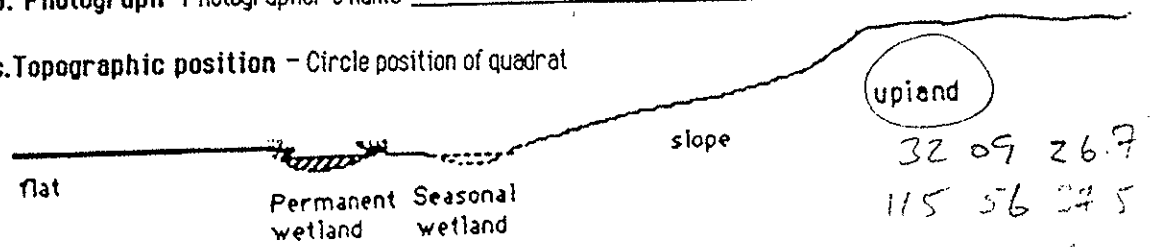
1. LOCATION of the QUADRAT

Site may have been previously heavily grazed + burnt.

a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet COND 4

b. Photograph Photographer's name NS 14

c. Topographic position - Circle position of quadrat



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

2. SITE DATA - Circle the correct response

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

% Bare ground 2-10 Drainage well mod poor Wet All year winter/spring

Litter (% cover) 30-70 Surface soil gy sand Sub-surface soil gy SW

3. VEGETATION STRUCTURE AND COVER. Record appropriate cover class

Cover Class - percentage classes
 0% under 2% 2-10% 10-20% 20-30% 30-50% 50-70% over 70%

LIFE FORM	TREES: <u>Bank</u>		MALLEES	
	COVER CLASS (%)	2-15m 5-15m	Under 5m	MALLEE SHRUBS less than 8m

LIFE FORM	SHRUBS: <u>Wedge</u>				SHRUBS
	COVER CLASS (%)	over 2m	2.0-1.5m	1.5-1.0m	1.0m - .5m

LIFE FORM	MAT PLANTS	BUNCH GRASSES	HERBS	SEDGES - GRASSES	
	COVER CLASS (%)	under 10cm	under .5m	under .5m (except creepers)	over .5m

Height (metres)

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

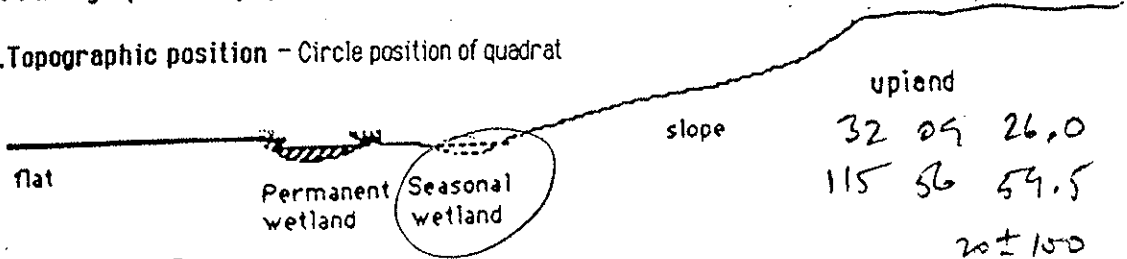
QUADRAT No. FL7 VEGETATION TYPE Mel Shrubland
 DATE TRIP 12/15/92 BOTANIST NG RB
 VOLUNTEERS 3/11092 BTK NG PK

1. LOCATION of the QUADRAT COND 3.5

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

b. Photograph Photographer's name NG 15

c. Topographic position - Circle position of quadrat



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

2. SITE DATA - Circle the correct response
 Slope flat gentle steep Aspect N NE E SE S SW W NW

% Bare ground 52 Drainage well mod poor Wet All year winter/spring

Litter (% cover) 70 Surface soil SV-DK SAND Sub-surface soil SV-DK STU1

3. VEGETATION STRUCTURE AND COVER Record appropriate cover class

Cover Class - percentage classes	over 70%	TREES <u>FLS</u>				MALLEES		Height (metres)
	50-70%	over 15m 5-15m	under 5m	MALLEE SHRUB less than 8m	MALLEE TREE 8m or more			
	COVER CLASS (%)	7-15m 5-15m						
20-30%	SHRUBS <u>Mel Vim</u>				SHRUBS			
10-20%		over 2m	2.0-1.5m	1.5-1.0m	1.0m-.5m	under 5m		
COVER CLASS (%)		70-30						
2-10%	MAT PLANTS		BUNCH GRASSES	HERBS	SEDGES			
under 2%	under 10cm		under .5m	under .5m (except creepers)	over .5m	under .5m	2.0m 1.5m 1.0m .5m	
0%								

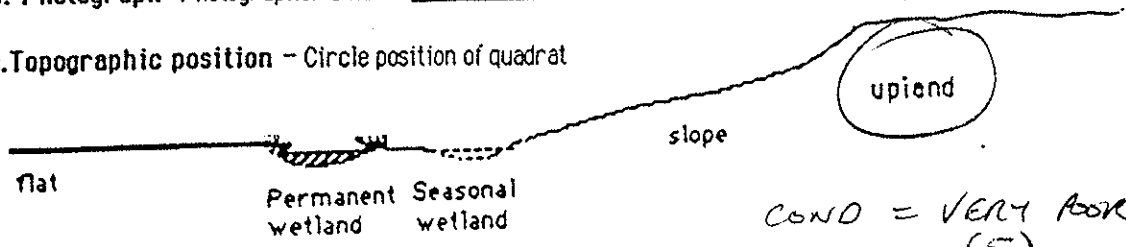
Swan Coastal Plain Survey - SURVEY RECORDING SHEET

DO NOT ANALYSE
 QUADRAT No. FL8 VEGETATION TYPE Banksia woodland, Hebe Ld.
 DATE TRIP 12/5/92 BOTANIST NK PD
 VOLUNTEERS 25/11/92 B. TIC NG.

