

MARIGINIUP LAKE AND ADJACENT BUSHLAND, MARIGINIUP

Boundary Definition: protected area boundary

SECTION 1: LOCATION INFORMATION

Bush Forever Site no. 147

Area (ha): bushland 53.5 (Site also includes open water.)

Map no. 28

Map sheet series ref. no. 2034-I SW

Other Names: Mariginiup Lake, part Submission Area 233, part of Wanneroo Wetlands Eastern Chain

Local Authorities (Suburb): Shire of Wanneroo (Mariginiup)

System 6 (1983): Part M8 part System area bushland, only bushland described

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Spearwood Dunes

Sands derived from Tamala Limestone (Qts: S7)

Wetlands (within the Spearwood Dunes)

Holocene Swamp Deposits (Qhw: Cps)

VEGETATION AND FLORA

Vegetation Complexes

Spearwood Dunes

Karrakatta Complex — Central and South

Wetlands

Pinjar Complex

Floristic Community Types: not sampled, types not inferred

Supergroup 2: Seasonal Wetlands

WETLANDS

Wetland Types: lake, sumpland, artificial channel

Natural Wetland Groups

Bassendean Dunes

Gnangara (B.2)

Wetland Management Objectives: Conservation (162.5ha)

Swan Coastal Plain Lakes EPP: 138.4ha + 21.5ha = 159.9ha (total)

THREATENED ECOLOGICAL COMMUNITIES

Not determined

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: open water, vegetated wetland, vegetated uplands

Vegetation and Flora: limited survey (EPA and WAWA 1990, McArthur and Matiske 1985, Trudgen 1993a, WAWA 1995)

Structural Units: mapping (EPA and WAWA 1990, McArthur and Matiske 1985, Trudgen 1993a)

Uplands: *Eucalyptus marginata* Open Woodland to Open Forest; *Banksia attenuata* and *B. menziesii* Low Open Woodland to Low Open Forest; *Acacia saligna* Low Shrubland

Wetlands: *Eucalyptus calophylla* and *E. rudis* Closed Forest; *Melaleuca raphiophylla* Low Woodland to Low Closed Forest; *Baumea articulata* Closed Sedgeland

Scattered Native Plants: *Eucalyptus marginata* Open Woodland

Vegetation Condition: >40% Very Good to Excellent, <60% Degraded to Completely Degraded, with areas of severe localised disturbance (Trudgen 1993a)

Total Flora: not known

Significant flora: none recorded

Fauna: not known

Linkage: adjacent bushland/canopy to the north, south and west; part of Greenways 16, 15 (Tingay, Alan & Associates 1998a); part of a regionally significant fragmented bushland/wetland linkage (Part A, Map 7)

Other Special Attributes: recommended for protection in the study of City of Wanneroo bushland (Trudgen 1996)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Not listed; Indicative place (AHC 2000 D)

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

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

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

Recommendation: Site with Some Existing Protection; existing Parks and Recreation Reserve (see Table 3, Volume 1).

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SECTION 1: CADASTRAL INFORMATION

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

Bushplan Site no. 147 **Map no.** 32, 33 **Map sheet series ref. no.** 2034-I SW
System 6 (1983): Part M8 part System area bushland, only bushland described

Other Names

Mariginiup Lake, part Submission Area 233

Local Authorities (Suburb)

Shire of Wanneroo (Mariginiup)

Ownership Categories

State Government, Private

Area (ha): total 217.4 (includes open water); bushland 53.5

Zoning

MRS: Parks and Recreation

TPS: Landscape

Lot/Location/Reserve numbers (Purpose),

Street name

3, 39, 102, 103, 302, 303 Pinjar Rd; 5, 6, 10, 11, 1395, 11142 Ranch Rd; 10916 Rowley Pl; 14, 400, 1133 Honey St; 40, 44 Caporn St; 42, 44, 88 Wade St; 101 Lake St; 46, 104 Tapping St; 46, 47 Wells St; 50 street not identified

Crown Reserve

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Fauna: no known information



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Other Special Attributes: recommended for protection in the study of City of Wanneroo bushland (Trudgen 1996)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Not listed; Indicative Place of the Register of the National Estate

