

## HAWKEVALE BUSHLAND, HIGH WYCOMBE

**Boundary Definition:** bushland taken to cadastre boundary

### SECTION 1: LOCATION INFORMATION

**Bush Forever Site no. 122 Area (ha):** bushland 10.3

**Map no.** 43, 49

**Map sheet series ref. no.** 2134—III SW

**Other Names:** Activ; Location 81 (Keighery, BJ, and Trudgen 1992); Submission Area 148

**Local Authorities (Suburb):** Shire of Kalamunda (High Wycombe)

### SECTION 2: REGIONAL INFORMATION

#### LANDFORMS AND SOILS

##### Bassendean Dunes

Bassendean Sands (Qpb: S8)

#### VEGETATION AND FLORA

##### Vegetation Complexes

###### Foothills

Forrestfield Complex (Ridge Hill Shelf, Darling Plateau)

##### Floristic Community Types

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

20a *Banksia attenuata* woodlands over species-rich dense shrublands

#### WETLANDS

No wetlands mapped

#### THREATENED ECOLOGICAL COMMUNITIES

Endangered (floristic community type 20a)

### SECTION 3: SPECIFIC SITE DETAIL

**Landscape Features:** vegetated uplands

**Vegetation and Flora:** limited survey (greater than Site — DEP 1996 (Activ 01–03), Keighery, BJ, 1995c, Keighery, BJ, and Trudgen 1992)

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

Uplands: *Eucalyptus marginata* Open Forest to Woodland; Open Low Forest to Low Woodland dominated by *Eucalyptus marginata*, *Banksia attenuata* or *B. menziesii* and combinations of these; all over species-rich Low Heath

**Vegetation Condition:** >80% Excellent, <20% Very Good, with areas of severe localised disturbance associated with tracks

**Total Flora:** 136 native taxa (compiled from Keighery, BJ, 1995c and Submission no. 83)(estimated >65% expected flora)

**Significant Flora:** *Conospermum undulatum* (R); *Isopogon drummondii* (3), *Lambertia multiflora* var. *darlingensis* (3); *Dasypogon obliquifolius*, *Hakea conchifolia*, *Pityrodia bartlingii*, *Xanthorrhoea drummondii*, *Blancoa canescens*, *Stylidium crossocephalum* (southern limit, very variable species of scientific interest), *Eremaea fimbriata*

**Fauna:** not known

**Linkage:** no adjacent bushland; part of Greenway 50 (Tingay, Alan & Associates 1998a)

**Other Special Attributes:** recommended to be managed as a flora conservation area (Keighery, BJ, and Trudgen 1992); Threatened or Poorly Reserved Plant Community (EPA 1994 GIS); contains plant communities representative of the eastern side of the Swan Coastal Plain

### SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

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

**Recommendation:** Urban Negotiated Planning Solution (see Table 3, Volume 1).

**HAWKEVALE BUSHLAND, HIGH WYCOMBE**

**Boundary Definition:** bushland taken to cadastre boundary

**SECTION 1: CADASTRAL INFORMATION**

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

**Bushplan Site no.** 122      **Map no.** 53      **Map sheet series ref. no.** 2134-III SW

**Other Names**

Activ; Location 81 (Keighery, BJ, and Trudgen 1992);  
Submission Area 148

**Area (ha):** total 10.6; bushland 10.3

**Local Authorities (Suburb)**  
Shire of Kalamunda (High Wycombe)

**Zoning**  
**MRS:** Urban  
**TPS:** Recreation/Open Space

**Ownership Categories**

Private (commercial organisation)

**Lot/Location/Reserve numbers (Purpose),  
Street name**  
7561 Kalamunda Rd

**SECTION 2: REGIONAL INFORMATION**

**LANDFORMS AND SOILS**

**Bassendean Dunes**

Bassendean Sands (Qpb: S8)

**VEGETATION AND FLORA**

**Vegetation Complexes**

**Foothills**

Forrestfield Complex (Ridge Hill Shelf, Darling Plateau)

**Floristic Community Types**

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

20a *Banksia attenuata* woodlands over species-rich dense shrublands

**WETLANDS**

No wetlands mapped

**THREATENED ECOLOGICAL COMMUNITIES**

Endangered (floristic community type 20a)

**SECTION 3: SPECIFIC SITE DETAIL**

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

Uplands: *Eucalyptus marginata* Open Forest to Woodland; Open Low Forest to Low Woodland dominated by *Eucalyptus marginata*, *Banksia attenuata* or *B. menziesii* and combinations of these; all over species-rich low heath

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**Total Flora:** 136 native taxa (Keighery, BJ, 1995c, Submission no. 83) (estimated >65% expected flora)

**Significant Flora:** *Conospermum undulatum* (R); *Isopogon drummondii* (3), *Lambertia multiflora*. var. *darlingensis* (3); *Dasyopogon obliquifolius*, *Hakea conchifolia*, *Pityrodia bartlingii*, *Xanthorrhoea drummondii*, *Blancoa canescens*, *Stylidium crossocephalum* (southern limit, very variable species of scientific interest), *Eremaea fimbriata*

**Fauna:** no known information

**Linkage:** no adjacent bushland; part of proposed Greenway 57 (Tingay, Alan & Associates 1997a)

**Other Special Attributes:** recommended to be managed as a flora conservation area (Keighery, BJ, and Trudgen 1992); Threatened or Poorly Reserved Plant Community (EPA 1994 GIS); contains plant communities representative of the eastern side of the Swan Coastal Plain

**SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE**

Not listed

**SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS**

**Criteria:** Representation of ecological communities, Diversity, Rarity, Scientific or evolutionary importance

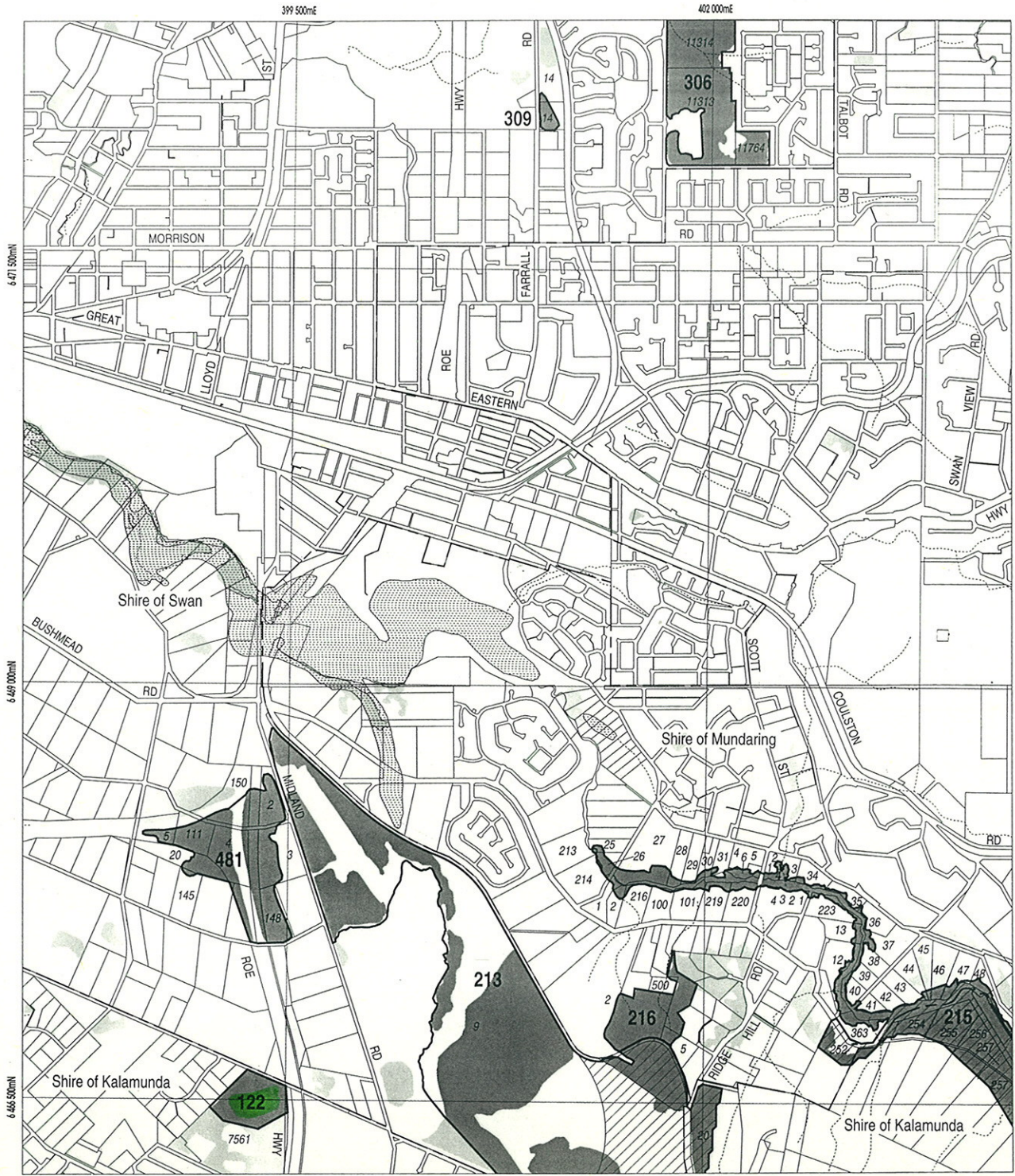
**Opportunities and/or Constraints**

**Opportunities:** Bushplan Site/part Bushplan Site subject to Swan and Canning Rivers EPP; location of Declared Rare Flora; under TPS Recreation/Open Space Zoning, Planning Control Area No. 38

**Constraints:** private land; under MRS Urban Zoning

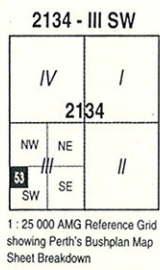
**Recommendation:** The Bushplan Site be reserved for Parks and Recreation in the Metropolitan Region Scheme and be purchased for Nature Reserve.