1. LOCATION of the QUADRAT Heavily grazed 321021.8
 a. Mud Map Draw a sketch of the location of the quadrat the back of this sheet. 115 55 55.8

b. Photograph Photographer's name NS 16

c. Topographic position - Circle position of quadrat



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

2. SITE DATA Circle the correct response
 Slope flat gentle steep Aspect N NE E SE S SW W NW

% Bare ground 20-25 Drainage well mod poor Wet All year winter/spring

Litter (% cover) 30-50 Surface soil GY SAND Sub-surface soil GY SAND

3. VEGETATION STRUCTURE AND COVER Record appropriate cover class

Cover Class - percentage classes
 0% under 2% 2-10% 10-20% 20-30% 30-50% 50-70% over 70%

LIFE FORM	TREES	MALLEES		
	<u>Banksia atoll-varying</u> 2-15m 5-15m 	Under 5m 	MALLEE SHRUB less than 8m 	MALLEE TREE 8m or more
COVER CLASS (%)	2-15m 5-15m 20-30			

LIFE FORM	SHRUBS				
	over 2m 	2.0-1.5m 	1.5-1.0m 	1.0m-0.5m 	under 0.5m
COVER CLASS (%)					

LIFE FORM	MAT PLANTS	BUNCH GRASSES	HERBS	SEDGES
	under 10cm 	<u>Kerria</u> under 0.5m 25/11/92 10-20% 	Mixed <u>Erythraea</u> under 0.5m (except creepers) 70-80% 	over 0.5m
COVER CLASS (%)				

Height (metres)

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

200
2007.1-1.5

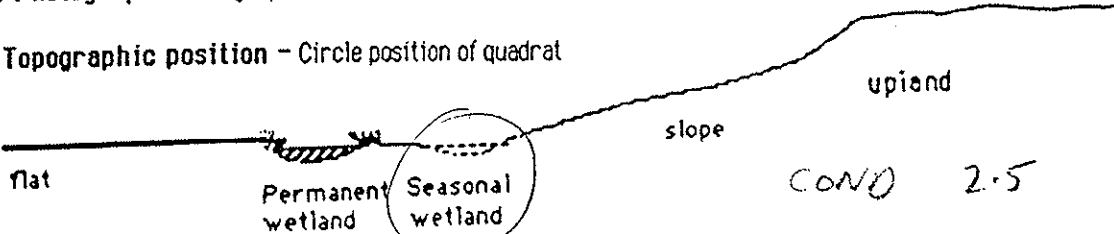
QUADRAT No. FL9 VEGETATION TYPE Mel Pres DW. Mind Herb
 DATE TRIP 12/5/92 BOTANIST NS RB
 VOLUNTEERS 25/1/92 GJK NG

1. LOCATION of the QUADRAT

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

b. Photograph Photographer's name _____

c. Topographic position - Circle position of quadrat



2. SITE DATA - Circle the correct response

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





% Bare ground 2 Drainage well mod poor Wet All year winter/spring






Litter (% cover) 30-50 Surface soil gy sand Sub-surface soil gy sand



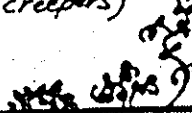

Keighery and Keighery, 1990
Adapted from Griffinn and Keighery, 1989
MOORE RIVER to JURRIEN SANDPLAIN
SURVEY. WILDFLOWER SOCIETY of WA

3. VEGETATION STRUCTURE AND COVER. Record appropriate cover class

Cover Class - percentage classes
 0% under 2% 2-10% 10-20% 20-30% 50-50% 50-70% over 70%

LIFE FORM	TREES		MALLEES	
		<u>Mel Pres</u>		
	<u>> 15m</u> or <u>5-15m</u>	<u>Under 5m</u>	<u>MALLEE SHRUB</u> <u>less than 8m</u>	<u>MALLEE TREE</u> <u>8m or more</u>
				
COVER CLASS (%)	<u>> 15m</u> <u>2-10</u>			
	<u>5-15m</u>			

LIFE FORM	SHRUBS				SHRUBS	
			<u>MIX</u>			
	<u>over 2m</u>	<u>2.0-1.5m</u>	<u>1.5-1.0m</u>	<u>1.0m - .5m</u>	<u>under 5m</u>	
						
COVER CLASS (%)			<u>70</u>			

LIFE FORM	MAT PLANTS	BUNCH GRASSES	HERBS	SEDGES
		<u>under 10cm</u>	<u>under .5m</u>	<u>under .5m</u> <u>(except</u> <u>creepers)</u>
				

Height (metres)

CORDON NO. FL10 12/5/92

as each species is collected label it with a numbered tag and use this number on your recording sheet
 - Indicate if the species is in flower

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

Trees ♀ ♀ ♀ ♀ ♀ ♀ ♀
 NO RE-SAMPLE as unrecorded.

Mallees ♂ ♀ ♀ ♀ ♀ ♀

SHRUBS
 Malalauca (glob fruit) tetrafolia ✓
 Mel vium ✓
 Aca fasciculata ✓
 ? labialis ✓

SHRUBS

Bunch Grasses
 X Spodo veg = Eragrostis elongata ✓
 (-glumes only)

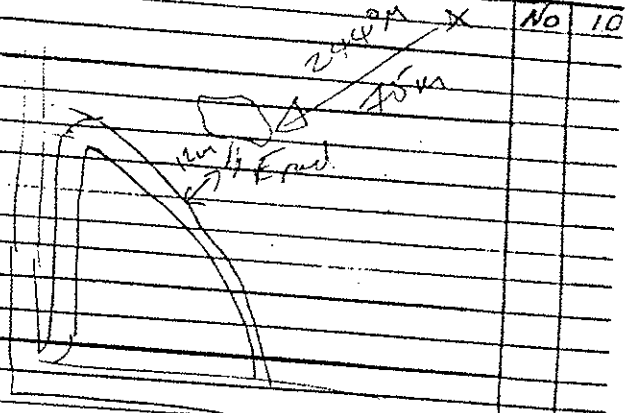
Herbs

X Cam rose ✓
 X Illarisa sp. adifolia ✓
 X Hydrocotyle sp. (sterile) (U.II?) ✓
 X Santalalis sp. (sterile) drum ✓
 X Spora shaped herb ✓
 X Grass sp. (5m) (sterile) ✓
 X A. L. sp. ✓
 X Gorteria filiformis = micrantha ✓
 X Pycnanthemum Diocore ? pulchella ✓
 X Phildonia sp. ✓
 X Wood Tuffalium sp. (sterile) ✓
 X Lotus ? suarestein sp ✓
 X Tarnanthus viscosus ✓