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

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

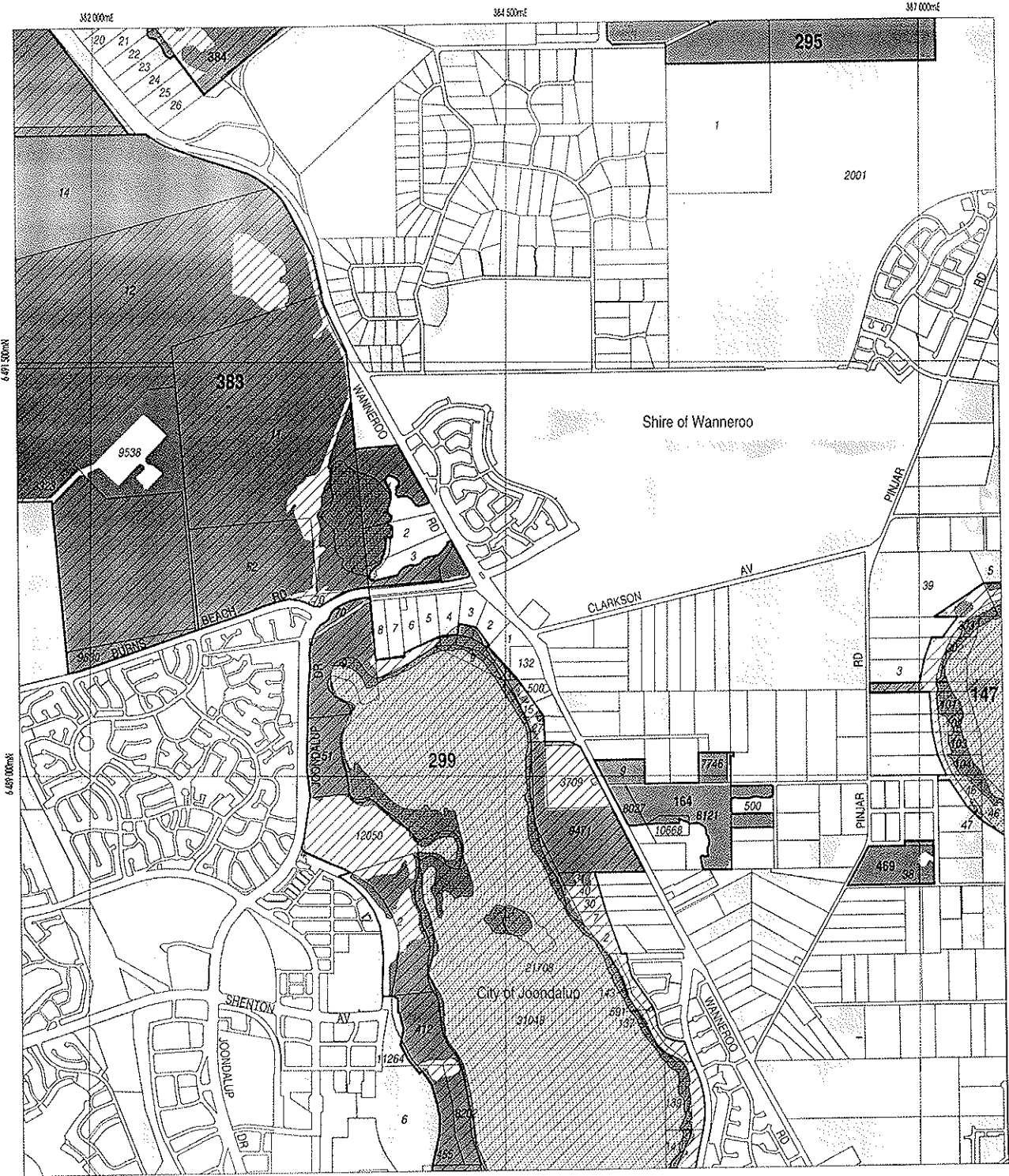
Opportunities and/or Constraints

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

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

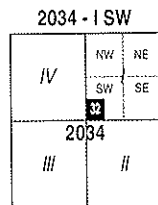
Recommendation: The most appropriate mechanism for the protection of this Bushplan Site be considered through the public comment period in consultation with the land owner(s).



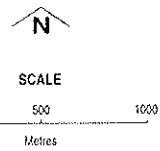
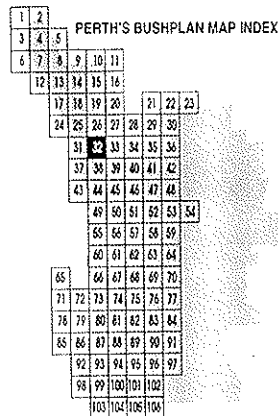


LEGEND

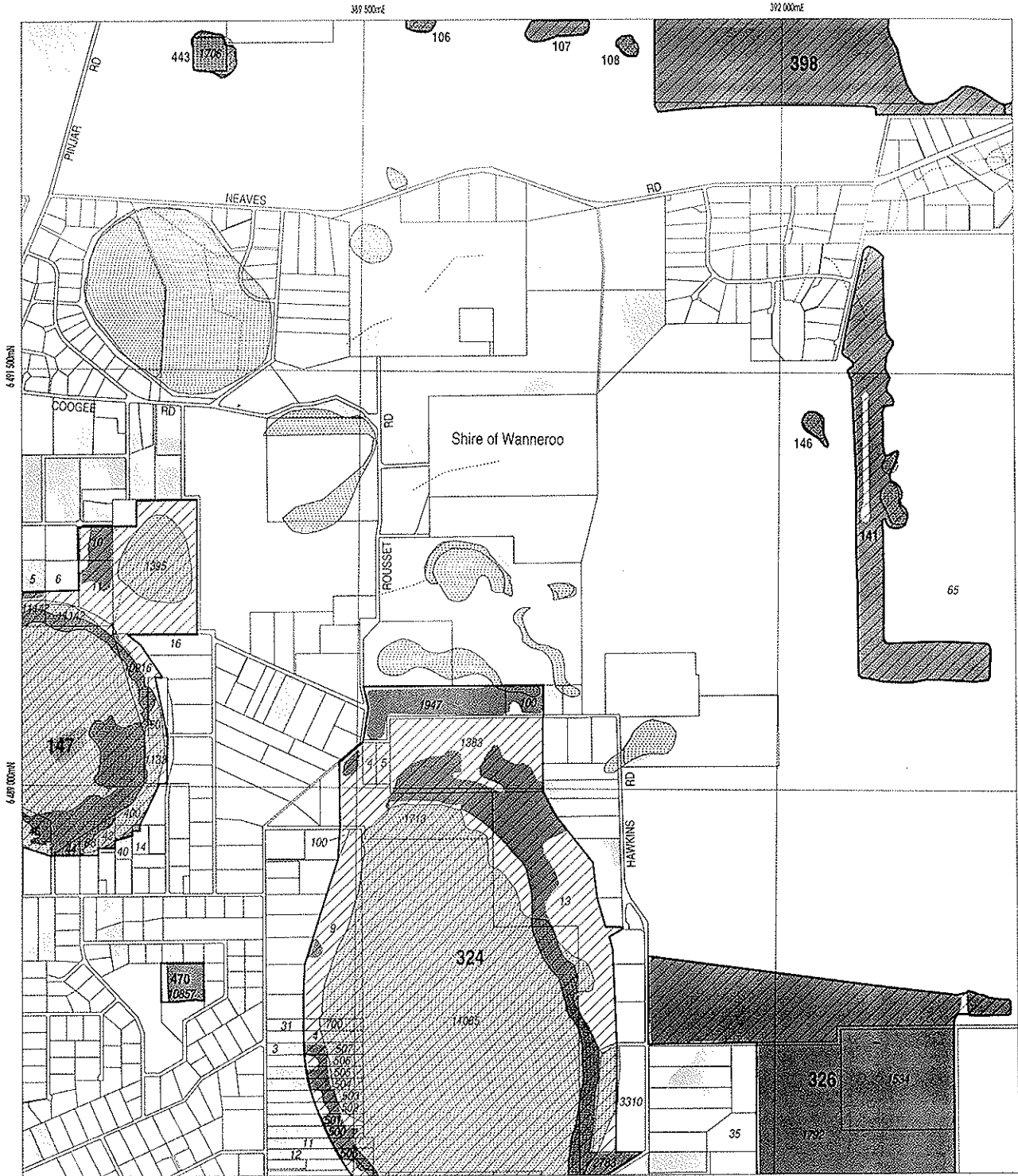
- 472 Bushplan Sites With Regionally Significant Bushland
- Other Native Vegetation
- Conservation Category Wetlands
- Bushplan Sites With Some Existing Protection
- 696 Lot Number, Location Number
- Channel Wetlands
- Local Government Boundary



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

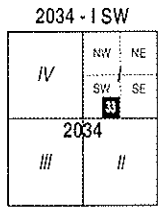


Produced by Project Mapping Section
Land Information Branch, Ministry for
Planning, Perth W.A. November 1998
rtw-map11/environ/bushplan/bushv2_32.dgn
Cadastral Data supplied by Department
of Land Administration, W.A.
Wetlands Data supplied by
Water and Rivers Commission
Native Vegetation Extent for Study Area
supplied by Agriculture Western Australia



LEGEND

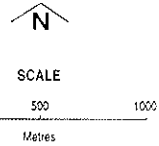
- Bushplan Sites With Regionally Significant Bushland
- Other Native Vegetation
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- Lot Number, Location Number
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1 : 25 000 AMG Reference Grid showing Perth's Bushplan Map Sheet Breakdown

PERTH'S BUSHPLAN MAP INDEX

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 ntw-map11/environ/bushplan/bushv2_33.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

BUSHLAND AREA LIME MARONNIUP BS 9 SITES YES/NO

DATE 23.1.98 RECORDERS Natalie + John

Observations edge transects

Geographic Location Latitude S Longitude E

Reference Map

(A) - 33

Photograph Photographer's Name NATALIE Photo No (B) = 35

(C) = 34

Transect of landscape units (draw in transect incorporating features listed and any other relevant unit)



Soil - surface grey loose sands sub -soil
Exposed rock type % area

FLORA/VEGETATION (list dominant and significant plants below, see over for vege association descriptions)