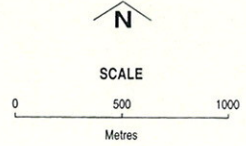
**LEGEND**

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

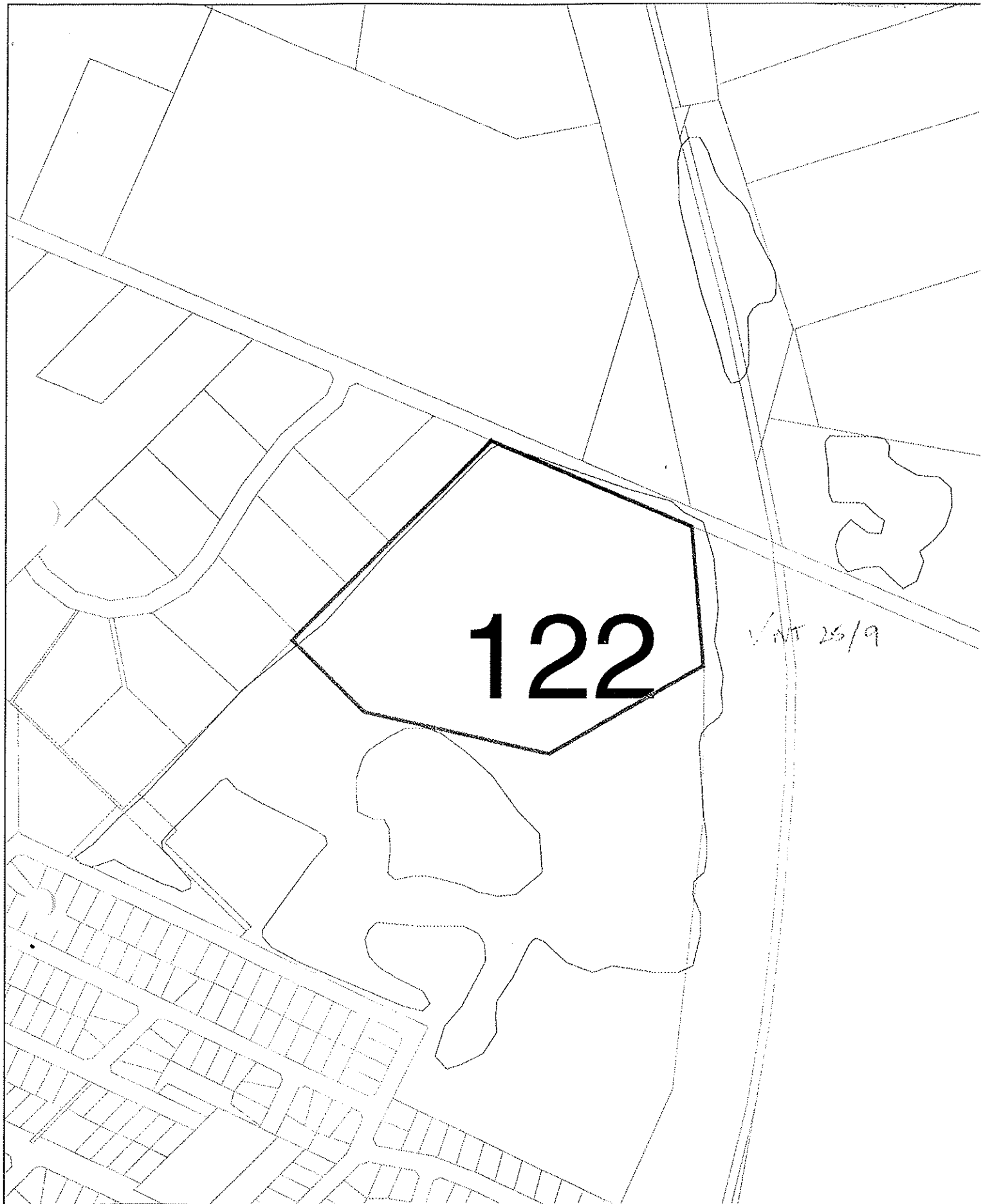


**PERTH'S BUSHPLAN MAP INDEX**

|     |     |     |     |     |    |    |  |    |    |    |    |    |
|-----|-----|-----|-----|-----|----|----|--|----|----|----|----|----|
| 1   | 2   |     |     |     |    |    |  |    |    |    |    |    |
| 3   | 4   | 5   |     |     |    |    |  |    |    |    |    |    |
| 6   | 7   | 8   | 9   | 10  | 11 |    |  |    |    |    |    |    |
| 12  | 13  | 14  | 15  | 16  |    |    |  |    |    |    |    |    |
| 17  | 18  | 19  | 20  | 21  | 22 | 23 |  |    |    |    |    |    |
| 24  | 25  | 26  | 27  | 28  | 29 | 30 |  |    |    |    |    |    |
| 31  | 32  | 33  | 34  | 35  | 36 |    |  |    | 53 | 54 |    |    |
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| 43  | 44  | 45  | 46  | 47  | 48 |    |  | 60 | 61 | 62 | 63 | 64 |
| 49  | 50  | 51  | 52  | 53  | 54 |    |  |    |    |    |    |    |
| 55  | 56  | 57  | 58  | 59  |    |    |  |    |    |    |    |    |
| 60  | 61  | 62  | 63  | 64  |    |    |  |    |    |    |    |    |
| 65  | 66  | 67  | 68  | 69  | 70 |    |  |    |    |    |    |    |
| 71  | 72  | 73  | 74  | 75  | 76 | 77 |  |    |    |    |    |    |
| 78  | 79  | 80  | 81  | 82  | 83 | 84 |  |    |    |    |    |    |
| 85  | 86  | 87  | 88  | 89  | 90 | 91 |  |    |    |    |    |    |
| 92  | 93  | 94  | 95  | 96  | 97 |    |  |    |    |    |    |    |
| 98  | 99  | 100 | 101 | 102 |    |    |  |    |    |    |    |    |
| 103 | 104 | 105 | 106 |     |    |    |  |    |    |    |    |    |



Produced by Project Mapping Section  
 Land Information Branch, Ministry for  
 Planning, Perth W.A. November 1998  
 ntw-map18/environ/bushplan/bushv2\_53.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



**BUSHPLAN SITES CORRECTED**



WESTERN  
AUSTRALIAN  
PLANNING  
COMMISSION






CUSTOMER  
FOCUS  
WESTERN AUSTRALIA

B 36/176 22/10/48





## bp site 122

-  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: plot980525\_4

Date: 25 May 98

Scale 1:4522

LAND DESCRIPTION

ON

OF TITLE

BOOK

SUBDIVISION OF  
PT. SWAN LOCATION 7561

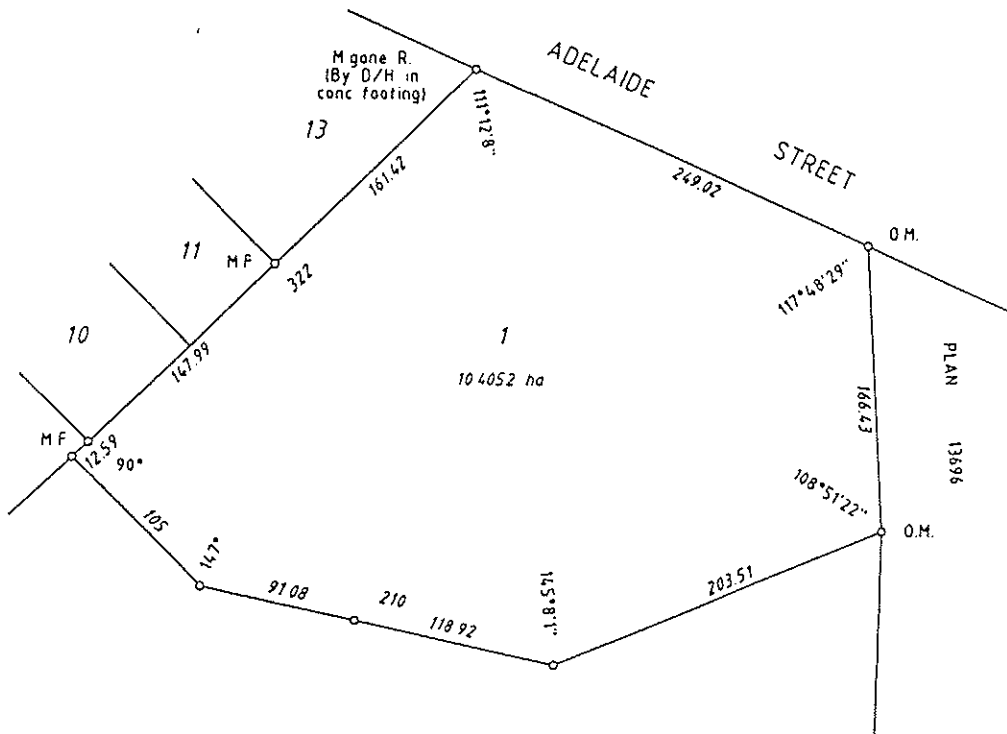
PLAN ..... CS PLAN 9260  
DIAGRAM .....  
INDEX ..... BG34 (2) 22 27  
PUBLIC .....

VOLUME ..... FOLIO .....  
1951 194

TOTAL  
AREA 10.4052 ha.

LOCALITY - HIGH WYCOMBE  
LOCAL AUTHORITY - SHIRE OF KALAMUNDA  
LIMITED IN DEPTH TO 12.19 METRES

ACT IV



**McMullen Nolan and Partners Surveyors Pty Ltd**

Unit 9, 23 Richardson Street, PO Box 117, South Perth WA 6951 Telephone: (08) 9474 1099 Facsimile: (08) 9474 1093

50 0 250 SCALE 1:3000

ALL DISTANCES ARE IN METRES

**SURVEYOR'S CERTIFICATE - Reg 54**

LAURIE KEENE

..... hereby certify that:  
this plan of survey is a correct and accurate representation of the survey  
and/or calculations from measurements recorded in the fieldbook lodged  
for the purposes of this plan and that it complies with the relevant written  
law(s) in relation to which it is lodged.

Licensed Surveyor ..... Date .....

APPROVED BY  
WESTERN AUSTRALIAN  
PLANNING COMMISSION

FILE .....

EARLY ISSUE   
LODGED

DATE .....

FEE PAID .....

ASSESSMENT No. ....

SCALE 1:3000

ALL DISTANCES ARE IN METRES

IN ORDER FOR DEALINGS

SUBJECT TO .....

FOR INSPECTOR OF PLANS & SURVEYS DATE .....

APPROVED ..... DATE .....

INSPECTOR OF PLANS & SURVEYS

OFFICE OF TITLES  
DIAGRAM

**SURVEYOR'S CERTIFICATE - Compiled**

..... hereby certify that this compiled plan  
(a) is a correct and accurate representation of the survey(s) of the subject  
land; and  
(b) is in accordance with the relevant law in relation to which it is lodged.

Licensed Surveyor ..... Date .....

FOR CHAIRMAN

DATE .....



**TYPE OF VALIDATION**

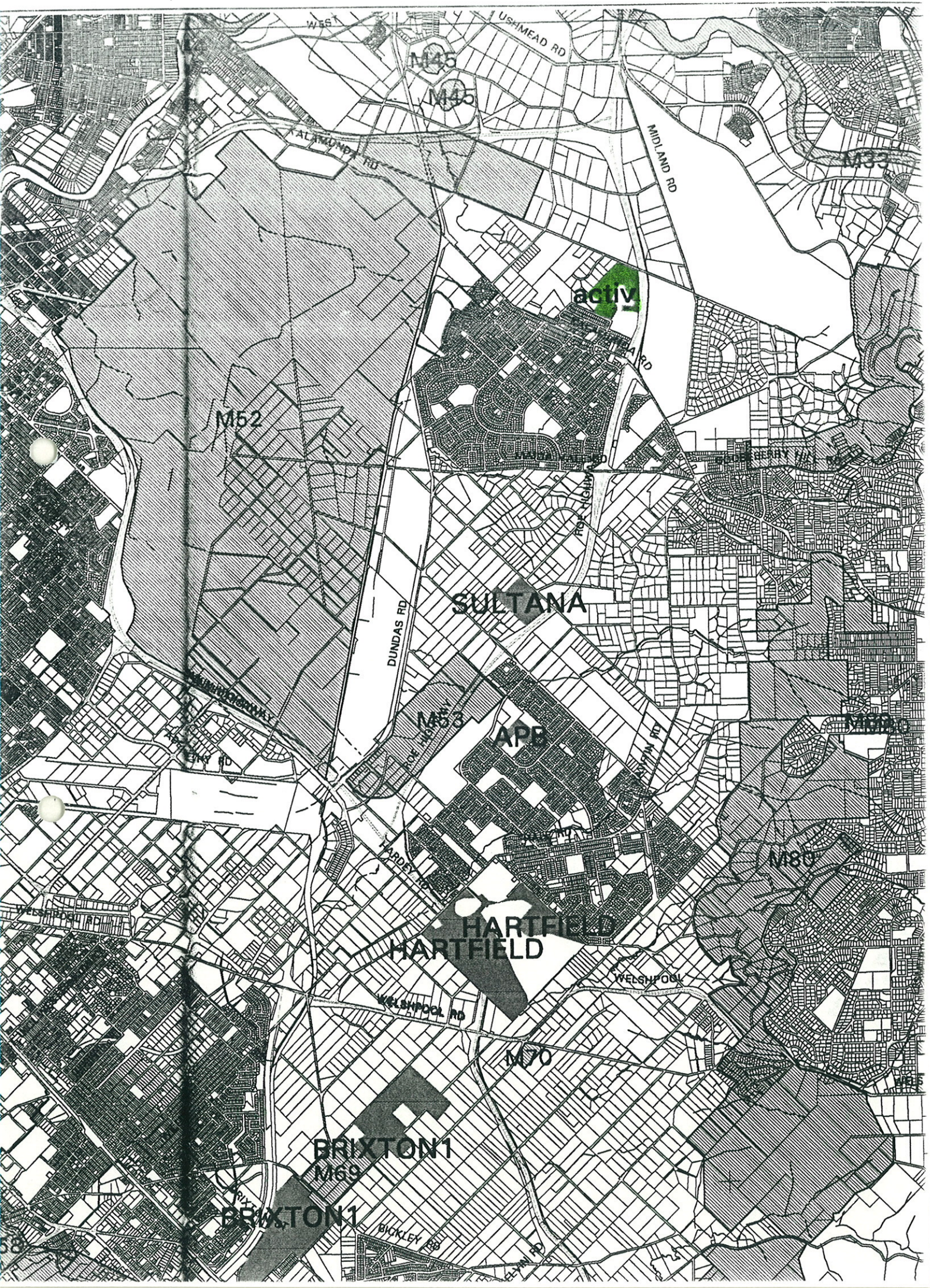
FULL AUDIT .....