Herbs

Sedges

X Leptocarpus sp ♂ + ♀ coarct ✓
 X Leptocarpus longicaud ✓
 X Suncus aridus ✓
 X S. E. sp. = Schoenus sp "no teeth" ✓
 X Pectis truncata (mixed w. leptocarpus) ✓



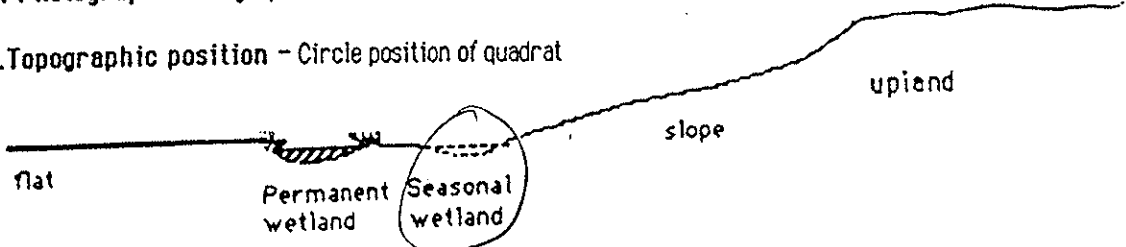
CHECK →

Swan Coastal Plain Survey - SURVEY RECORDING SHEET

QUADRAT No. FL10 VEGETATION TYPE Mel Heath - TDS
 DATE TRIP 12/15/92 BOTANIST NS PM
 VOLUNTEERS _____

1. LOCATION of the QUADRAT

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



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

2. SITE DATA - Circle the correct response

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

% Bare ground 30-70 Drainage well mod (poor) Wet All year (winter/spring)
 Litter (% cover) 10-20 Surface soil BL CL-SAD Sub-surface soil BL CL-SAD

3. VEGETATION STRUCTURE AND COVER. Record appropriate cover class

Cover Class - percentage classes
 0% under 2% 2-10% 10-20% 20-30% 30-50% 50-70% over 70%

LIFE FORM	TREES		MALLEES	
	> 15m 5-15m 	Under 5m 	MALLEE SHRUB less than 8m 	MALLEE TREE 8m or more
COVER CLASS (%)	> 15m 5-15m			

LIFE FORM	SHRUBS				SHRUBS
	over 2m 	2.0-1.5m 	1.5-1.0m 	1.0m - .5m 	under 5m
COVER CLASS (%)			30-50		

LIFE FORM	MAT PLANTS	BUNCH GRASSES	HERBS	SEDGES	
	under 10cm 	under 5m 	under .5m (except creepers) 	over .5m > 70% 	under 5m
COVER CLASS (%)					

Height (metres)
 15m
10m
5m
3m
2m
1m

* Need GPS, Flagging Tape BF Map & Descr / Street Smart Map
* Need Digital Cam Forrestdale Lake M95

FL008: not analysed & not plotted on GIS

Area: public? } Street Smart map? Area public &
Access roads etc } BF Imp map?? - accessible.
CALM Managed Lands CALM RIR?
Vegn map? Condition map. TEC map?

Original map / air photo showing plot locations?
(need to check on GIS)

Print BF Site Description.

- maps of regional info?

Need (*) Std Air/Map w ^{Photo} Cadastre on to draw in ~~the~~ boundaries

Need (*) Plot Sheet 1 & 2 info from database

ie Community Structural Description for each etc.

Wetland / Upland.

if not available plot sheets.

Forrestdale
Lake NR
Res 24781
Need CALM NR

Need better aerials
Need ~~land~~ Soils
Need Vegn Comp
Need Wetland Type
Need Nat Wet Grp
Need Wetland Categ

Need (*) Better air photo for

Condition mapping

Need (*) ? Combined spp list / veg comm (based on plots)

* Ring
Melissa Hoskins

FORRESTDALE LANDFORM AND VEGETATION TYPES

Source: P. Brown, CALM Swan Region May 1994.

Bassendean Vegetation Complex

- B1 Banksia Woodland - *Banksia attenuata*, *B. menziesii* Open Woodland
On low dunes, deep grey sand over yellow sand (B1 van Gool 1990)
- B2 Scattered Marri over Banksia Open Woodland
Grey sand deposited over Pinjarra Plain (surrounding Golf Course)
- B3 Wetland Complex - The bed of Forrestdal Lake and sunplands to the west bare in deeper parts, grading to Tall Sedges
Typha orientalis, *Baumea articulata* with fringing Paperbark *Melaleuca raphiophylla* Forest
- B4 Melaleuca Open Woodland over Dense Heath of mixed species
Dampland areas on grey sands to south east of Forrestdale Lake

LEGEND

Pinjarra Plain Vegetation Complex

- P7 Heath of diverse shrubs and sedges
Extremely diverse floodplain and
palusplain flora on shallow to clay soils
- P8 Melaleuca Low Scrub over annual Herbs
Open palusplain area on clay soils of the
Pinjarra Plain
- X Flooded Gum Woodland *E. rudis*
Along seasonal creekline

6. SIGNIFICANCE AGAINST REGISTER CRITERIA

A2. Importance in maintaining existing processes or natural systems at the regional or national scale

Avifauna

Bird numbers. Forrestdale Lake has international, national, regional, and local importance as a habitat for large numbers of waterbirds (Bartle et al 1987). It is in the top 2% (9th most important) of lakes of importance for numbers of individual waterbirds in the south west of WA compared with more than 600 lakes surveyed by the RAOU (Raines 1993). The highest number of waterbirds counted was 21 083 in February 1987, and at least 10,000 have been counted each year (Jaensch 1992). In addition to the lake itself, the seasonal swamps to the west, south and east provide diverse habitats for waterbirds including waterfowl breeding areas (Payne 1993). The area also provides habitat for at least 60 species of terrestrial birds (Bartle et al 1987).