Eucalypts	<i>E. calophylla</i>	<i>E. wandoo</i>	<i>E. marginata</i>	<i>E. todtianna</i>	<i>E. rudis</i>
	<i>E. decipiens</i>	<i>E. drummondii</i>	<i>E. haematoxylon</i>	<i>E. lanepolei</i>	<i>E. gomphocephala</i>
	<i>E. accedens</i>	<i>E. patens</i>	<i>E. laeliae</i>	<i>E. megacarpa</i>	
Sheoaks	<i>Allocasuarina fraserana</i>		<i>Casuarina obesa</i>		
Banksia	<i>B. attenuata</i>	<i>B. menziesii</i>	<i>B. prionotes</i>	<i>B. illicifolia</i>	<i>B. grandis</i> <i>B. littoralis</i>
Melaleuca	<i>M. preissii</i>	<i>M. raphiophylla</i>	<i>M. lanceolata</i>	<i>M. cuticularis</i>	
Others	<i>Callitris preissii</i>				
Mallees	Eucalypts	<i>E. argutifolia</i>	<i>E. petrensis</i>	<i>E. decurva</i>	<i>E. foecunda</i> <i>E. latens</i>

SIGNIFICANT SPECIES

(see over for vegetaion descriptions)

Vegetation Condition - Keighery 1994 (Trudgen 1993) (show range and indicate predominant class)

- 1 = 'Pristine' (Excellent)
- 2 = Excellent (Very Good)
- 3 = Very Good (Good)
- 4 = Good (Poor)
- 5 = Degraded (Very Poor) — mostly with pockets of v.g.
- 6 = Completely Degraded

Specific aspects of disturbance

partial clearing

weeds (list):

selective removal of species: timber cutting mowing fire grazing dieback %area

fire frequency:

'enrichment plantings' (list)

animal impact: horse foxes rabbits cats dogs goats pigs overgrazing by native mammals

soil movement: mining dumping rubbish dumping roadworks

changes in water regimes: flooding drainage watering nutrient influx

Tracks: fire breaks walk trails off road vehicle use animal tracks

Service corridors: SEC Main Roads Water Authority. Telecom

Other

NOTE: SMALL DRAIN/DAM DUG IN WETLAND. SHOWS UP AS H2O IN PHOTO

[VOL 2 update]

LIFE FORM/HEIGHT CLASS	CANOPY COVER			
	DENSE 70-100%	MID-DENSE 30-70%	SPARSE 10-30%	VERY SPARSE 2-10%
Trees >30m Trees 15-30m Trees 5-15m Trees <5m	Dense Tall Forest Dense Forest Dense Low Forest A Dense Low Forest B	Tall Forest Forest Low Forest A Low Forest B	Tall Woodland Woodland Low Woodland A Low Woodland B	Open Tall Woodland Open Woodland Open Low Woodland A Open Low Woodland B
Mallee tree form Mallee shrub form	Dense Tree Mallee Dense Shrub Mallee	Tree Mallee Shrub Mallee	Open Tree Mallee Open Shrub Mallee	Very Open Tree Mallee Very Open Shrub Mallee
Shrubs >2m Shrubs 1.5-2.0m Shrubs 1-1.5m Shrubs 0.5-1.0m Shrubs 0.0-0.5m	Dense Thicket Dense Heath A Dense Heath B Dense Low Heath C Dense Low Heath D	Thicket Heath A Heath B Low Heath C Low Heath D	Scrub Low Scrub A Low Scrub B Dwarf Scrub C Dwarf Scrub D	Open Scrub Open Low Scrub A Open Low Scrub B Open Dwarf Scrub C Open Dwarf Scrub D
Mat plants Hummock Grass Bunch grass >0.5m Bunch grass <0.5m Herbaceous spp.	Dense Mat Plants Dense Hummock Grass Dense Tall Grass Dense Low Grass Dense Herbs	Mat Plants Mid-Dense Hummock Grass Tall Grass Low Grass Herbs	Open Mat Plants Hummock Grass Open Tall Grass Open Low Grass Open Herbs	Very Open Mat Plants Open Hummock Grass Very Open Tall Grass Very Open Low Grass Very Open Herbs
Sedges >0.5m Sedges <0.5m	Dense Tall Sedges Dense Low Sedges	Tall Sedges Low Sedges	Open Tall Sedges Open Low Sedges	Very Open Tall Sedges Very Open Low Sedges
Ferns Mosses, liverwort	Dense Ferns Dense Mosses	Ferns Mosses	Open Ferns Open Mosses	Very Open Ferns Very Open Mosses

VEGETATION (describe each unit of vegetation using dominants and life form/height class and canopy cover according to the Muir codes above)

(A)
PHOTO 33

Melaleuca preiss >6m } occasional
 Euc. rudis >6m }
 Banksia diandra 3-4m - occ
 Pezelia nana 1-2m 20%
 Adenanthos cya. 1-2m 5%
 Lygaria borbata 3-10%
 WOODS & VEGET GRASS

CONDITION: POOR - 30%

(B)
PHOTO 35

Low open SREUBLAND d

Adenanthos cya 30-60 10%
 Pezelia nana 30-60 10%
 Hypocalymum argente 30-60 10%
 Lygaria borbata 10-20 25%

CONDIT: GOOD

(C)
WETLAND in distance d to SW.

Sedges
 occ Euc. rudis.
 occ. Mel. preiss.
 CONDIT: Averaged
 - highly disturbed

Fauna comments

LOTS of birds & prey

Adjacent bushland (refer to aerial photograph)

#9

~~2 Natatite~~

~~aerial photo + immediate~~

System 6 : page 168

Swamps south + East of
Lake Adams

- subject to seasonal inundation
- may attract waterfowl

Mathie : couldn't get access to site so
site: 1198 no resolution mapping done

Tudgen 93 : see attached photographs of aerial photo

Jenny Arnold 90 : didn't do

BOUNDARY : needs to be reviewed - only
area of significant vegn to
north is not included - though it
appears to be a bushy plain site
conservation category wetland

REFERENCES

Note: This list presently contains references not listed in the text of Part A or B but contained in the Bushplan Site descriptions. It may also contain some not listed in either and these will be removed when the final list are done.

Ahmat, A.J. 1993 The biology of eight non - thermal springs along the Ellen Brook valley. Honours Thesis, Department of Zoology, University of Western Australia.

Anon. (1976) Gingin Sheet 2035 II, Urban Geology Series. Geological Survey of Western Australia. Department of Minerals and Energy, Perth.

Anon. (1977a) Moore River - Cape Leschenault Sheet 2035 III and part Sheet 1935, Urban Geology Series. Department of Minerals and Energy, Perth.

Anon. (1977b) Mandurah Sheet 2032 IV, Urban Geology Series. Department of Minerals and Energy, Perth.

Anon. (1978) Pinjarra Sheet 2032 I, Urban Geology Series. Department of Minerals and Energy, Perth.

Anon. (1981) Bunbury - Burekup Sheet 2035 III and part Sheet 1935, Urban Geology Series. Department of Minerals and Energy, Perth.

Anon. (1982) Harvey - Lake Preston Sheet part Sheets 2031 I and 2031 IV, Urban Geology Series. Department of Minerals and Energy, Perth.