LEGAL COMPONENT .....

DOCKET PLAN/DIAGRAM .....

CERTIFIED CORRECT .....

F.S.C. No. ....





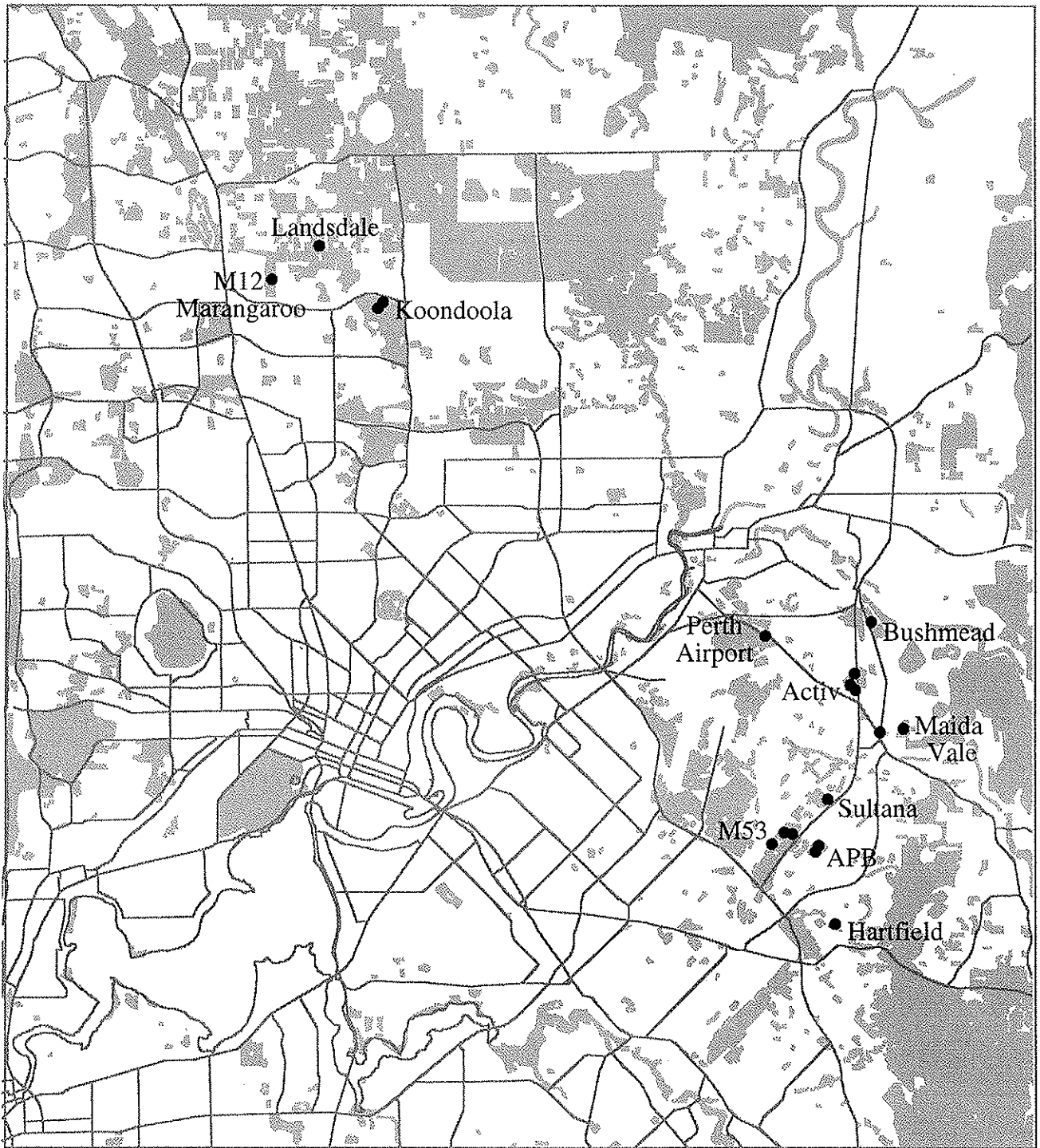
5185 WA 2938(C) METRO STREET DIRECTORY & EXT. RUN 13 (5151-5208) 1:20000 4.1.91 91040

ACTIV T1PR  
Historic sites :-  
ACTW 01  
ACTW 02  
ACTW 03

# Distribution of Floristic Community Type 20a



Department of Environment and Heritage  
Perth, Western Australia



1:175000

## KEY

● Floristic Community Type 20a

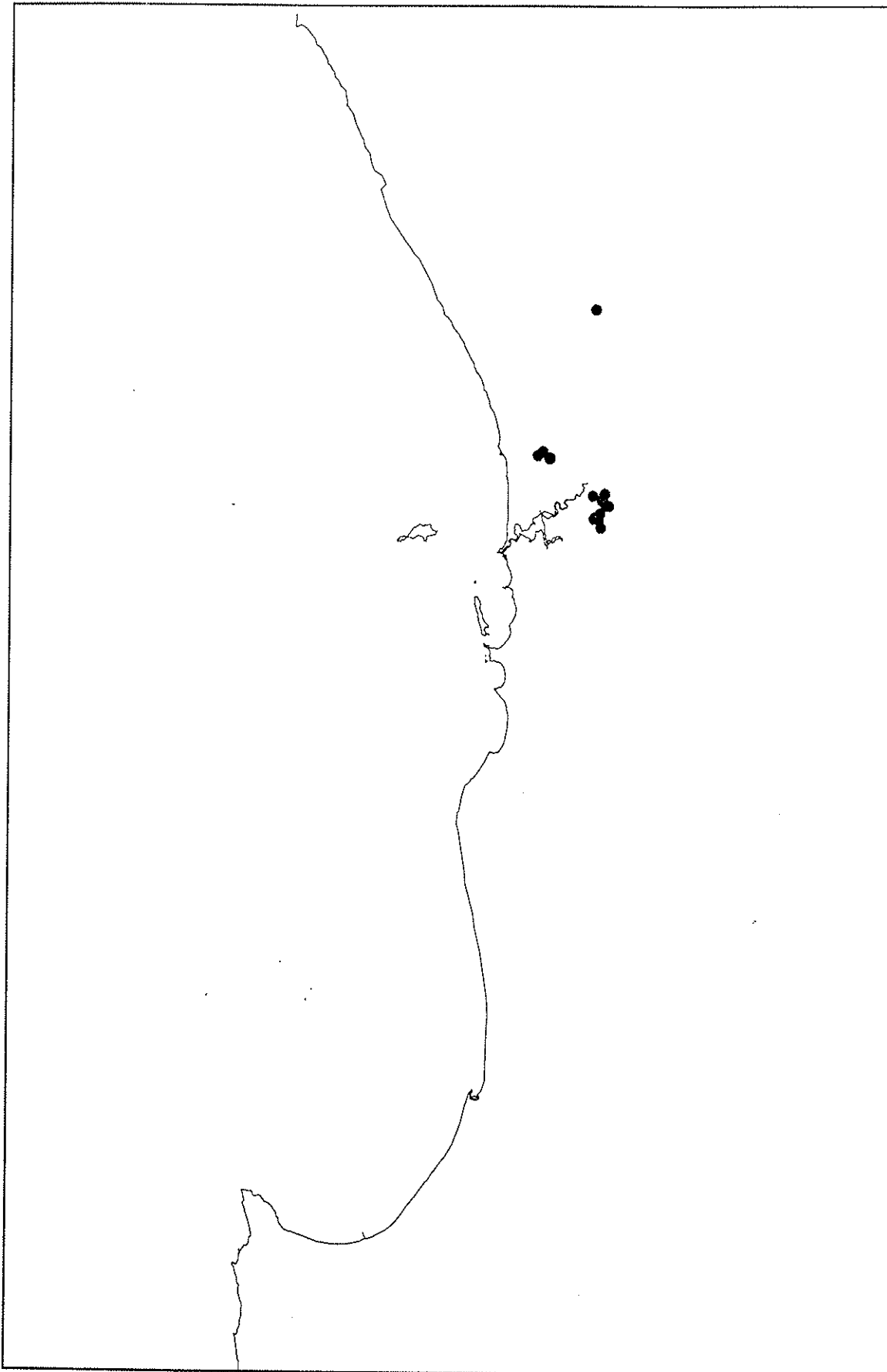
∩ Roads - Main (WA)  
■ Remnant Vegetation, Perth, 1993



# Distribution of Floristic Community Type 20a



Department of Environmental  
Protection Western Australia



- Coastline of Western Australia
- Floristic Community Type 20a

1:1500000



Vegetation and Flora Report for ACTIV an area recognised as in need of interim protection under the System Six Update Programme Bronwen Keighery, September 1995.

***elliptica* over *Allocasuarina humilis* and *Xanthorrhoea preissii* Low Open heath.**

Trees: *Eucalyptus calophylla*, *Allocasuarina fraseriana*, *Banksia attenuata*, *Banksia menziesii*, 4 *Persoonia elliptica*

Shrubs: *Allocasuarina humilis*, *Xanthorrhoea preissii*, *Hibbertia hypericoides*, *Petrophile linearis*, *Daviesia nudiflora*, *Conostephium pendulum*, *Stirlingia latifolia*, *Dryandra nivea*, *Gompholobium tomentosum*, *Daviesia triflora*, 3,6 *Conospermum undulatum*  
Adjacent: 4 *Lambertia multiflora*, *Eremaea pauciflora*

Herbs: *Stylidium piliferum*, *Stylidium diuroides*, *Patersonia occidentalis*, *Anigozanthos manglesii*, *Haemodorum laxum*, *Dasyogon bromeliifolius*, 5 *Dasyogon obliquifolius*, \**Ursinia anthemoides*, *Conostylis setigera*, *Conostylis aurea*  
Adjacent: 5 *Blancoa canescens*

Sedges: *Tetraria octandra*, *Mesomelaena pseudostygia*, *Loxocarya fasciculata*, *Alexgeorgea nitens*

CONDITION

Rating Good to Very Good

Comments: Area subject to fires, rubbish dumping, off road vehicle, ?dieback dead Banksia, rabbits. \**Ehrharta calycina* at the edge of tracks and roads.