**very
high**

Forrestdale Lake is in the top 1% of wetlands for the following species in terms of their numbers compared with all the wetlands surveyed in the south west of WA: Hoary-headed Grebe (rank 4), Australasian Grebe (rank 6), Pacific Heron (rank 3), Glossy Ibis (rank 5), Pacific Black Duck (rank 3), Australasian Shoveler (rank 1), Hardhead (rank 4), Spotless Crake (rank 1), Purple Swamphen (rank 4), Black-tailed Godwit (rank 6), Sharp-tailed Sandpiper (rank 6), Eurasian Coot (rank 5), Banded Lapwing (rank 4), Red-capped Plover (rank 3), Black-winged Stilt (rank 2), Marsh Sandpiper (rank 3), Red-necked Stint (rank 4), Long-toed Stint (rank 2), Curlew Sandpiper (rank 6), Clamorous Reedwarbler (rank 1) (Raines 1993).

**very
high**

Migratory birds. Forrestdale Lake has international importance as habitat for 21 species of migratory shorebirds and is listed jointly with Thomsons Lake as Wetlands of International Importance under the Ramsar Convention. The most abundant of these species are Red-necked Stint, Curlew Sandpiper, and Sharp-tailed Sandpiper (Jaensch 1993). The lake satisfies 3 criteria for Ramsar listing: (1) it regularly supports >10,000 waterbirds; (2) it supports >1% of the known Australian population of the Long-toed Stint; and (3) it is a particularly good example of the few surviving wetlands of its type (see D1 also) (Giblet 1993).

Fourteen species found at Forrestdale Lake and James Swamp are listed under both the Japan-Australia Migratory Treaty (JAMBA) and also the China-Australia Migratory Treaty (CAMBA) including: Black-tailed Godwit, Sharp-tailed Sandpiper, Marsh Sandpiper, Red-necked Stint, Long-toed Stint, and Curlew Sandpiper. In addition the Glossy Ibis and the Little Ringed Plover are listed under CAMBA, and the Pectoral Sandpiper is listed under JAMBA (Raines, 1993 and 1994).

**very
high**

Breeding area. Twenty species of waterbird have been found breeding at Forrestdale Lake (regional rank 5) and at James Swamp. Black Swan (*Cygnus atratus*), Pacific Black Duck, Dusky Moorhen (*Gallinula tenebrosa*), Purple Swamphen, Eurasian Coot, Red-capped Plover, and Clamorous Reed-Warbler are known to breed annually, and most of the other 12 probably breed annually (Jaensch 1993; Raines 1994). James Swamp is in the top 2% of sites for breeding waterbirds out of more than 600 wetlands surveyed in the south west of WA (Raines, RAOU database 1981-88)

very
high

Quenda habitat. The seasonally waterlogged wetlands provide excellent habitat of dense heathland for the threatened marsupial, the Southern Brown Bandicoot or Quenda, *Isoodon obesulus* allowing them to cope better with predation by cats and foxes (Friend 1991). A survey by CALM and Friends of Forrestdale in July 1992 found a major population of quenda (Giblet 1993).

high

The area also provides habitat for 7 species of frog and 15 reptiles including the long-necked tortoise *Chelodina oblonga* (Giblet 1992).

medium

Native bees. The area to the east of Forrestdale Lake and south of the golf course provides what may be one of the last remaining habitats for 4 species of rare or little known solitary ground nesting native bee. Each was observed foraging only on one or two species of plant: 1. *Neopasiphae simplicior* Michener on *Lobelia tenuior* and *Goodenia filiformis*; 2. *Leioproctus (Andrenopsis) douglasiellus* Michener on *Goodenia filiformis* and *Anthotium humile*; *Leioproctus* spp. on *Haemodorum spicatum*; and *Lasioglossum (Glossalictus) etheridgei* Cockerell on *Aotus genistoides* (T. Houston 1992 pers comm.).

very
high

A3. Importance in exhibiting unusual richness or diversity of flora, fauna, landscapes or cultural features.

Wetlands. The area contains a relatively large range of wetland types on a variety of soil types: a lake (Forrestdale Lake) and sumplands on Bassendean soils, and a range of very good sumplands and palusplains on Pinjarra Plain soils (wetland mapping by V & C Semeniuk Research Group 1993; soils according to van Gool 1990; P. Brown; B.J. Keighery pers. comm. 1994).

very
high

Flora. The area is rich in species of flora due to combinations of two wetland suites with an accompanying diversity of species. These are Melaleuca Woodlands/Forests of *M. preissiana*, *M. raphiophylla*, and *Melaleuca* shrubland species, heathlands, herblands, and sedgelands on heavy Pinjarra Plain soils; and on Bassendean soils, Marri Woodlands and Banksia Woodlands (Keighery and Trudgen 1992; B.J. Keighery pers. comm. 1994). A total of 312 species were recorded in one season in the 123 ha of Reserve 27165. This compares with 381 species at a comparable site at Anstey Rd on 150ha (Keighery 1992), and 228 native species in Bold Park in a much larger area of 450 ha. The area is very rich in orchids supporting at least 43 species (G.J. Keighery 1992) despite weed invasion of understorey in parts (Bartle et al 1987).

very
high

Avifauna. Forrestdale Lake is in the top 1% (rank 4) of Lakes of importance to waterbird diversity in south west WA compared with more than 600 lakes surveyed by the RAOU (Raines RAOU database 1993). There are 64 species of waterbirds recorded at Forrestdale Lake and James Swamp (Raines 1994), including 4 darters and cormorants, 9 herons and allies, 12 ducks and allies, 8 rails and 29 shorebirds (Jaensch 1993). Of the 64 species, at least 20 breed in the area, and 17 are listed under various treaties (Raines 1994).

The Lake ranks fifth in the region for the number of species of waterbird found breeding (Jaensch 1993).

James Swamp supports 31 species of waterbird which is a significant number to be recorded on a wetland in the south west region of WA (Raines 1994).

There are 74 species of bush birds recorded including Splendid Fairy Wren, Whistling Kite and Scarlet Robin (D.James, 1994 pers. comm.).