Atkins, K. 1996 Declared Rare and Priority List for Western Australia. Department of Conservation and Land Management, WA.

Australian Nature Conservation Authority 1996 A Directory of Important Wetlands in Australia Second Edition. ANCA, Canberra.

Balla, S.A. 1994 Wetlands of the Swan Coastal Plain. Volume 1: Their nature and management. Water Authority of WA and WA Department of Environmental Protection.

Bamford, M.J. 1992. The impact of fire and increasing time after fire upon *Heleioporus eyrei*, *Limnodynastes dorsalis* and *Myobatrachus gouldii* (Anura: Leptodactylidae) in *Banksia* Woodland near Perth, Western Australia. Wildl. Res., 19: 169-178.

Beard, J.S. 1979a Vegetation Survey of Western Australia. The Vegetation of the Perth Area, Western Australia. 1 : 250 000 Series. Vegmap Publications, Applecross.

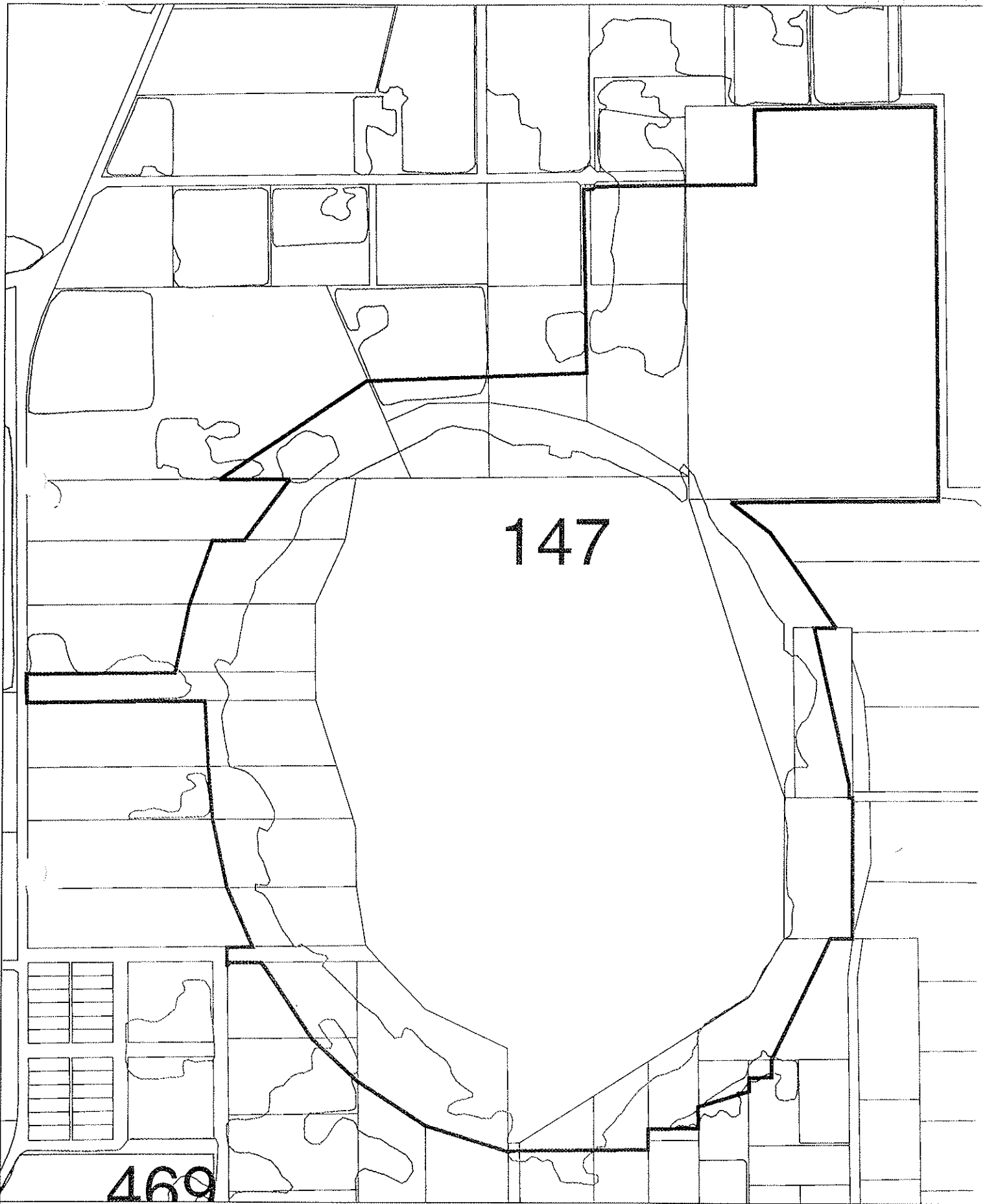
Beard, J.S. 1979b Vegetation Survey of Western Australia. The Vegetation of the Pinjarra Area., Western Australia. 1 : 250 000 Series. Vegmap Publications, Applecross.

Beard, J.S. 1981 Vegetation Survey of Western Australia: Swan 1 : 1 000 000 Vegetation Series. University of Western Australia Press, Nedlands.

Beard, J. S. 1990 Plant Life of Western Australia. Kangaroo Press, Kenthurst, NSW.

Belford, S.M. (1987a) Capel Sheet 2035 IV, Environmental Geology Series. Geological Survey of Western Australia, Department of Minerals and Energy, Perth.

Belford, S.M. (1987b) Busselton Sheet 1930 I, Environmental Geology Series. Geological Survey of Western Australia, Department of Minerals and Energy, Perth.



BUSHPLAN SITES CORRECTED

to 10/10/24/10/96.