Aerial Photo: Run

Soil: pale grey sand over yellow sand, F (Churchward and McArthur 1980), ?Gf7 or F2 (King and Wells 1990)

Drainage: good

Aspect: flat

## Appendix 1: ACTIV Vegetation Descriptions

### Site 1

*Banksia attenuata* and *Banksia menziesii* Low Forest A over *Lambertia multiflora* var. *darlingensis* and *Adenanthos cygnorum* Open Scrub over *Hakea conchifolia* and *Allocasuarina humilis* Open Scrub C over *Hibbertia hypericoides* and *Isopogon drummondii* Low Heath D over *Mesomelaena pseudostygia* Sedgeland

#### CONDITION

Rating Excellent to Very Good

Comments: The bushland in the adjacent area is fragmented by tracks and some invasion of

\**Ehrharta calycina* and \**Avena fatua* at the edges tracks.

Soil: pale grey sand over cream to yellow sand, F (Churchward and McArthur 1980), S10 (Gozzard 1986)

Drainage: good

Aspect: flat

### Site 2

*Banksia menziesii*, *B. attenuata* and *Eucalyptus marginata* Low Woodland A over *Lambertia multiflora* var. *darlingensis* Open Low Scrub A over *Allocasuarina humilis*, *Stirlingia latifolia* and *Xanthorrhoea ?preissii* Dwarf Scrub C over *Dryandra nivea* Dwarf Scrub C over *Mesomelaena pseudostygia* Open Low Sedges

#### CONDITION

Rating Excellent to Very Good

Comments: Area is impacted by frequent fire with loss of canopy cover which is being aggravated by timber protection.

Soil: cream sand over yellow sand, S10 (Gozzard 1986)

Drainage: good

Aspect: gentle, south west

### Site 3

*Eucalyptus marginata* Low Woodland A over and *Stirlingia latifolia* and *Xanthorrhoea ?preissii* Dwarf Scrub C over *Hibbertia hypericoides* and *Dryandra nivea* Low Heath D over *Dasypogon bromelifolius* very Open herbs, *Cyathochaeta clandestina* Open Tall Sedges and *Mesomelaena pseudostygia* Open Low Sedges

#### CONDITION

Rating Excellent to Very Good.

Soil: cream sand over yellow sand, S10 (Gozzard 1986)

Drainage: good

Aspect: flat

24/11/06 7.45 to ~ 10.15 am, Vanessa Clarke

- Traversed area as shown on aerial
- conditions vegetation Excellent to Very Good (Very good in patches, old disturbance small amount \**Ehr. caly.*)
- \**Ehr caly* at edges, very little elsewhere (except as above)
- Inspected area of Site ACTIV 3 (see list), consistent previous diversity, condition better as longer since fire (this overall obs)



Vegetation and Flora Report for ACTIV an area recognised as in need of interim protection under the System Six Update Programme Bronwen Keighery, September 1995.

|                |                            |  |   |  |  |   |    |  |
|----------------|----------------------------|--|---|--|--|---|----|--|
| Haemodoraceae  |                            |  |   |  |  |   |    |  |
|                | Anigozanthos humilis       |  |   |  |  |   |    |  |
|                | Anigozanthos manglesii     |  |   |  |  | ✓ |    |  |
|                | Blancoa canescens          |  |   |  |  | ✓ |    |  |
|                | Conostylis aurea           |  |   |  |  | ✓ |    |  |
|                | Conostylis juncea          |  |   |  |  | ✓ |    |  |
|                | Conostylis setigera        |  |   |  |  |   | ✓+ |  |
|                | Conostylis setosa          |  |   |  |  |   |    |  |
|                | Haemodorum paniculatum     |  |   |  |  | ✓ |    |  |
|                | Phlebocarya ciliata        |  |   |  |  |   | ✓  |  |
|                | Phlebocarya filifolia      |  |   |  |  |   | ✓  |  |
|                | Tribonanthes australis     |  |   |  |  |   | ✓  |  |
|                | <i>Haemod. spicatum</i>    |  |   |  |  |   |    |  |
| Iridaceae      |                            |  |   |  |  |   |    |  |
|                | *Gladiolus caryophyllaceus |  |   |  |  | ✓ |    |  |
|                | Patersonia juncea          |  |   |  |  | ✓ |    |  |
|                | Patersonia occidentalis    |  |   |  |  | ✓ |    |  |
| Lamiaceae      |                            |  |   |  |  |   |    |  |
|                | Hemiandra linearis         |  |   |  |  | ✓ |    |  |
| Lauraceae      |                            |  |   |  |  |   |    |  |
|                | Cassytha racemosa          |  |   |  |  | ✓ |    |  |
| Loranthaceae   |                            |  |   |  |  |   |    |  |
|                | Nuytsia floribunda         |  |   |  |  | ✓ |    |  |
| Mimosaceae     |                            |  |   |  |  |   |    |  |
|                | Acacia pulchella           |  |   |  |  | ✓ |    |  |
|                | Acacia sessilis            |  |   |  |  |   | ✓  |  |
|                | Acacia applanata           |  |   |  |  |   | ✓+ |  |
| Molluginaceae  |                            |  |   |  |  |   |    |  |
|                | Macarthuria australis      |  |   |  |  |   | ✓  |  |
| Myrtaceae      |                            |  |   |  |  |   |    |  |
|                | <i>Calytrix flavescens</i> |  |   |  |  |   | ✓+ |  |
|                | Eremaea fimbriata          |  | N |  |  | ✓ |    |  |
|                | Eremaea pauciflora         |  |   |  |  |   |    |  |
|                | Eucalyptus calophylla      |  |   |  |  |   |    |  |
|                | Eucalyptus marginata       |  |   |  |  | ✓ |    |  |
|                | Melaleuca ?scabra          |  |   |  |  |   |    |  |
| Pittosporaceae |                            |  |   |  |  |   |    |  |
|                | Pronaya fraseri            |  |   |  |  | ✓ |    |  |
| Poaceae        |                            |  |   |  |  |   |    |  |
|                | Amphipogon turbinatus      |  |   |  |  | ✓ |    |  |
|                | Danthonia ?occidentalis    |  |   |  |  | ✓ |    |  |
|                | *Ehrharta calycina         |  |   |  |  |   |    |  |
|                | *Eragrostis curvula        |  |   |  |  |   |    |  |
|                | * <i>Briza max</i>         |  |   |  |  | ✓ |    |  |
| Portulacaceae  |                            |  |   |  |  |   |    |  |
|                | Calandrinia sp             |  |   |  |  |   |    |  |
| Proteaceae     |                            |  |   |  |  |   |    |  |
|                | <i>Adenanthe meis</i>      |  |   |  |  | ✓ |    |  |
|                | Adenanthe cygnorum         |  |   |  |  |   |    |  |
|                | Banksia attenuata          |  |   |  |  | ✓ |    |  |
|                | Banksia grandis            |  |   |  |  | ✓ |    |  |

Vegetation and Flora Report for ACTIV an area recognised as in need of interim protection under the System Six Update Programme Bronwen Keighery, September 1995.

|                             |   |  |   |   |  |   |  |  |
|-----------------------------|---|--|---|---|--|---|--|--|
| Cyperaceae                  |   |  |   |   |  |   |  |  |
|                             | Caustis dioica                                      |  |   | ✓ |  |   |  |  |
|                             | Cyathochaeta <del>elandestina</del> <i>equitans</i> |  | S | ✓ |  |   |  |  |
|                             | Lepidosperma angustatum                             |  |   |   |  |   |  |  |
|                             | Mesomelaena pseudostygia                            |  |   | ✓ |  |   |  |  |
|                             | Mesomelaena tetragona                               |  | P | ✓ |  |   |  |  |
|                             | Schoenus clandestinus                               |  |   |   |  |   |  |  |
|                             | Schoenus curvifolius                                |  |   |   |  |   |  |  |
|                             | Tetraria octandra                                   |  |   | ✓ |  |   |  |  |
|                             | <i>Schoenus efoliatus</i>                           |  |   | ✓ |  |   |  |  |
| Dasygogonaceae              |   |  |   |   |  |   |  |  |
|                             | Calectasia <del>cyanea</del> <i>narragera</i>       |  |   | ✓ |  |   |  |  |
|                             | Dasygogon bromeliifolius                            |  |   | ✓ |  |   |  |  |
|                             | Dasygogon obliquifolius                             |  | N | ✓ |  |   |  |  |
|                             | Lomandra caespitosa                                 |  |   |   |  | ✓ |  |  |
|                             | Lomandra hermaphrodita                              |  |   | ✓ |  |   |  |  |
|                             | Lomandra preissii                                   |  |   |   |  |   |  |  |
|                             | Lomandra suaveolens                                 |  |   |   |  |   |  |  |
|                             | <i>Lom. sericea</i>                                 |  |   |   |  | ✓ |  |  |
| Dilleniaceae                |   |  |   |   |  |   |  |  |
|                             | Hibbertia huegelii                                  |  |   | ✓ |  |   |  |  |
|                             | Hibbertia hypericoides                              |  |   | ✓ |  |   |  |  |
|                             | <i>Hibb. aurea</i>                                  |  |   | ✓ |  |   |  |  |
| Droseraceae                 |   |  |   |   |  |   |  |  |
|                             | Drosera erythrorhiza                                |  |   |   |  |   |  |  |
|                             | Drosera ?palacea                                    |  |   | ✓ |  |   |  |  |
|                             | Drosera stolonifera                                 |  |   |   |  |   |  |  |
| Epacridaceae                |   |  |   |   |  |   |  |  |
|                             | <i>Styphelia tenuiflora</i>                         |  |   |   |  | ✓ |  |  |
|                             | Astroloma stommarraena                              |  | N |   |  |   |  |  |
|                             | Conostephium pendulum                               |  |   |   |  | ✓ |  |  |
|                             | Leucopogon aff. nutans                              |  |   |   |  |   |  |  |
|                             | Leucopogon sp.                                      |  |   |   |  |   |  |  |
|                             | Lysinema ciliatum                                   |  |   |   |  | ✓ |  |  |
| Euphorbiaceae               |   |  |   |   |  |   |  |  |
|                             | Monotaxis grandiflora                               |  |   |   |  | ✓ |  |  |
|                             | Poranthera microphylla                              |  |   | ✓ |  |   |  |  |
|                             | Stachystemon vermicularis                           |  |   |   |  |   |  |  |
| Fabaceae<br>(Papilionaceae) |   |  |   |   |  |   |  |  |
|                             | <i>Daviesia preissii</i>                            |  |   | ✓ |  | ✓ |  |  |
|                             | Bossiaea eriocarpa                                  |  |   | ✓ |  |   |  |  |
|                             | Daviesia decurrens                                  |  |   |   |  |   |  |  |
|                             | Daviesia divaricata                                 |  |   | ✓ |  |   |  |  |
|                             | Daviesia nudiflora (large leaves)                   |  |   | ✓ |  |   |  |  |
|                             | Daviesia physodes                                   |  |   |   |  |   |  |  |
|                             | Daviesia triflora                                   |  |   |   |  |   |  |  |
|                             | Gompholobium tomentosum                             |  |   | ✓ |  | ✓ |  |  |
|                             | Hovea trisperma                                     |  |   | ✓ |  |   |  |  |
|                             | Jacksonia densiflora                                |  |   | ✓ |  |   |  |  |
|                             | Jacksonia restioides                                |  | P | ✓ |  |   |  |  |
|                             | Templetonia biloba                                  |  |   |   |  | ✓ |  |  |
|                             | <i>Nemcia retic</i>                                 |  |   |   |  | ✓ |  |  |
| Goodeniaceae                |   |  |   |   |  |   |  |  |
|                             | Dampiera linearis                                   |  |   | ✓ |  |   |  |  |
|                             | Scaevola repens +                                   |  | + | ✓ |  |   |  |  |
|                             | <i>Scaevola canescens</i>                           |  |   |   |  | ✓ |  |  |