**very
high**

Invertebrates. Seasonal wetlands probably support more aquatic flora and fauna than lakes (Balla and Davis 1992). In general the more wetland vegetation, the more diversity in invertebrates. Thus invertebrate diversity is likely to be very high in the variety of richly vegetated seasonal wetlands in the area although no survey work has been done to show this (S. Balla pers. comm. 1994).

high

A4. Importance for association with events, developments or cultural phases which have had a significant role in the human occupation and evolution of the nation, State, region or community.

Aboriginal occupation. Forrestdale Lake was an important Aboriginal hunting site. Aborigines came from places as far as Pinjarra (50 km) to hunt tortoises and campsites at the Lake were occupied for extended periods (O'Connor et al 1989). The Nyungar people used the area as a summer watering place for thousands of years. The availability of fresh water, variety and quantity of food, and open banksia woodlands provided a comfortable resting site for groups of people moving between the Darling Range and the coast (Giblet 1993).

Two sites are registered as Aboriginal Sites protected under the Western Australian Aboriginal Heritage Act 1972-80 (see G1).

**very
high**

B1. Importance for rare, endangered or uncommon flora, fauna, communities, ecosystems, natural landscapes or phenomena, or as a wilderness.

Flora. There are 2 species of Declared Rare Flora (DRF) out of 9 in CALM's metropolitan region under provisions of the Wildlife Conservation Act 1950. They are Purdey's Donkey Orchid *Diuris purdiei* and the Glossy-leaved Hammer Orchid *Drakaea elastica*. Both occur to the east of the lake. The Donkey Orchid grows in dense mixed heath with *Adenanthos obovatus*, *Astartea fascicularis*, *Calothamnus lateralis*, *Hypocalymma angustifolium* and *Pericalymma ellipticum*. The Hammer Orchid grows in sandy Bassendean soils usually bordering ephemeral swamps, often beneath *Kunzea ericifolia* scrub in *Banksia attenuata*-*B. menziesii*-*Allocasuarina fraseriana* woodlands (Kelly et al 1993).

There are also 6 Priority species present in the area listed by CALM in need of special protection out of 46 listed in CALM's metropolitan region on the Swan Coastal Plain, . Five of the 6 occur on the area to the east of the lake: *Eryngium pinnatifidum* ssp. *palastris* (P1 and endemic), *Gonocarpus pithyoides* (P3), *Stylidium utricularioides* (P3), *Villarsia submersa* (P3), *Drosera occidentalis* (P4); and the other one is *Cartonema philydroides* (P3) (Kelly et al 1993).

**very
high**

Rare vegetation communities. The Pinjarra Plain has been almost totally cleared for agricultural purposes and only isolated pockets of vegetation remain (Keighery and Trudgen 1992). The area lies at the interface of Bassendean landforms and the Pinjarra Plain, with the eastern side of the lake being on fluvial soils of the Pinjarra Plain interspersed with Bassendean sands. CALM estimated (Burbidge and Hopper 1990) that in 1990 the eastern side of the Plain was 97% cleared, all remnants of vegetation now being classed as rare and of conservation significance (Keighery 1992).

very
high

Native bees. There are 4 rare or little known species of solitary, ground nesting native bee recorded on seasonal wetlands to the east of the lake: *Neopasiphae simplicior*, *Leioproctus douglasiellus*, *L.* spp. (undescribed), and *Lasioglossum (Glossalictus) etheridgei* (T. Houston 1992 pers. comm.). (See also A2).

very
high

Reptiles. The Lined Skink *Lerista lineata* occurs in the area and is recognised as uncommon elsewhere (Bartle et al 1987).

Rare marsupial. There is a major population of the threatened species of quenda or southern brown bandicoot centred on the seasonal wetlands on the eastern side of the lake (Friend 1991). The quenda is listed by CALM under Schedule I (rare or likely to become extinct) of threatened fauna under the Wildlife Conservation Act 1950. (See also A2).

very
high

Waterbirds. There are 2 species of internationally rare waterbird recorded in the area (Raines 1994). The Freckled Duck *Stictonetta naevosa*, recorded on Forrestdale Lake and at the Nicholson-Oxley Swamp on lot 303 Nicholson Rd (Jaensch 1993; Raines 1994; James pers. comm. 1994) is a species of internationally rare waterbird (Garnett 1992) listed as specially protected fauna on Schedule I (rare or likely to become extinct) of the Wildlife Conservation Act 1950. Little is known about the breeding status of this species but some breeding occurs on seasonally flooded Paperbark Swamps (Garnett 1992) which occur in the area. The second rare species is the Hooded Plover recorded at the Lake and is listed by CALM on the Reserve Fauna list 1993.

very
high

C1. Importance for information contributing to a wider understanding of Australian natural history, by virtue of its use as a research site, teaching site, type locality, reference or benchmark site.

Monitoring site. There are 10 permanent quadrats established during the Swan Coastal Plain Floristics survey as longterm vegetation monitoring sites which will place these plant communities in a regional framework. Data obtained over time will add to knowledge and understanding of the flora and patterns of succession over time (P. Brown; B.J. Keighery pers. comm. 1994). There are also 56 piezometers in the lake bed and on surrounding land to monitor groundwater (P. Brown pers. comm. 1994).

high

Species of scientific interest. The area contains a number of plant species of scientific interest because they are rare, uncommon or have restricted or unusual distribution: the 2 species of DRF and 6 Priority species as listed in B1; *Jacksonia* 'swamp' aff. *sericea*; *Melaleuca uncinata*; *M. polygaloides*; *Banksia telmatiaea*; *Stylidium dichotomum*; *Harperia lateriflora*; *Schoenolaena juncea*; and *M. lateritia* (Keighery and Trudgen 1992).

very
high

Education and research site. The area has important educational value and research value as a wetland ecosystem and for its wealth of birdlife. It is an important research site for CALM, the RAOU, Murdoch University (Bartle et al 1987), and Curtin University. For Curtin, the site is an important environmental research site in the fields of paleolimnology, algal blooms, and limnology (John pers. comm. 1994). Studies of siliceous sediments of diatoms in the lake bed have made an important contribution to the understanding of the lake's natural history. The research indicates that the lake has undergone considerable change over a long period of time and there is evidence of recent salinisation. Diatoms characteristic of saline and brackish water regimes have increased in recent years with implications for future management (John and Johnson 1993).