WESTERN
AUSTRALIAN
PLANNING
COMMISSION



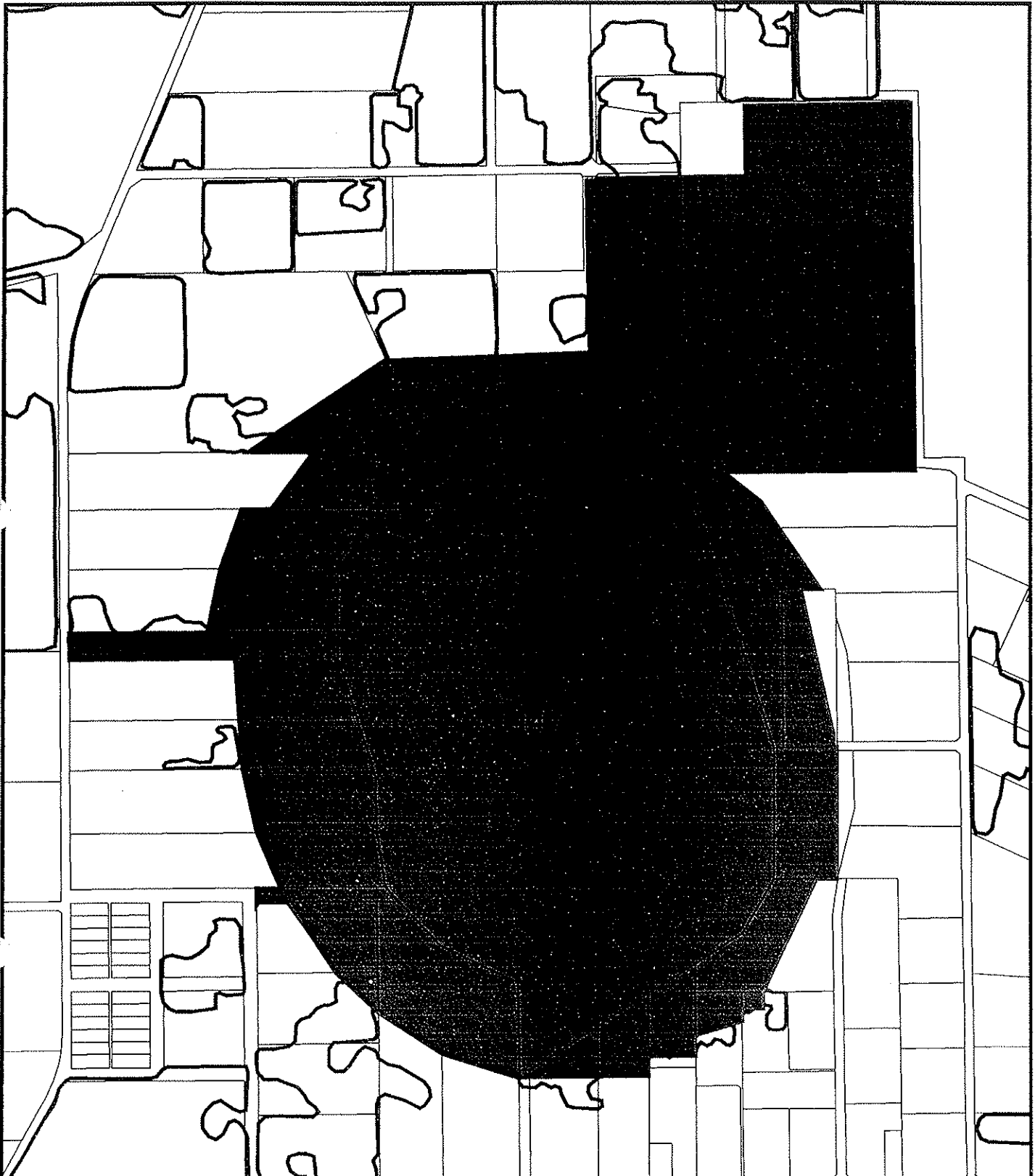
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SCALE 1:2500



Metres



bp site 147

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

MFP INTERNAL USE ONLY
 Prepared By: Andrea Zappacosta
 Prepared For:
 Map Ident: plot980528_1
 Date: 28 May 98
 Scale 1:12001

*Follow P&R Boundary.
 (DISREGARD ATTACHED MAPS) ^{file} Reference Only. au*

B3K 3/7

B5147

A3WA/Ves Mapping has mapped open water
veg boundary to Lake needs to be
fixed also.

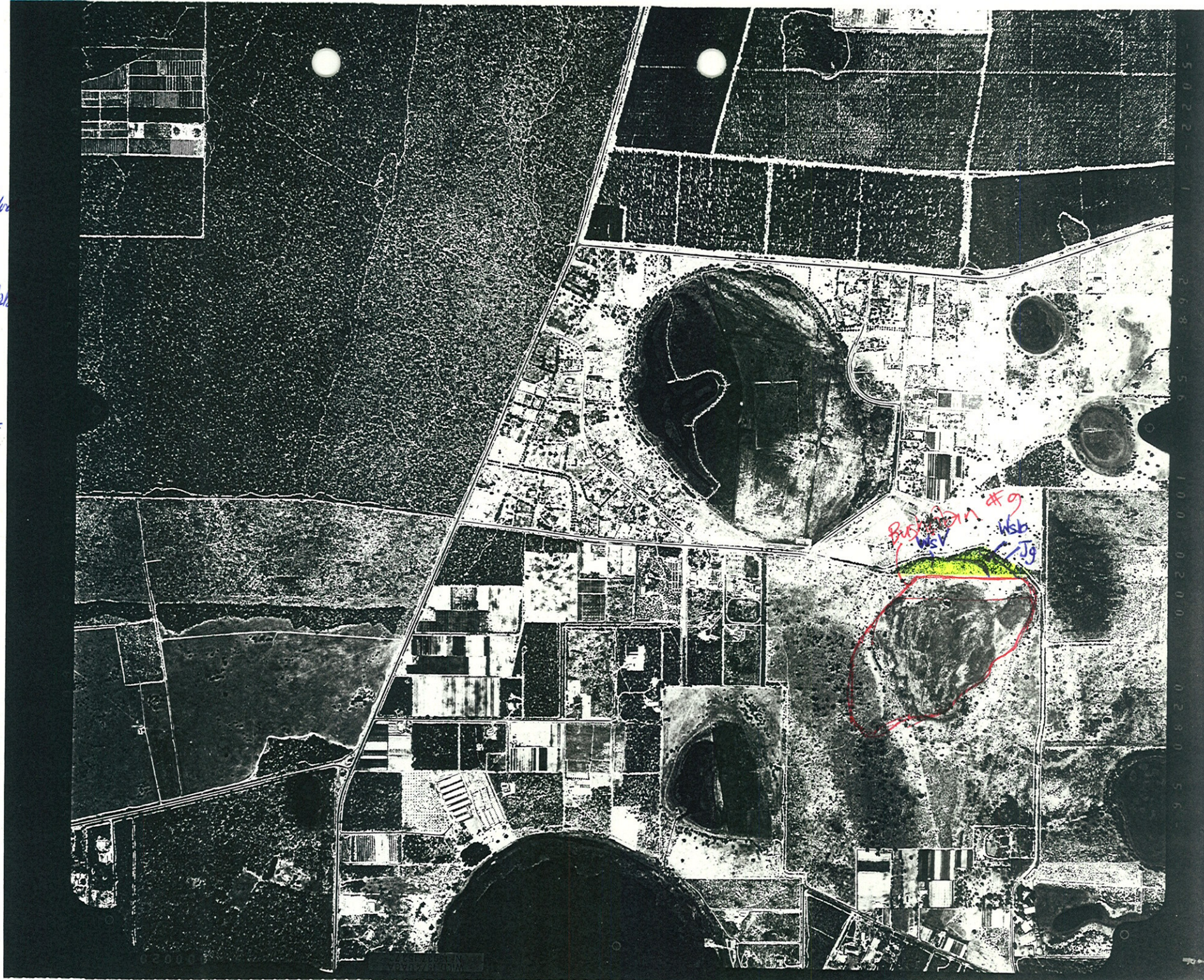
NORTH-EAST NOT MAPPED AS YET?

surveyed by
Trudgen (1993)