Vegetation and Flora Report for ACTIV an area recognised as in need of interim protection under the System Six Update Programme Bronwen Keighery, September 1995.

|                  |  |   |   |  |   |   |   |   |
|------------------|--|---|---|--|---|---|---|---|
|                  | <i>Banksia menziesii</i>                   |   |   |  |   |   |   |   |
|                  | <i>Conospermum undulatum</i> +             | 4 | e |  | ✓ |   |   |   |
|                  | <i>Dryandra aff. nivea</i> <i>lindleyi</i> |   |   |  | ✓ |   |   |   |
|                  | <i>Hakea conchifolia</i>                   |   |   |  |   | ✓ |   |   |
|                  | <i>Hakea prostrata</i>                     |   |   |  |   | ✓ |   |   |
|                  | <i>Hakea ruscifolia</i>                    |   |   |  |   | ✓ |   |   |
|                  | <i>Isopogon drummondii</i>                 | 3 | N |  | ✓ |   |   |   |
|                  | <i>Lambertia multiflora</i>                |   |   |  | ✓ |   |   |   |
|                  | var <i>darlinensis</i> +                   | 3 | e |  |   |   |   |   |
|                  | <i>Persoonia angustiflora</i>              |   |   |  |   |   | ✓ |   |
|                  | <i>Persoonia elliptica</i>                 |   |   |  |   |   | ✓ |   |
|                  | <i>Petrophile linearis</i>                 |   |   |  | ✓ |   |   |   |
|                  | <i>Petrophile striata</i>                  |   |   |  |   |   | ✓ |   |
|                  | <i>Stirlingia latifolia</i>                |   |   |  |   |   | ✓ |   |
|                  | <i>Synaphea spinosa</i>                    |   |   |  |   |   | ✓ |   |
|                  | <i>Petrophile macro</i>                    |   |   |  |   |   | ✓ |   |
| Restionaceae     | <i>Pet. seminuda</i>                       |   |   |  |   |   | ✓ |   |
|                  | <i>Alexgeorgia nitens</i>                  |   |   |  |   |   | ✓ |   |
|                  | <i>Hypolaena exsulca</i>                   |   |   |  |   |   | ✓ |   |
|                  | <i>Lepyrodia macra</i>                     |   |   |  |   |   |   | ✓ |
|                  | <i>Loxocarya fasciculata</i>               |   |   |  |   |   |   | ✓ |
|                  | <i>Loxocarya flexuosa</i>                  |   |   |  |   |   |   | ✓ |
|                  | <i>Lyginia barbata</i>                     |   |   |  |   |   | ✓ |   |
|                  | <i>Restio leptocarpoides</i>               |   |   |  |   |   |   | ✓ |
| Stylidiaceae     |  |   |   |  |   |   |   |   |
|                  | <i>Stylidium brunonianum</i>               |   |   |  |   |   |   |   |
|                  | <i>Stylidium calcaratum</i>                |   |   |  |   |   |   |   |
|                  | <i>Stylidium crossocephalum</i>            |   | N |  |   |   |   |   |
|                  | <i>Stylidium diuroides</i>                 |   |   |  |   |   | ✓ |   |
|                  | <i>Stylidium pubigerum</i>                 |   |   |  |   |   |   |   |
|                  | <i>Stylidium piliferum</i>                 |   |   |  |   |   |   |   |
|                  | <i>Stylidium repens</i>                    |   |   |  |   |   | ✓ |   |
| Thymelaeaceae    |  |   |   |  |   |   |   |   |
|                  | <i>Pimelea sulphurea</i>                   |   |   |  |   |   | ✓ |   |
|                  | <i>Pimelea ? suaveolens</i>                |   |   |  |   |   |   | ✓ |
| Violaceae        |  |   |   |  |   |   |   |   |
|                  | <i>Hybanthus calycinus</i>                 |   |   |  |   |   |   | ✓ |
| Xanthorrhoeaceae |  |   |   |  |   |   |   |   |
|                  | <i>Xanthorrhoea preissii</i>               |   |   |  |   |   | ✓ |   |
|                  | <i>Xanthorrhoea drummondii</i>             |   | N |  |   |   | ✓ |   |
|                  | <i>Xanth ?baun</i>                         |   |   |  |   |   |   | ✓ |

Additions

*Labichea punctata*  
*Gonocarpus ptychoides*

**Appendix 3: ACTIV INTERIM PROTECTION AREA**

extracted from Keighery, B.J. and Trudgen, M. (1992) Remnant Vegetation on the Alluvial Soils of the Eastern Side of the Swan Coastal Plain

*Note different  
Condition Scale = Trudgen*

**Location 81** - Activ Industries Site, SW intersection Adelaide St And Roe Hwy. Location Map 7. Vegetation Map Area 13, p93

**Veg: b LOF, jab OW**

**Cond: Very Good to Good with severe localised disturbance**

**GENERAL COMMENTS**

*Banksia attenuata* and *Banksia menziesii* Low Open Woodland to Low Open Forest and Jarrah, *Allocasuarina fraseriana*, *Banksia attenuata* and *Banksia menziesii* Open Woodland are the characteristic associations of this Location.

Roadsides heavily infested \**Ehrharta* and \**Eragrostis*, some rubbish dumping, off road, timber cutting. The area to the west of Site a has been burnt in 1991 as indicated by the numerous flowering *Xanthorrhoea*. Most of the vegetation is in Very Good Condition with severe localised disturbance associated with the developments. Little enrichment planting observed, owners in sympathy with the bushland.

**Site 81a**

**b LOF** *Banksia attenuata* and *Banksia menziesii* Low Open Woodland with scattered Jarrah and *Nuytsia* over *Adenanthos cygnorum* high Open Shrubland over *Lambertia multiflora* and *Jacksonia densiflora* Open Shrubland over mixed Low Open heath over Open Sedgeland

Trees: *Banksia attenuata*, *Banksia menziesii*, *Eucalyptus marginata*, *Nuytsia floribunda*

Shrubs: *Adenanthos cygnorum*, 4 *Lambertia multiflora*, *Jacksonia densiflora*, *Eremaea pauciflora*, 5 *Hakea conchifolia*, *Hibbertia hypericoides*, 4 *Jacksonia restioides*, 3,5 *Isopogon drummondii*, 3,6 *Conospermum undulatum*, *Stirlingia latifolia*, *Eriostemon spicatus*, *Dryandra nivea*, *Xanthorrhoea preissii*, *Melaleuca scabra*, 5 *Pityrodia bartlingii*, 5 *Banksia incana*, *Petrophile macrostachya*, *Bossiaea eriocarpa*, *Calytrix*, 3 *Daviesia physodes*

Grasses: *Stipa* sp, *Amphipogon turbinatus*

Herbs: *Tricoryne elatior*, *Burchardia umbellata*, \**Gladiolus caryophyllaceus*, *Conostylis setigera*, *Conostylis aurea*, *Patersonia occidentlis*, *Scaevola paludosa*

Sedges: *Mesomelaena pseudostygia*, 5 *Cyathochaeta avenacea*, 5 *Caustis dioica*, *Loxocarya fasciculata*, *Schoenus subflavus*, *Schoenus ?clandestinius*

**CONDITION**

Rating Good to Very Good

Comments: The bushland in the adjacent area is fragmented by tracks and some invasion of \**Ehrharta calycina* and \**Avena fatua* at the edges tracks.

Aerial Photo: Run 13 5185

Soil: pale grey sand over cream to yellow sand, F (Churchward and McArthur 1980), ?Gf7 or F2(King and Wells 1990)