**very
high**

D1. Importance in demonstrating the principal characteristics of the range of landscapes, environments or ecosystems, the attributes of which identify them as being characteristic of their class.

Wetland type. Forrestdale Lake is internationally recognised under the Ramsar convention (in addition to 2 other criteria as in A2) as a wetland which is a good example of a brackish seasonal lake (type B8) with fringing sedgeland, typical of the Swan Coastal Plain (Jaensch 1993). Sedges include *Baumea articulata*, *B. juncea*, *Bolboschoenus caldwellii*, *Juncus pallidus*, and *Gahnia trifida*. Aquatic species include *Ruppia polycarpa* and *Potamogeton pectinatus* which sometimes forms dense mats (Bartle et al 1987; Halse et al as in Jaensch 1993).

**very
high**

The area presents a very good representation of a range of seasonal wetlands on a variety of Bassendean and Pinjarra Plain soils (P. Brown; B.J. Keighery pers. comm. 1994).

**very
high**

G1. Importance as a place highly valued by a community for reasons of religious, spiritual, symbolic, cultural, educational, or social associations.

Aboriginal significance. The lake has spiritual and mythological significance as the home of the powerful water serpent, the Waugal. The aboriginal people believe the Waugal maintains the flow of water that feeds its nesting place. Disturbance of the native reeds (*Baumea articulata*) around the lake edge could unleash the Waugal's destructive power (O'Connor et al 1986; Polglaze 1986). Two sites of Aboriginal significance are recorded by the department of Aboriginal Sites of the WA Museum. (See also A4)

**very
high**

Education and recreation. It is an important educational site for study of the ecology of waterbirds and for wetland ecology (Bartle et al 1987). The site is recognised as outstanding for birdwatching both by bird enthusiasts and visitors, especially during summer when many species of waterbird use the area as a refuge and many migratory birds visit (R. Giblet 1994 pers comm).

high

**Evaluation of the National Estate value of remnant bushland on the
Swan Coastal Plain between Moore River and Mandurah**

**FORRESTDALE LAKE
AND ADJACENT WETLANDS
System 6 area M95**

Location of Forrestdale Lake and adjacent wetlands. Source: Bartle et al 1987.

**Prepared by Mary Gray
For the Wildflower Society of WA (Inc.)
March 1994**

**This project was funded under the National Estate Program, a Commonwealth
financed grants scheme administered by the Australian Heritage Commission**

Natural Environment Nomination for the Register of the National Estate

FORRESTDALE LAKE AND ADJACENT WETLANDS

System 6 area M95

1. NAME OF PLACE Forrestdale Lake and adjacent wetlands.

AHC File: 010670 5/13/001/0002/01

Note: Reserve A24781 is already listed on the Register of the National Estate. This nomination provides additional documentation of National Estate values and proposes changes to existing boundaries to include adjacent wetlands and associated uplands on the west, east and south sides of the Lake.

Computer file name: Forrestdl

2. LOCATION/BOUNDARIES

The area is located 23 km south of Perth and 15 km inland south of Forrest Road in the City of Armadale. The area includes Forrestdale Lake Nature Reserve A24781 which is bounded by the partially constructed Commercial Road. Seasonal wetlands, heathland, and woodland to the east of Forrestdale Lake in Reserve 27165 but excluding Armadale Golf Course are included together with some small adjacent blocks: lots 371 and 372 Broome Street; and lot 379 Stirling Road. To the south west of the Lake, an area of wetlands and Banksia Woodland is included. The area corresponds to System 6 area M95 with some minor modifications to the boundaries.

It should be noted that Reserve C37016 as mapped in System 6 area M95 in the north west corner of the area no longer exists as it has been absorbed into Reserve A24781. Also the System 6 boundaries on lot 11 Oxley Road and on lot 303 Nicholson Road are inaccurately drawn on page 288, Figure 156 (of DCE 1983).

Administrative area

State: WA

Local Government area: City of Armadale

Area

Reserve A24781	243.6	ha	(up to ~200 ha (80%) open water)
Reserve C37016	~100		(excludes golf course)
Lots 371 and 372 Broome St	4.0443		
Lot 379 Stirling Rd	3.8041		
Lots 267,280,281,282,283,284 Commercial Rd	34.0416		
Lots 276,277,278,279 Oxley Rd	19.5140		
Lot 11 Oxley Rd	31.5666		
Lot 303 Nicolson Rd.	33.276		
Total area	~470	ha	

Property details

The whole area, except for lots 371 and 372 Broome St and lot 379 Stirling Rd, is being rezoned for 'Parks and Recreation' under the Metropolitan Region Scheme by the State Planning Commission (SPC) and is a proposed 'Regional Park'. The freehold lots within this area are in the process of being acquired by the SPC and when purchases are complete, it is proposed that all lots will be added to the Nature Reserve managed by CALM and will revert to the Crown. Details below are as at March 1994.

1. Reserve A24781 is Crown Land vested in the National Parks and Nature Conservation Authority (NPNCA) for the conservation of flora and fauna, and is managed by the Department of Conservation and Land Management (CALM) as Forrestdale Lake Nature Reserve.
2. Reserve C27165 is Crown Land vested in the City of Armadale for the purpose of recreation with power to lease for 21 years. The area occupied by the Armadale Golf course (~38ha) is excluded.
3. Lots 371 and 372 Broome St. are freehold land privately owned.
4. Lot 379 Stirling Rd. is freehold land privately owned.
5. Jandakot AA lot 11 Oxley Rd and lot 303 Nicolson Rd. are freehold land owned by the SPC, Albert Facey House, 469-489 Wellington Street, Perth WA 6000. Telephone 09 264 7646, contact person Neil Robinson.
6. Jandakot AA lots 276, 277, 278, Oxley Rd.; lots 281 and 282 Commercial Rd are freehold land owned by the SPC.

3. NOMINATOR

Nomination prepared by Mary Gray, Consulting Environmental Scientist.