Wsv *Verticordia dens/la*
LOS-LS

Wsb *Baumea articulata*
S-CS

Jb *Banksia attenuata*
B. menziesii LOF-ZF







Panairama 97

B3K

3/7

BS147

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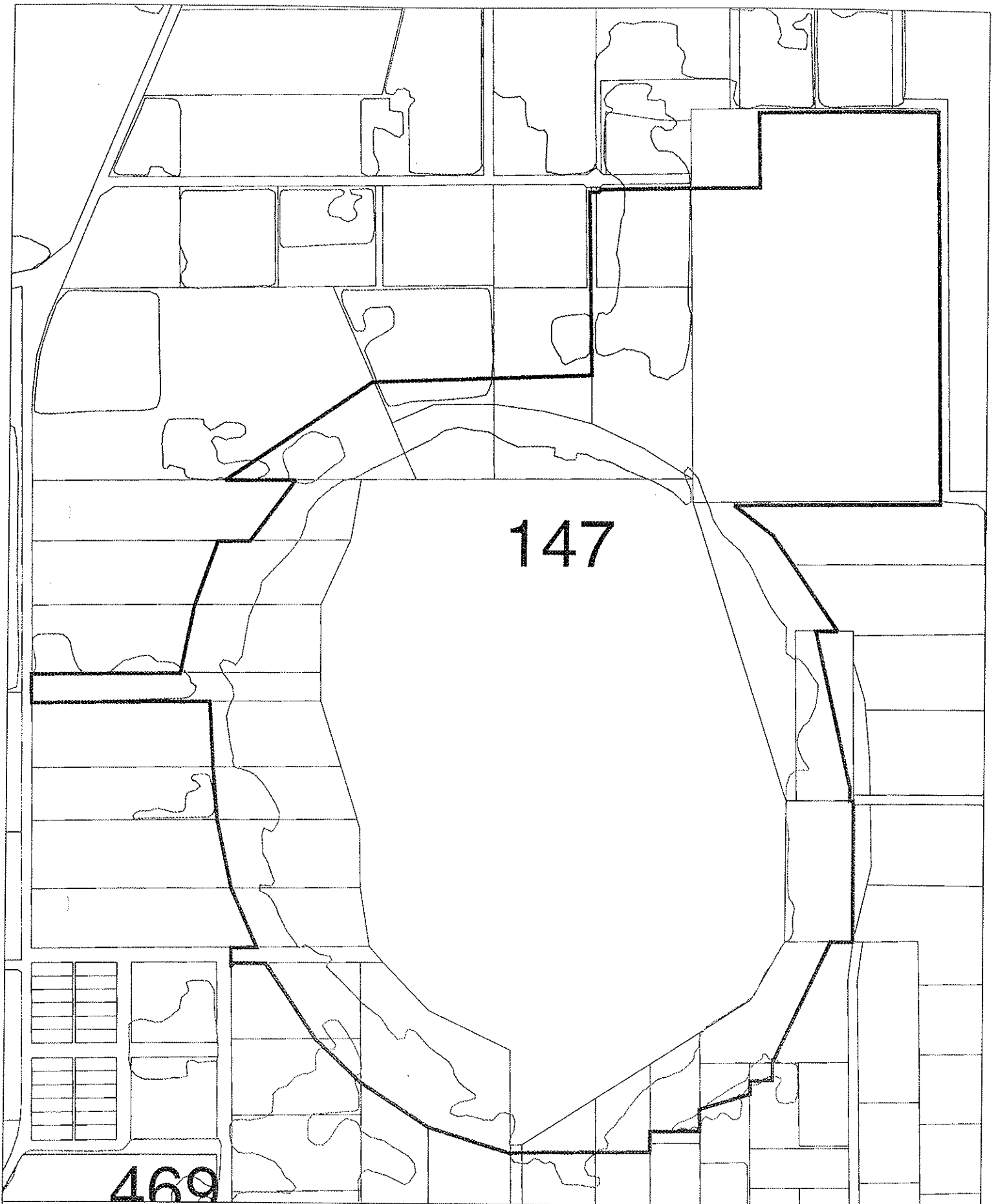
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WESTERN AUSTRALIA



SCALE 1:2500



Metres



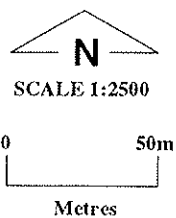
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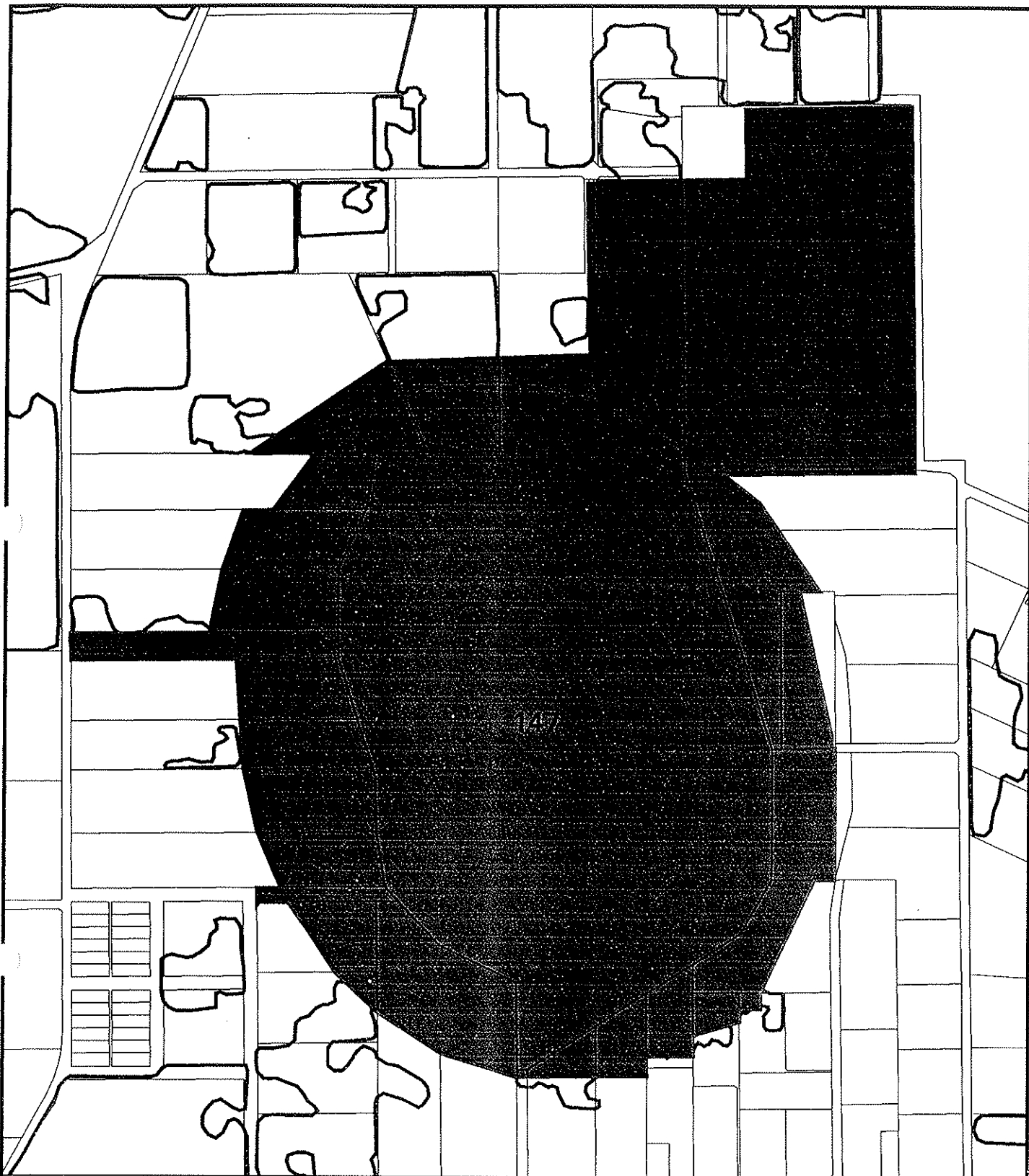