Drainage: good

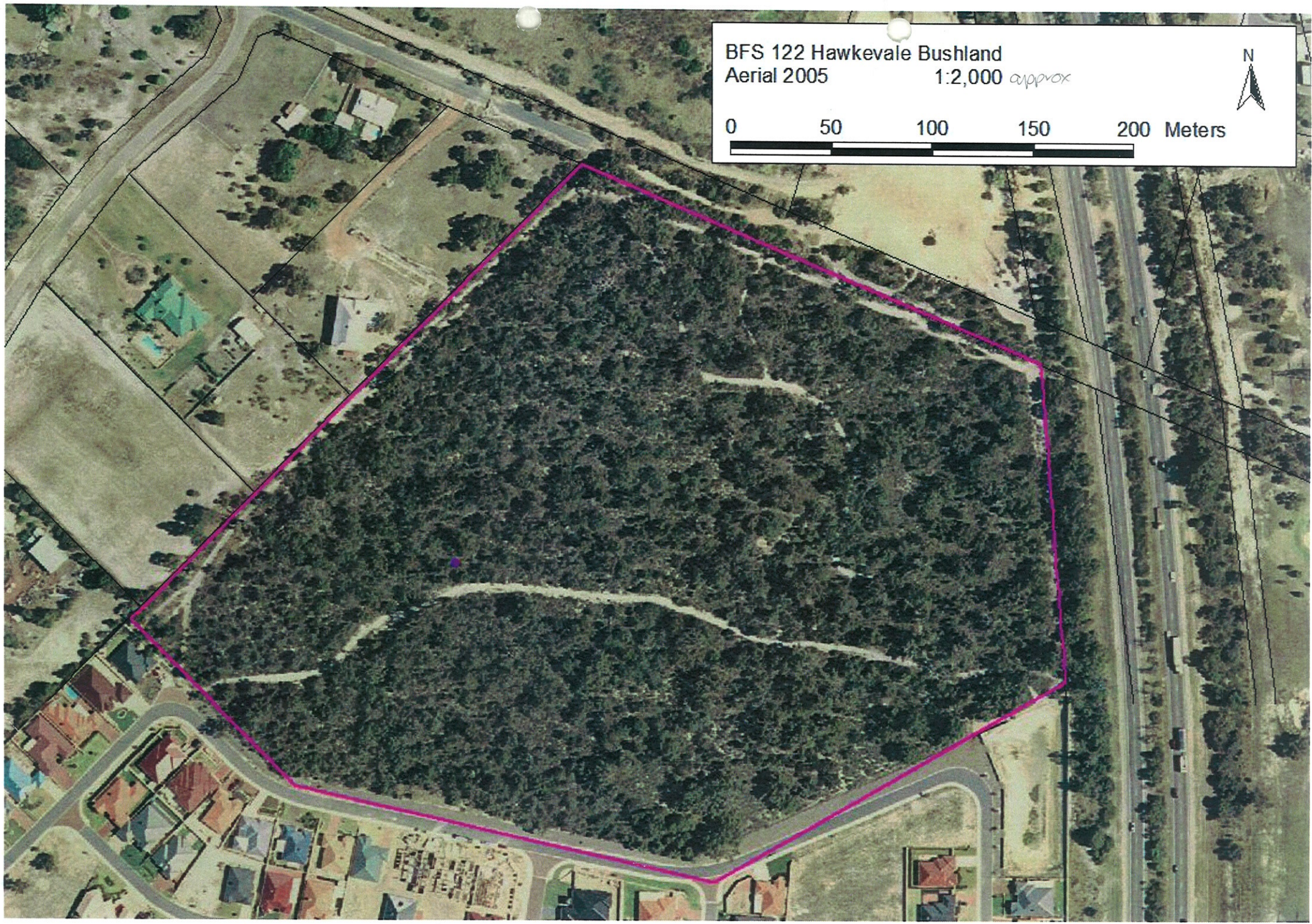
Aspect: flat

**Site 81b**

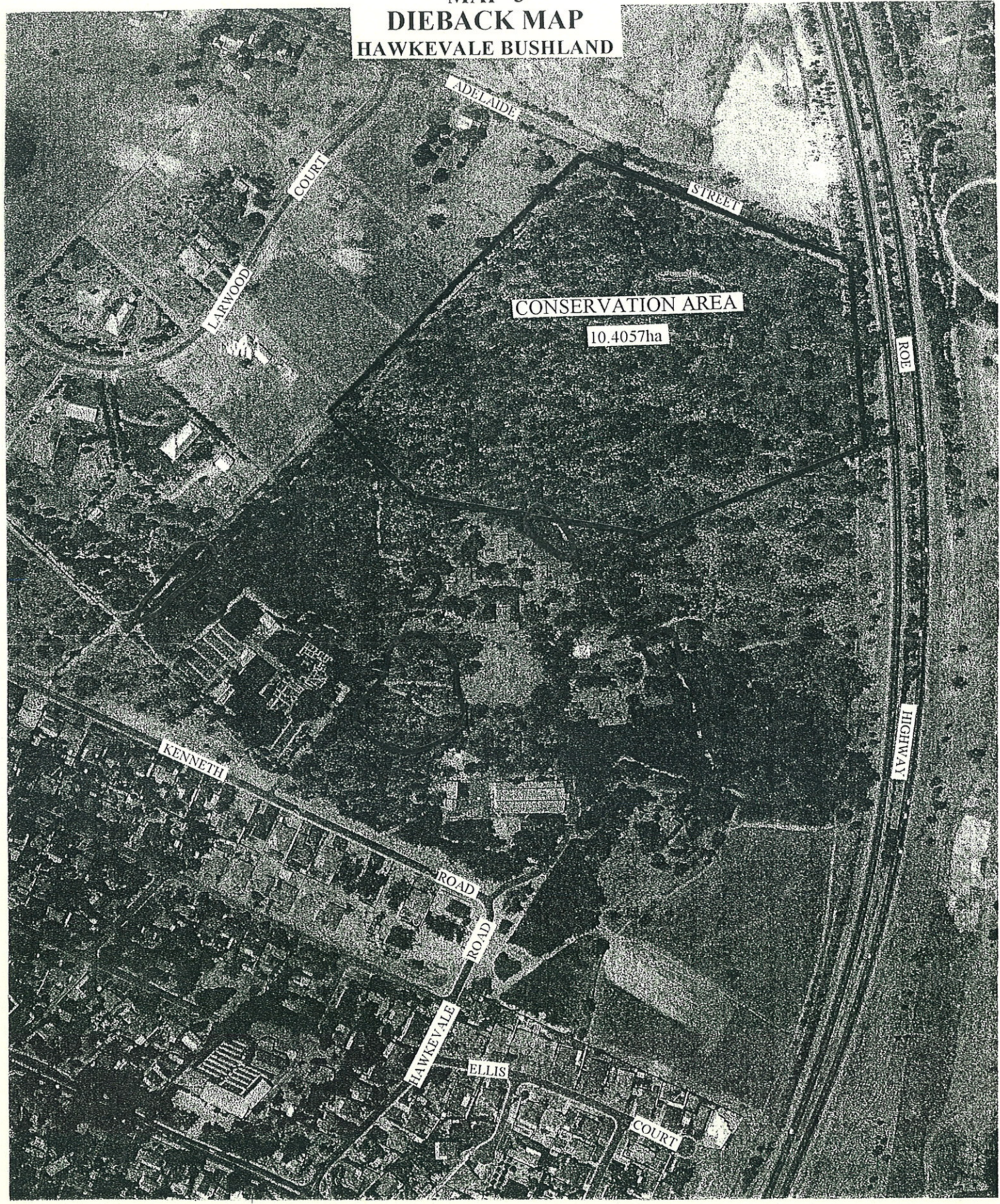
**jab OW**

**Jarrah, *Allocasuarina fraseriana*, *Banksia attenuata* and *Banksia menziesii* Open Woodland with scattered *Persoonia***

BFS 122 Hawkevale Bushland  
Aerial 2005 1:2,000 *approx*



# MAP 3 DIEBACK MAP HAWKEVALE BUSHLAND



- Dieback Infestation Areas
- Boundary of Conservation Area



## HAWKEVALE BUSHLAND (Documentation of the sites values)

1. 1992 Report for the Department of Conservation and Land Management "*Remnant Vegetation on the Alluvial Soils of the Eastern Side of the Swan Coastal Plain*", by Keighery and Trudgen. Site identified as Location 81. Most unusual vegetation association, together with great diversity of species. **Conservation of bushland recommended.**
2. **Commenced 1992 Ministry for Planning's Perth Environment Project.** Surveyed and mapped remnant vegetation complexes of Perth Metropolitan Region. Hawkevale bushland Vegetation Condition is described as Good and Priority Species present. **Government commits to achieving a minimum of 10% of the Hedde Complex in conservation reserves.**
3. 1993 Foothills MRS Amendment known as Cell U2. **Department of Environmental Protection Bulletin 708** assessment of subsequent developments affecting significant flora and fauna needed. **Department of CALM's submission** states that priority flora species and significant vegetation present in U2 High Wycombe. **Development should only occur in severely degraded areas.** SPC acknowledge CALM's submission but dismiss findings. **SPC state if further studies reveal need to reserve significant areas for conservation this would be done.**
4. 1994 Department of CALM's Report "*A Floristic Survey of the southern Swan Coastal Plain*" Gibson et al. Identified the three most threatened community types. One of these is the "*Eastern Banksia attenuata woodlands over species rich dense shrublands*" being Community type 20a, found at Hawkevale bushland. Four structural units present. High species richness. **Recommended urgent reservation and conservation.**
5. **Department of CALM's Threatened Ecological Communities Program.** Commenced August 1994 completed October 1996. The Hawkevale bushland community is a Threatened Ecological Community. **Expert Review Panel declared Hawkevale community type Endangered.**
6. December 1994 Environmental Protection Authority prepared Maps, "*Threatened or Poorly Reserved Plant Communities Requiring Interim Protection, for the Swan Coastal Plain*". Hawkevale bushland identified a threatened community to be designated an **Interim Protected Area.**
7. February 1995 Minister for Environment endorses System 6 Update Program. Surveys by Department of Environmental Protection find Hawkevale bushland most species rich site out of 700 surveyed. **Public nominations to the Update Program include the Hawkevale bushland.**
8. 1996, Government endorses integration of System 6 Update Program, Urban Bushland Strategic Plan and a whole of government approach.

REGIONAL CONSERVATION STATUS OF THE PLANT COMMUNITY

The plant community type is a Banksia woodland over a species rich understory. It appears to be the Banksia woodland associated with the forrestfield complex (ridge hill shelf) and the sandy rises of the Pinjarra Plain on the eastern side of the Swan Coastal Plain but with a significant outlying occurrence on the Karrakatta dunes north of Perth.

One significant difference between these disjunct distributions is the occurrence of one or more of four priority species (*Lambertia multiflora* var. *darlingensis*, *Isopogon drummondii*, *Conospermum undulatum* and *Haemodorum loratum*) in the remnants on the eastern side of the coastal plain.

This Banksia woodland community is now thought to occur at nine possible sites.

On the Karrakatta dunes:

| Location             | Approx area   | Owner |
|----------------------|---------------|-------|
| M12                  | 20 ha (26)    | LGA - |
| Koondoola Open Space | 95 ha (96.25) | MFP   |
| Lansdale Rec Reserve | 15 ha (15)    | LGA - |

and on the Ridge Hill shelf/Pinjarra Plain:

| Location         | Approx area | Owner            |
|------------------|-------------|------------------|
| M53              | 15 ha (29)  | Various reserves |
| APB site         | 5 ha (6)    | APB              |
| Perth Airport    | 20 ha (16)  | FAC              |
| Activ Industries | 20 ha (24)  | Activ Fc         |
| Sultana Rd       | 15 ha (16)  | private c        |
| Rushton Rd       | 5 ha        | LGA - C          |

Bushmead (7)  
 MAIDA Vale (40)  
 Hartfield (6)

2 then bits

Shire of Kolamunda? in 2 bits.  
 Shire of Kolamunda 2 bits in golf course

New Info

- \* Regional perspective on the community type - know it is largely restricted to the main area + few legacy unprotected sites.
- \* EIA Threatened + Priority Reserved Community listing.
- \* CALM - Endangered Ecological Community Type Classification
- \* Urban Bushland Policy
- Min 10% of each vegetation complex, in not less than 5 replicates.
- \* Priority Flora present on the site.
- \* State Agreement to National Strategy for Conservation of Biological Diversity

Site Based Flora List for Activ Threatened and/or Poorly Reserved Plant Community Area  
(219 taxa, activ01-03, B.J. Keighery, 6/6/96)

**Department of Environmental Protection System 6 Update: Site Based Flora List  
for Activ Threatened and/or Poorly Reserved Plant Community Area**  
(19 taxa, activ01-03, B.J. Keighery, 6/6/96)

Anthericaceae

- Johnsonia pubescens
- Laxmannia squarrosa
- Thysanotus sparteus
- Tricoryne elatior
- Tricoryne tenella

Apiaceae

- Trachymene pilosa
- Xanthosia huegelii

Asteraceae

- \* Hypochaeris glabra
- Podotheca sp. scps
- \* Sonchus oleraceus
- \* Ursinia anthemoides

Caesalpiniaceae

- Labichea punctata

Campanulaceae

- \* Wahlenbergia capensis

Caryophyllaceae

- \* Petrorhagia velutina

Casuarinaceae

- Allocauarina fraseriana
- Allocauarina humilis
- Allocauarina thuyoides

Centrolepidaceae

- Centrolepis cephaliformis

Chloanthaceae

- Pityrodia bartlingii

Colchicaceae

*Burchardia congesta*

Crassulaceae

*Crassula colorata*

Cyperaceae

*Caustis dioica*

*Cyathochaeta clandestina*

*Lepidosperma angustatum*

*Lepidosperma leptostachyum*

*Mesomelaena pseudostygia*

*Mesomelaena tetragona*

*Schoenus caespititius*

*Schoenus clandestinus*

*Schoenus curvifolius*

*Schoenus subflavus*

*Tetraria octandra*

Dasypogonaceae

*Calectasia cyanea*

*Dasypogon bromeliifolius*

*Dasypogon obliquifolius*

*Lomandra caespitosa*

*Lomandra hermaphrodita*

*Lomandra nigricans*

*Lomandra preissii*

*Lomandra sericea*

*Lomandra suaveolens*

Dilleniaceae

*Hibbertia huegelii*

*Hibbertia hypericoides*

Droseraceae

*Drosera erythrorhiza*

*Drosera menziesii* subsp. *penicillaris*

*Drosera paleacea*

*Drosera stolonifera*

Epacridaceae

*Astroloma stomarrhena*

*Conostephium pendulum*

*Leucopogon* aff. *nutans* scps

*Leucopogon polymorphus*

Euphorbiaceae

Monotaxis grandiflora  
Poranthera microphylla  
Stachystemon vermicularis

Goodeniaceae

Dampiera linearis  
Scaevola repens var. repens

Haemodoraceae

Anigozanthos manglesii  
Blancoa canescens  
Conostylis aurea  
Conostylis juncea  
Conostylis setigera  
Haemodorum laxum  
Phlebocarya filifolia