Organisation: Wildflower Society of WA (Inc.), PO Box 64 Nedlands 6009 WA. Telephone 09 383 7979.
Details of organisation only may be released on request.

Signature of nominator Date

President Wildflower Society of WA (Inc)

4. PREVIOUS ASSESSMENTS

1. System 6 Report, recommendation M95 (DCE 1983). Note incorrect boundaries on south west of area as above. Regional Park status recommended. Note that the Golf Course has been constructed in the area after this System 6 recommendation was made and is excluded from the nomination.
2. Forrestdale Lake Reserve A24781 is on the Register of the National Estate on file 010670 5/13/001/0002/01. Documentation is limited and does not include the seasonal wetlands to the east or west or south of Forrestdale Lake.
3. Forrestdale Lake Management Plan 1987-1992 (Bartle et al 1987) for CALM.
4. The wetlands to the east of Forrestdale Lake were identified by Keighery and Trudgen (1992) as Area 20, location 1, Wetland Associations, Pinjarra Plain in association with Bassendean Sands. Five sites were assessed and set up as monitoring sites in location 1. The area was recognised for its important flora conservation values and it was recommended the area be declared an 'A' class Nature Reserve and be included in the Forrestdale Lake Nature Reserve.
5. List of Wetlands of International Importance nominated by the Government of Western Australia, prepared by CALM, p 21-25. Forrestdale and Thomsons Lakes. Ramsar Convention, February 1990.
6. A Directory of Important Wetlands in Australia. Aust. Nature Conservation Agency (ANCA) 1993.

5. DESCRIPTION

Most of the area consists of seasonal wetlands with only small areas of intervening uplands. The wetlands include Forrestdale Lake, James Swamp, other large un-named seasonally inundated wetlands (sumplands), and an expanse of palusplain (seasonally waterlogged).

Forrestdale Lake is situated on the Swan Coastal Plain on the eastern edge of the Bassendean Dune system. It is a surface expression of the groundwater system and there are no natural surface water inflows, although there are two drains on the west side from farmlands and one drain from the Forrestdale township. The lake is situated where two groundwater systems meet, to the west is the Jandakot Mound and to the east is the Armadale system, and to the south east is the Karnup drain.

Forrestdale Lake is a shallow, brackish, seasonal lake up to two metres in depth with fringing sedgeland covering an area of up to 198 ha of open water. It is usually dry for 1-3 months in late summer to autumn. Dunes have formed ridges or lunettes up to five metres in height parallel to the shores of the lake and are vegetated by zones of Banksia Woodlands and Low Forests of Swamp Paperbarks. Parts of the woodland area have been cleared or partly cleared in the past and some of these areas have significantly regenerated in recent years.

To the west of Forrestdale Lake, soils are all on Bassendean landforms of low relief and consist of grey sands and peaty sands in the interdunal depressions. On the low sandy dunes, the vegetation consists of Open Banksia Woodland of *Banksia menziesii*, and *Banksia attenuata*. The Wetland Complex occurs in the depressions and comprises the bed of Forrestdale Lake, James Swamp, and other sumplands (seasonally inundated) with bare areas in deeper parts grading to Tall Sedges *Typha orientalis* and *Baumea articulata* with fringing Paperbark *Melaleuca raphiophylla* Forest. On sumpland areas to the south of the Lake, there is Paperbark *Melaleuca raphiophylla* Open Woodland over Dense Heath of mixed species such as *M. teretifolia*, *M. incana*, *Villarsia albiflora*.

In the area to the east of Forrestdale Lake, landforms change to the broad flats of the Pinjarra Plain with heavy fluviatile clays which are naturally poorly drained and seasonally inundated or waterlogged. In places lighter Bassendean soils overlie the heavy Pinjarra Plain soils, and the whole eastern side is typical of the flats of the Pinjarra Plain. The Pinjarra Plain vegetation consists of three major complexes. Firstly a Mixed Heath of diverse shrubs and sedges occurs on shallow swamps and depressions. Common shrubs include *Melaleuca raphiophylla* 'shrub', *M. viminea*, *M. laterita*, *M. polygaloides*; herbs include *Schoenolaena juncea*, *Cassytha* sp, *Trichoglin procera*, and *Villarsia* sp; and sedges include *Baumea acuta*, and *Leptocarpus canus*. Secondly on the open waterlogged flats (palusplain) with clay soils there is Melaleuca Low Scrub over annual Herbs. Common species include *Melaleuca uncinata*, *M. polygaloides*, *M. viminea*, *Regelia ciliata*, *Hakea varia*, *Actinostrobos pyramidalis*, *Pericalymma ellipticum*, *Euchilopsis linearis*, *Aotus gracillima*, *Dryandra nivea*, *Dasypogon bromeliifolius*, *Jacksonia* 'swamp', *Verticordia densiflora*, *Stirlingia latifolia*, *Eriostemon spicatus*, *Hypocalymma angustifolium*, *Leucopogon* sp, *Banksia telematiaea*, and *Astartea fascicularis*. Herbs include *Borya*, *Stylidium repens*, *Phlebocarya ciliata*, *Haemodorum* sp, *Eryngium pinnitafida* ssp 'palustris', *Drosera gigantea*, *Anigozanthos viridis*, *Patersonia occidentalis*, *Lomandra micrantha*, and *Stylidium dichotomum*. Sedges include *Lyginia barbata*, *Schoenus rigens*, *Loxocarya pubescens*, and *Harperia lateriflora*. The third vegetation complex is Flooded Gum *E. rudis* Woodland which grows along a seasonal creekline in the north east of the area.

Also on the eastern side of the Lake on low sandy rises is an area of Marri-Banksia Open Woodland which grows on Bassendean sands overlying the Pinjarra Plain surrounding the Armadale Golf Course. Trees include *Nuytsia floribunda*, *Allocasuarina fraseriana*, *E. todtiana*, *B. attenuata*, *B. menziesii*; shrubs include *Dasypogon bromeliifolius*, Prickly Moses *Acacia pulchella*, *A. lasiocarpa*, Grass Tree *Xanthorrea preissii*, *Bossiaea eriocarpa* and *Jacksonia* 'swamp'.