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




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bp site 147

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-  Cadastre
-  Bushpian sites refno 1-500 SCP BOUNDARY THEME
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MFP INTERNAL USE ONLY

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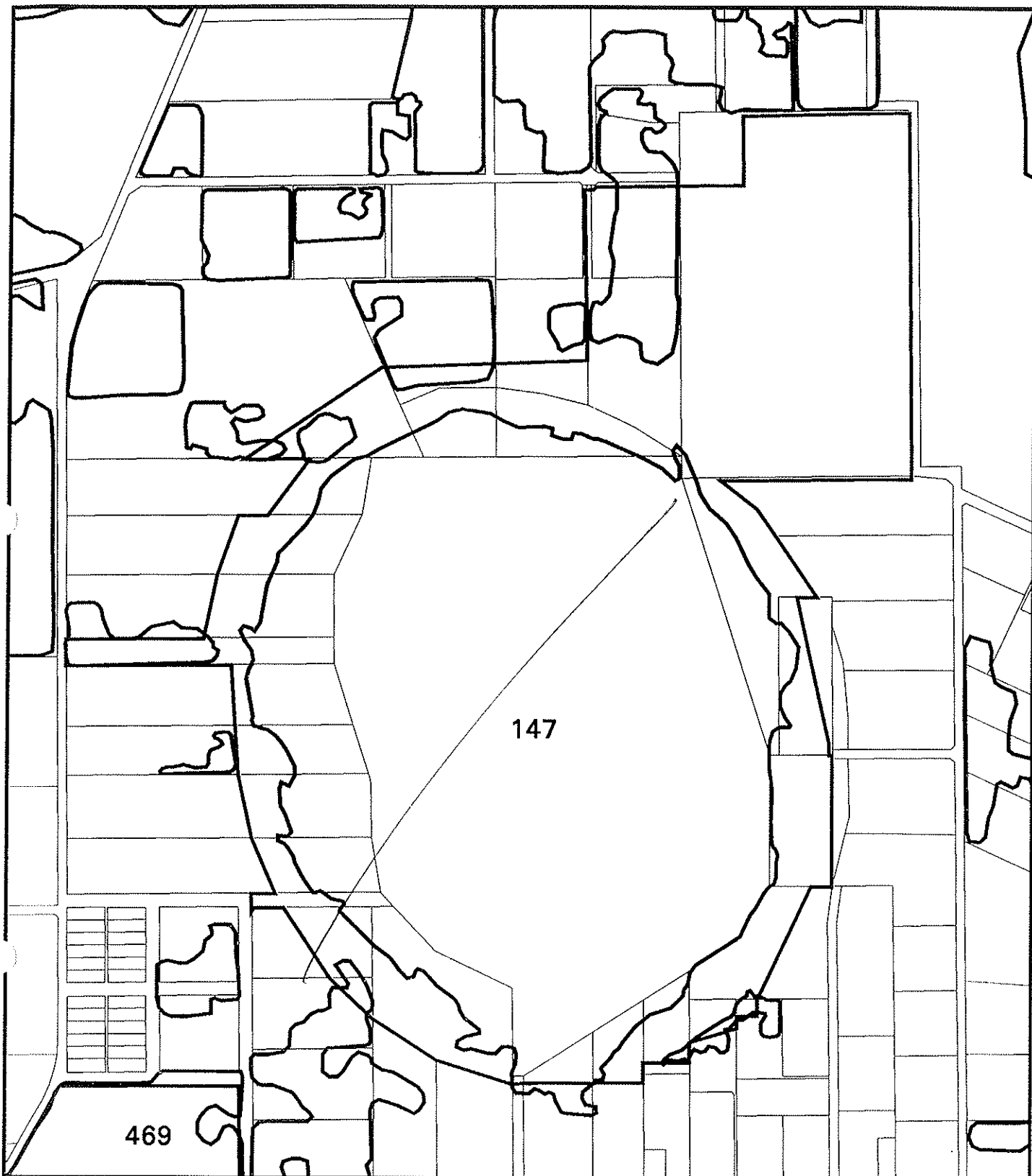
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