Iridaceae

\* Gladiolus caryophyllaceus  
Patersonia juncea  
Patersonia occidentalis

Lamiaceae

Hemiandra linearis  
Hemiandra pungens

Lauraceae

Cassytha racemosa

Mimosaceae

Acacia applanata  
Acacia pulchella  
Acacia sessilis  
Acacia willdenowiana

Molluginaceae

Macarthuria australis

Myrtaceae

Eremaea pauciflora  
Eucalyptus marginata  
Melaleuca scabra

Orchidaceae

*Caladenia flava*  
*Pterostylis* aff. *nana* scps

Papilionaceae

*Bossiaea eriocarpa*  
*Daviesia divaricata*  
*Daviesia nudiflora*  
*Daviesia physodes*  
*Daviesia triflora*  
*Gompholobium tomentosum*  
*Hovea trisperma* var. *trisperma*  
*Jacksonia densiflora*  
*Jacksonia floribunda*  
*Jacksonia restioides*  
*Templetonia biloba*

Pittosporaceae

*Pronaya fraseri*

Poaceae

*Amphipogon turbinatus*  
*Danthonia* sp. scps  
\* *Ehrharta calycina*

Proteaceae

*Adenanthos cygnorum*  
*Banksia attenuata*  
*Banksia grandis*  
*Banksia incana*  
*Banksia menziesii*  
*Conospermum undulatum*  
*Dryandra nivea*  
*Hakea conchifolia*  
*Isopogon drummondii*  
*Lambertia multiflora* var. *darlingensis* MS  
*Persoonia angustiflora*  
*Petrophile linearis*  
*Petrophile macrostachya*  
*Stirlingia latifolia*  
*Synaphea spinulosa*

Restionaceae

*Alexgeorgea nitens*  
*Hypolaena exsulca*  
*Lepidobolus preissianus*  
*Loxocarya fasciculata*  
*Lyginia barbata*

Rutaceae

Eriostemon spicatus

Stylidiaceae

Levenhookia sp. scps  
Stylidium brunonianum  
Stylidium calcaratum  
Stylidium crossocephalum  
Stylidium piliferum  
Stylidium repens

Thymelaeaceae

Pimelea sulphurea

Violaceae

Hybanthus calycinus

Xanthorrhoeaceae

Xanthorrhoea drummondii  
Xanthorrhoea preissii

copy without additional supplied  
to Minister of Planning

DRAFT Vegetation and Flora Report for ACTIV an area recognised as in need of interim protection under the System Six Update Programme Bronwen Keighery, September 1995.

**DRAFT Vegetation and Flora Report for ACTIV an area recognised as in need of interim protection under the System Six Update Programme**  
Bronwen Keighery, September 1995.

## Introduction

In 1995 a series of bushland areas were identified by the EPA as requiring interim protection under the System 6 Update. The majority of these areas are from the the eastern side of the Swan Coastal Plain. It has been estimated that the eastern side of Swan Coastal Plain is 97% cleared of vegetation (CALM, 1990). The Wheatbelt considered to be 93% cleared (Beard, 1990) has been the subject of intensive study, in the past 15 years but the eastern side of the Swan Coastal Plain has received comparably scant attention even though Beard noted in the same publication that there was "...no virgin vegetation left" on the eastern side of the Swan Coastal Plain. This situation has been recognized for some time and the two most recent regional studies of the Plain (Keighery and Trudgen 1992 and Gibson et al. 1994) both made direct recommendations concerning the the high conservation value of all remnants on the eastern side of the Plain, regardless of the size of the remnant.

The ACTIV area was identified by Keighery and Trudgen (1992) as an area of high conservation value with the recommendation that  
"CALM liase urgently with the body in which the land is vested to retain and manage the area for its flora conservation values. Any development should be confined to the severely degraded areas."

The area was considered significant as it  
"...contains a significant area of *Banksia* Low Open Woodland Low Open Forest, similar in structure to that at Sultana Road which is presently unknown outside the High Wycombe area, and Jarrah, *Allocuarina fraseriana* and *Banksia* Open woodland in Excellent to Very Good Condition\* with severe localised disturbance.

Significant taxa: >10taxa, including 3 priority taxa"

\*Condition Scale is that of Keighery 1994

(Appendix 3 gives details of the vegetation associations described for the area)

An earlier publication on the Darling Region (Heddle et al. 1983) that mapped a series of vegetation complexes across the Swan Coastal Plain and Plateau places the ACTIV area in the Forrestfield Complex. Recent mapping of remnant vegetation on the Swan Coastal Plain for the Perth Environmental Project has found that less than ten percent of the complex remains uncleared (J. Dixon pers. comm. 11/9/95).

## Methods and Limitations

Approximately three hours were spent in the area (31/8/95). Three floristic sites were located (ACTIV Sites 1 - 3) after walking over much of the area. Collections were made of taxa considered to be of interest.

## Soils

The predominant soils in the study area are cream sands over yellow sands. While the study area is mapped by Gozzard (1986) as being predominantly on Bassendean Sands and Bassendean Sands over Guildford Formation it would appear on site inspection that the soils are more closely related to sands of the Yoganup Formation which are part of the Ridge Hill Shelf. This matches better with mapping by Churchward and McArthur (1980) who mapped them as part of the Forrestfield unit.

## Vegetation

### Vegetation Associations (structural units)

In the southern section of the study area *Banksia* species predominate forming a *Banksia* Low Open Woodland to Low Open Forest. While Jarrah and *Allocuarina fraseriana* are present in this area the proportions of these species increase towards the north forming a woodland over *Banksia* Open

Woodland. Relatively long unburnt areas of the *Banksia* Low Open Woodland to Low Open Forest have a dense species rich understorey. More recently burnt areas have a more open species rich understorey.

### Floristic Community Types (Gibson et al. 1994)

Three floristic sites have been established in the area. The floristic information (both taxa present and diversity of taxa present) for the sites indicates that the sites are similar to the *Banksia* Woodland sites in System 6 Area M53 which were identified as floristic community type 20a - *Banksia attenuata* woodlands over species rich shrublands (Gibson et al 1994). Previous work by Keighery and Trudgen (1992) and Keighery and Keighery (1992) had also identified these unusual *Banksia* woodlands here and at several other sites on the eastern side of the Swan Coastal Plain (Sultana Road, M53, Hartfield Park).

This floristic community type was the most species rich of any of the *Banksia* Woodlands containing an average species richness of 67.4 species per site (100m<sup>2</sup>). Site 2 established for this study had over 80 species recorded for the first visit (sites are visited twice). This floristic community type was considered to be unreserved and endangered and as yet none of the areas containing this floristic community type are in reserves for the purpose of flora and fauna conservation.

### Vegetation Condition

Most of the bushland remaining in the study area is in excellent to very good condition. Several areas have been fragmented by tracks, roads and buildings and subject to frequent fires resulting in these areas being in good to degraded condition with significant cover of \* *Ehrharta calycina*. Also another section has apparently been cleared or partially cleared of *Banksia* and some understorey in the past and is in good condition but is regenerating. See aerial photo ? Map.

### Flora

A diversity of shrubs, herbs and sedges were identified in the study area with over 120 native taxa (Appendix 2) recorded in the sites and adjacent areas. This probably represents approximately 65% of the flora. A detailed flora survey would be needed to document the flora more fully.

### Significant Taxa

Three rare taxa (Atkins 1994) were identified at the site:

Priority 3 Taxa - "Taxa which are known from several populations, at least some of which are not believed to be under threat" - *Isopogon drummondii* and *Lambertia multiflora* var *darlingensis*

Priority 4 Taxa- "Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors."-

*Conospermum undulatum*

Two of these taxa (*Lambertia multiflora* var *darlingensis* and *Conospermum undulatum*) are confined to the Ridge Hill Shelf and *Conospermum undulatum* has been recommended for Declared Rare Flora in two recent reports (Kelly et al. 1993 and Gibson et al. 1994)

Seven taxa represent significant disjunct populations of predominantly northern taxa (Appendix 2). The presence of such taxa is characteristic of these *Banksia* Woodlands (Keighery and Trudgen 1992).

### Conclusion

The study area represents a significant area of an endangered floristic community type. This community type is a characteristic unit of vegetation on the Ridge Hill Shelf within the Forrestfield Complex of which less than 10% remains uncleared in the Metropolitan Area and a lesser area in the region. Without reference to this detailed floristic information the Perth Environmental Project considered this area to be in the top 10 -20% of remnants remaining in the Metropolitan Area (J. Dixon pers. comm. 11/9/95).

### References

DRAFT Vegetation and Flora Report for ACTIV an area recognised as in need of interim protection under the System Six Update Programme Bronwen Keighery, September 1995.

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## Appendix 1: ACTIV Vegetation Descriptions

### Site 1

*Banksia attenuata* and *Banksia menziesii* Low Forest A over *Lambertia multiflora* var. *darlingensis* and *Adenanthos cygnorum* Open Scrub over *Hakea conchifolia* and *Allocasuarina humilis* Open Scrub C over *Hibbertia hypericoides* and *Isopogon drummondii* Low Heath D over *Mesomelaena pseudostygia* Sedgeland

#### CONDITION

Rating Excellent to Very Good

Comments: The bushland in the adjacent area is fragmented by tracks and some invasion of \**Ehrharta calycina* and \**Avena fatua* at the edges tracks.

Soil: pale grey sand over cream to yellow sand, F (Churchward and McArthur 1980), S10 (Gozzard 1986)

Drainage: good

Aspect: flat

### Site 2

*Banksia menziesii*, *B. attenuata* and *Eucalyptus marginata* Low Woodland A over *Lambertia multiflora* var. *darlingensis* Open Low Scrub A over *Allocasuarina humilis*, *Stirlingia latifolia* and *Xanthorrhoea ?preissii* Dwarf Scrub C over *Dryandra nivea* Dwarf Scrub C over *Mesomelaena pseudostygia* Open Low Sedges

#### CONDITION

Rating Excellent to Very Good

Comments: Area is impacted by frequent fire with loss of canopy cover which is being aggravated by timber protection.

Soil: cream sand over yellow sand, S10 (Gozzard 1986)

Drainage: good

Aspect: gentle, south west

### Site 3

*Eucalyptus marginata* Low Woodland A over and *Stirlingia latifolia* and *Xanthorrhoea ?preissii* Dwarf Scrub C over *Hibbertia hypericoides* and *Dryandra nivea* Low Heath D over *Dasyopogon bromelifolius* very Open herbs, *Cyathochaeta clandestina* Open Tall Sedges and *Mesomelaena pseudostygia* Open Low Sedges

#### CONDITION

Rating Excellent to Very Good.

Soil: cream sand over yellow sand, S10 (Gozzard 1986)

Drainage: good

Aspect: flat

## Appendix 2: ACTIV Flora

Records from Keighery and Trudgen 1992 and Keighery 1995 (Sites ACTIV 1 - 3)  
Families in alphabetical order and according to Marchant et al. 1987 unless indicated.