Forrestdale Lake provides habitat for 72 species of waterbirds including 4 species of darters and cormorants, 9 herons and allies, 12 ducks and allies, 8 rails and 29 shorebirds. It is a major stop-over point for many species of migrant shorebirds such as Red-necked Stint *Calidrus ruficollis*, Curlew Sandpiper *C. ferruginea* and Sharp-tailed Sandpiper *C. acuminata*.

Total bird numbers at the lake are high, the highest number counted was 21 083 in February 1987, with at least 10,000 counted each year. The most abundant species include Grey Teal *Anas gibberifrons*, Eurasian Coot *Fulica atra*, and Pacific Black Duck *Anas superciliosa*.

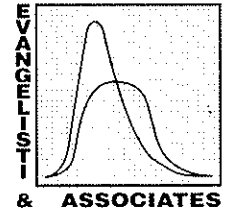
The lake supports a significant population of Red-capped Plover *Charadrius ruficapillus*, Black-winged Stilt *Himantopus himantopus*, Red-necked Avocet *Recurvirostra novaehollandiae*, Long-toed Stint *Calidrus subminuta*, and Curlew Sandpiper *C. ferruginea*. Other important birds found are Hoary-headed Grebe *Poliiocephalus poliocephalus*, Australasian Grebe *Tachybaptus novaehollandiae*, Australasian Shoveller *A. rhynchotis*, Hardhead *Aythya australis*, Spotless Crake *Porzana tabuensis*, Purple Swamp Hen *Porphyrio porphyrio*, Marsh Sandpiper *Tringa stagnatilis*, and Clamorous Reed Warbler *Acrocephalus stentoreus*. Many of these species are found breeding at the lake.

Waterbird records by the RAOU include Forrestdale Lake and James Swamp which is the wetland area to the west of the Lake. The wetland south of Oxley Road in the south west corner of the area has also been studied by the RAOU as part of the Gibbs Road Wetland System which has been nominated for heritage listing on the Register of the National Estate.

Other species of fauna occurring are tortoises *Chelodina oblonga*; 6 species of wetland frog *Crinia georgiana*, *C. insignifera*, *Litoria moorei*, *L. adelaidensis*, *Limnodynastes dorsalis*, and *Heleioporus eyrei*; and at least 62 invertebrate taxa occur in Forrestdale Lake.

There are 4 species of rare or little known solitary ground nesting bees which occur on seasonal wetlands in the area, each observed foraging on only one or two plant species.

The area also supports a large population of Quenda or Southern Brown Bandicoots which are rare and specially protected under the Wildlife Conservation Act.



WATER RESOURCES MANAGEMENT PLAN

MIDDLE CANNING CATCHMENT

(STAGE 1 - VOLUME 1)

Prepared for the

Water Authority of Western Australia

By

Evangelisti & Associates
Consulting Engineers and Project Managers

in association with

Landvision
Consultants in Urban and Environmental Planning

and

The V & C Semeniuk Research Group
Environmental Scientists

October 1995

M95
1



Department of Conservation and Land Management, W.A.

Forrestdale Lake Nature Reserve Management Plan



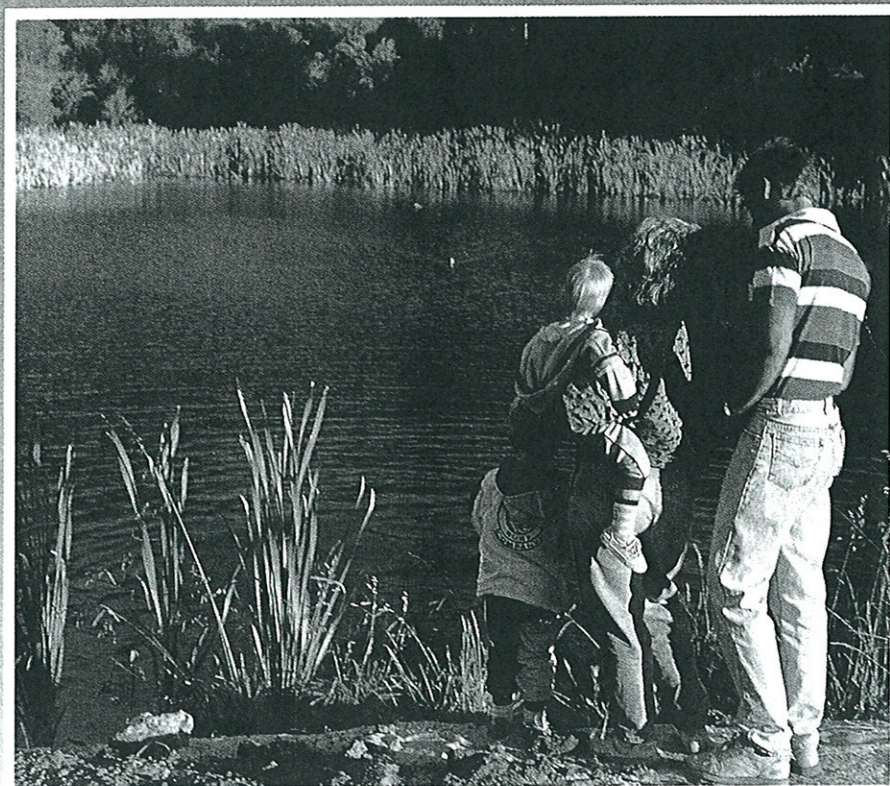
Bert Wells

1987-1992

**Full document
available
on request**

Management Plan No. 3

JENNY ARNOLD'S PERTH WETLANDS RESOURCE BOOK



CHAPTERS 12 - 15

WETLANDS OF THE EASTERN COASTAL PLAIN
AND OF THE INNER CENTRAL SUBURBAN AREA

WETLANDS OF THE RIVERS AND ESTUARIES IN PERTH
AND OF THE SERPENTINE REGION



920036/6

ENVIRONMENTAL PROTECTION AUTHORITY
WATER AUTHORITY OF WESTERN AUSTRALIA

BULLETIN 266 DECEMBER 1990

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Wetlands in the City of Armadale

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