Date: 28 May 98

Scale 1:12001

*Follow Park Boundary.
(DISREGARD ATTACHED MAPS) ^{for} Reference Only.*



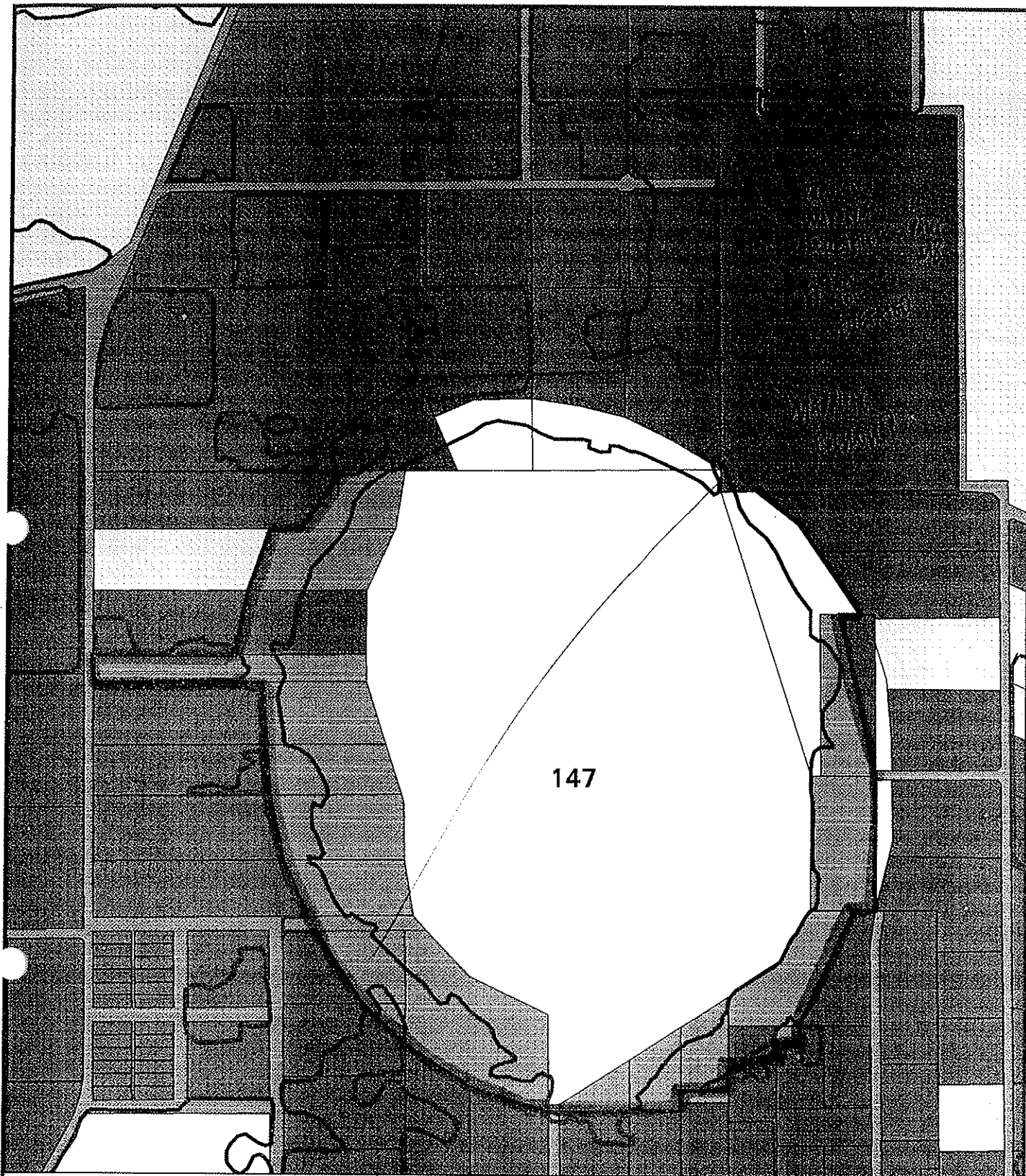
bp site 147

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

MFP INTERNAL USE ONLY
 Prepared By: Andrea Zappacosta
 Prepared For:
 Map Ident: plot980526_1
 Date: 26 May 98
 Scale 1:11999

For the Bushplan sites refno 1-500 SCP

Onno Bhop



bp site 147
ownership

*TRY P+R Please
+ CADASTRE & REG.*

MFP INTERNAL USE ONLY








Prepared By: Andrea Zappacosta

Prepared For:

Map Ident: plot980528_1

Date: 28 May 98

Scale 1:11676

-  AG VEG 1998 BOUNDARY THEME
-  Bushplan sites refno 1-500 SCP BOUNDARY THEME
-  COMMONWEALTH GOVERNMENT
-  LOCAL GOVERNMENT
-  PRIVATE PERSON
-  STATE GOVERNMENT
-  COMMERCIAL ORGANIZATION

LAKE MARGINIUIP

PC
~~C = cleared.~~
 V

~~1457~~
 9340512

~~VG =~~
~~P-G = 2/10~~
~~G-VG =~~



Ecological.

~~WS~~
~~WP~~

~~Spoken~~
~~radline~~
~~-2x are b~~

1059 sites

Ky A Batt, Bm LOW

Ky 8 Eug. magirata OW are Ba. + Bm + A10 + LOW

Ky 7 Ba + Bm LOW are Leucosagor conoleph



5227 WA 3165 (C) METRO REGIONAL AREA & EXT. RUN 9 (5161-5244) 1:20000 11-DEC-92 920676 1



Area A



Area B



Area C

6.5 LAKE MARIGINIUP BS 147

6.5.1 GENERAL INFORMATION

LOCAL AUTHORITY: Wanneroo
MRS ZONE: Rural
RESERVE NO: n/a vacant Crown land
MANAGEMENT: private/nil
SYSTEM 6 RECOMMENDATION: M8
WAC CLASSIFICATION: LE.f.l.p.so
WATER RESERVE: Wanneroo Groundwater Area
MINING: Mineral Claim-diatomite & peat

6.5.2 PHYSIOGRAPHY AND GEOLOGICAL SETTING

The lake occupies a shallow circular depression in the Quaternary "superficial formations" slightly east of the contact between the Bassendean and Spearwood dune systems.

The lake bed consists of lake deposits of peat and diatomite 1-2 m thick (Hall, 1980). (Figure 6.7)

6.5.3 AREAS

Area to outer limit of sedgeland	127	ha
Area of sedgeland	45	ha
Open area within sedgeland	82	ha
Area of vacant Crown land	97.6	ha
Water area to 45.2 m AHD	137	ha

6.5.4 HYDROLOGY (Figure 6.7)

The lake is situated on the western flank of the Gnangara Mound and is in hydraulic connection with the unconfined groundwater. The lake lies between the 44 m contour to the east, and the 43 m contour on the west.

Elevation of the water table is higher than the lake basin on the east and lower on the western side so that groundwater flow, with rainfall, maintains water in the lake (Hall, 1980).

The water level record shows that, apart from seasonal variations, the water level displayed a falling trend from 1968 to 1972, a rising trend in 1973-1975 and has been relatively stable since then. The minimum autumn levels fell below the bottom of the lake-basin in the summers of 1978, 1981 and 1985. Spot heights indicate the bottom of the lake is at 41.1 m AHD.

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**REVIEW OF PROPOSED
CHANGES TO
ENVIRONMENTAL
CONDITIONS**

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**Gnangara Mound
Groundwater Resources**
(Section 46)

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East Wanneroo
Natural Resources
Mapping Study -
Flora and Vegetation

Prepared for

Bowman Bishaw Gorham
Environmental Management Consultants

by

Malcolm Trudgen
Consultant Botanist

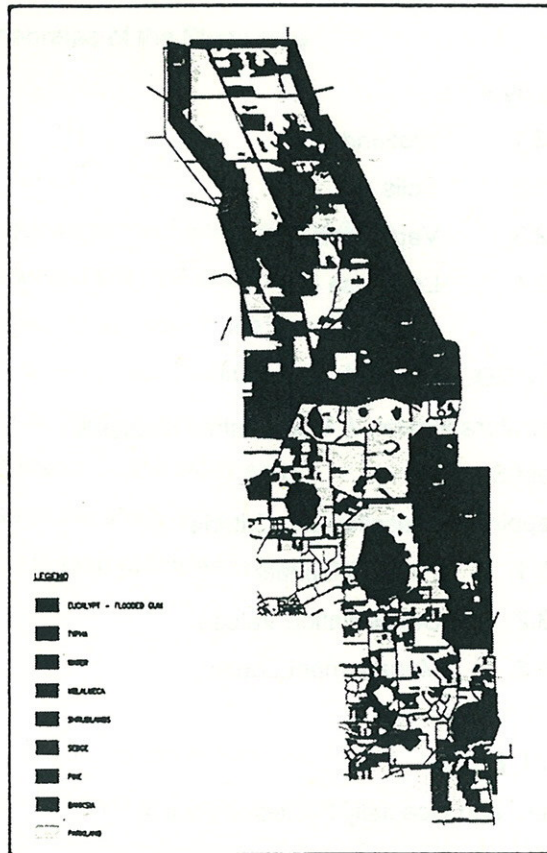
December 1993

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Department of Planning & Urban Development

EAST WANNEROO WETLANDS NATURAL RESOURCE MAPPING STUDY



WILDLIFE AND HABITATS

DECEMBER 1993

ecologia
ENVIRONMENTAL CONSUMERS

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Market Garden, Lot 1 (274) Pinjar Road, Mariginiup

Mr R M Delamare

Report and recommendations
of the Environmental Protection Authority

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Environmental Protection Authority
Perth, Western Australia
Bulletin 657
November 1992

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