### Key

|                  |   |
|------------------|---|
| *                | non-native taxa   |
| +                | new combination or newly recognised taxa not listed in Marchant et al. 1987 |
| Priority Codes   | Atkins 1994   |
| Significant taxa | + of interest   |
|                  | N northern taxa   |
|                  | S southern taxa   |
|                  | P Plateau taxa  |
|                  | e endemic to the eastern side of the Swan Coastal                           |

*Additions Subm 8 3*

### Angiosperms

|                             | Priority Code | Significant Taxa |
|-----------------------------|---------------|------------------|
| <b>Anthericaceae</b>        |               |                  |
| Johnsonia pubescens         |               |                  |
| Laxmannia squarrosa         |               |                  |
| Thysanotus ?manglesianus    |               |                  |
| Thysanotus sparteus         |               |                  |
| Tricoryne elatior           |               |                  |
| Tricoryne tennella +        |               |                  |
| <b>Apiaceae</b>             |               |                  |
| Homalosciadium homalocarpum |               |                  |
| Trachymene pilosa           |               |                  |
| Xanthosia huegellii         |               |                  |
| <b>Asteraceae</b>           |               |                  |
| *Hypochaeris glabra         |               |                  |
| Podotheca sp                |               |                  |
| *Sonchus oleraceus          |               |                  |
| *Ursinia anthemoides        |               |                  |
| Waitzia sp                  |               |                  |
| <b>Campanulaceae</b>        |               |                  |
| *Wahlenbergia capensis      |               |                  |
| <b>Casuarinaceae</b>        |               |                  |
| Allocasuarina fraseriana    |               |                  |
| Allocasuarina humilis       |               |                  |
| Allocasuarina thyoides      |               | +                |
| <b>Centrolepidaceae</b>     |               |                  |
| Centrolepis sp              |               |                  |
| <b>Cholanthaceae</b>        |               |                  |
| Pityrodia bartlingii        |               | N                |
| <b>Colchicaceae</b>         |               |                  |
| Burchardia congesta         |               |                  |
| <b>Crassulaceae</b>         |               |                  |
| Crassula colorata           |               |                  |
| <b>Cyperaceae</b>           |               |                  |
| Caustis dioica              |               |                  |
| Cyathochaeta clandestina    |               | S                |
| Lepidosperma angustatum     |               |                  |

|                           |                            |
|---------------------------|----------------------------|
| Mesomelaena pseudostygia  |                            |
| Mesomelaena tetragona     | P                          |
| Schoenus clandestinus     |                            |
| Schoenus curvifolius      |                            |
| Tetaria octandra          |                            |
| Dasyogonaceae             |                            |
| Calectasia cyanea         |                            |
| Dasyogon bromeliifolius   |                            |
| Dasyogon obliquifolius    | N                          |
| Lomandra caespitosa       |                            |
| Lomandra hermaphrodita    |                            |
| Lomandra preissii         |                            |
| Lomandra suaveolens       |                            |
| <i>L. nigricans</i>       |                            |
| Dilleniaceae              |                            |
| Hibbertia huegelii        |                            |
| Hibbertia hypericoides    |                            |
| Droseraceae               |                            |
| Drosera erythrorhiza      |                            |
| Drosera ?palacea          |                            |
| Drosera stolonifera       |                            |
| <i>Drosera morrisii</i>   |                            |
| Epacridaceae              |                            |
| Astroloma stommarraena    | N                          |
| Conostephium pendulum     |                            |
| Leucopogon aff. nutans    |                            |
| Leucopogon sp.            |                            |
| Lysinema ciliatum         |                            |
| Euphorbiaceae             |                            |
| Monotaxis grandiflora     |                            |
| Poranthera microphylla    |                            |
| Stachystemon vermicularis |                            |
| Fabaceae (Papilionaceae)  |                            |
| Bossiaea eriocarpa        |                            |
| Daviesia decurrens        |                            |
| Daviesia divaricata       |                            |
| Daviesia nudiflora        |                            |
| Daviesia physodes         |                            |
| Daviesia triflora         |                            |
| Gompholobium tomentosum   |                            |
| Hovea trisperma           |                            |
| Jacksonia densiflora      |                            |
| Jacksonia restioides      | P                          |
| Templetonia biloba        |                            |
| <i>Kunzea prostrata</i>   |                            |
| Goodeniaceae              |                            |
| Dampiera linearis         |                            |
| Scaevola repens +         |                            |
| Haemodoraceae             |                            |
| Anigozanthos humilis      |                            |
| Anigozanthos manglesii    |                            |
| Blancoa canescens         |                            |
| Conostylis aurea          | <i>conostylis aculeata</i> |
| Conostylis juncea         |                            |
| Conostylis setigera       |                            |
| Conostylis setosa         |                            |
| Haemodorum paniculatum    |                            |
| Phlebocarya ciliata       |                            |

Phlebocarya filifolia  
Tribonanthes australis

Iridaceae

\*Gladiolus caryophyllaceus  
Patersonia juncea  
Patersonia occidentalis

Lamiaceae

Hemiandra linearis

Lauraceae

Cassytha racemosa

Loranthaceae

Nuytsia floribunda

Mimosaceae

Acacia pulchella

Acacia sessilis

Acacia applanata

# A. stenoptera

Molluginaceae

Macarthuria australis

Myrtaceae

Eremaea fimbriata

Eremaea pauciflora

Eucalyptus calophylla

Eucalyptus marginata

Melaleuca ?scabra

# Eucalyptus tereticornis

Pittosporaceae

Pronaya fraseri

Poaceae

Amphipogon turbinatus

Danthonia ?occidentalis

\*Ehrharta calycina

\*Eragrostis curvula

Portulacaceae

Calandrinia sp

Proteaceae

Adenanthos cygnorum

Banksia attenuata

Banksia grandis

Banksia menziesii

Conospermum undulatum+

4

e

Dryandra aff. nivea

Hakea conchifolia

Hakea prostrata

Hakea ruscifolia

Isopogon drummondii

3

N

Lambertia multiflora

var darlinensis +

3

e

Persoonia angustiflora

Persoonia elliptica

Petrophile linearis

Petrophile striata

Stirlingia latifolia

Synaphea spinosa

Dryandra sessilis

Lambertia occidentalis

N

Calyptrix angustata

Restionaceae

Alexgeorgia nitens  
Hypolaena exsulca  
Lepyrodia macra  
Loxocarya fasciculata  
Loxocarya flexuosa  
Lyginia barbata  
Restio leptocarpoides

Stylidiaceae

Stylidium brunonianum  
Stylidium calcaratum  
Stylidium crossocephalum  
Stylidium diuroides  
Stylidium pubigerum  
Stylidium piliferum  
Stylidium repens

N

Thymelaeaceae

Pimelea sulphurea

Violaceae

Hybanthus calycinus

Xanthorrhoeaceae

Xanthorrhoea preissii  
Xanthorrhoea drummondii

N

*Polygalaceae*

# *Comesperma celynege*

*Orchidaceae*

*Caladenia flava*  
*Diuris longistylis*

### Appendix 3: ACTIV INTERIM PROTECTION AREA

extracted from Keighery, B.J. and Trudgen, M. (1992) Remnant Vegetation on the Alluvial Soils of the Eastern Side of the Swan Coastal Plain

**Location 81** - Activ Industries Site, SW intersection Adelaide St And Roe Hwy. Location Map 7. Vegetation Map Area 13, p93

Veg: b LOF, jab OW

Cond: Very Good to Good with severe localised disturbance

#### GENERAL COMMENTS

*Banksia attenuata* and *Banksia menziesii* Low Open Woodland to Low Open Forest and Jarrah, *Allocasuarina fraseriana*, *Banksia attenuata* and *Banksia menziesii* Open Woodland are the characteristic associations of this Location.

Roadsides heavily infested \**Ehrharta* and \**Eragrostis*, some rubbish dumping, off road, timber cutting. The area to the west of Site a has been burnt in 1991 as indicated by the numerous flowering *Xanthorrhoea*. Most of the vegetation is in Very Good Condition with severe localised disturbance associated with the developments. Little enrichment planting observed, owners in sympathy with the bushland.

#### **Site 81a**

b LOF

*Banksia attenuata* and *Banksia menziesii* Low Open Woodland with scattered Jarrah and *Nuytsia* over *Adenanthos cygnorum* high Open Shrubland over *Lambertia multiflora* and *Jacksonia densiflora* Open Shrubland over mixed Low Open heath over Open Sedgeland

Trees: *Banksia attenuata*, *Banksia menziesii*, *Eucalyptus marginata*, *Nuytsia floribunda*

Shrubs: *Adenanthos cygnorum*, 4 *Lambertia multiflora*, *Jacksonia densiflora*, *Eremaea pauciflora*, 5 *Hakea conchifolia*, *Hibbertia hypericoides*, 4 *Jacksonia restioides*, 3,5 *Isopogon drummondii*, 3,6 *Conospermum undulatum*, *Stirlingia latifolia*, *Eriostemon spicatus*, *Dryandra nivea*, *Xanthorrhoea preissii*, *Melaleuca scabra*, 5 *Pityrodia bartlingii*, 5 *Banksia incana*, *Petrophile macrostachya*, *Bossiaea eriocarpa*, *Calytrix*, 3 *Daviesia physodes*

Grasses: *Stipa* sp, *Amphipogon turbinatus*

Herbs: *Tricoryne elatior*, *Burchardia umbellata*, \**Gladiolus caryophyllaceus*, *Conostylis setigera*, *Conostylis aurea*, *Patersonia occidentalis*, *Scaevola paludosa*

Sedges: *Mesomelaena pseudostygia*, 5 *Cyathochaeta avenacea*, 5 *Caustis dioica*, *Loxocarya fasciculata*, *Schoenus subflavus*, *Schoenus ?clandestinius*

#### CONDITION

Rating Good to Very Good

Comments: The bushland in the adjacent area is fragmented by tracks and some invasion of \**Ehrharta calycina* and \**Avena fatua* at the edges tracks.

Aerial Photo: Run 13 5185

Soil: pale grey sand over cream to yellow sand, F (Churchward and McArthur 1980), ?Gf7 or F2(King and Wells 1990)

Drainage: good

Aspect: flat

#### **Site 81b**

jab OW

Jarrah, *Allocasuarina fraseriana*, *Banksia attenuata* and *Banksia menziesii* Open Woodland with scattered *Persoonia*

***elliptica* over *Allocasuarina humilis* and *Xanthorrhoea preissii* Low Open heath.**

Trees: *Eucalyptus calophylla*, *Allocasuarina fraseriana*, *Banksia attenuata*, *Banksia menziesii*, 4  
*Persoonia elliptica*

Shrubs: *Allocasuarina humilis*, *Xanthorrhoea preissii*, *Hibbertia hypericoides*, *Petrophile linearis*, *Daviesia nudiflora*, *Conostephium pendulum*, *Stirlingia latifolia*, *Dryandra nivea*, *Gompholobium tomentosum*, *Daviesia triflora*, 3,6 *Conospermum undulatum*  
Adjacent: 4 *Lambertia multiflora*, *Eremaea pauciflora*

Herbs: *Stylidium piliferum*, *Stylidium diuroides*, *Patersonia occidentalis*, *Anigozanthos manglesii*, *Haemodorum laxum*, *Dasyogon bromeliifolius*, 5 *Dasyogon obliquifolius*, \**Ursinia anthemoides*, *Conostylis setigera*, *Conostylis aurea*  
Adjacent: 5 *Blancoa canescens*

Sedges: *Tetraria octandra*, *Mesomelaena pseudostygia*, *Loxocarya fasciculata*, *Alexgeorgea nitens*

**CONDITION**

Rating Good to Very Good

Comments: Area subject to fires, rubbish dumping, off road vehicle, ?dieback dead *Banksia*, rabbits. \**Ehrharta calycina* at the edge of tracks and roads.

Aerial Photo: Run

Soil: pale grey sand over yellow sand, F (Churchward and McArthur 1980), ?Gf7 or F2 (King and Wells 1990)

Drainage: good

Aspect: flat

## ACTIV INTERIM POTECTION AREA

extracted from Keighery, B.J. and Trudgen, M. (1992) Remnant Vegetation on the Alluvial Soils of the Eastern Side of the Swan Coastal Plain

**Location 81** - Activ Industries Site, SW intersection Adelaide St And Roe Hwy. Location Map 7. Vegetation Map Area 13, p93

**Veg: b LOF, jab OW**

**Cond: Very Good to Good with severe localised disturbance**

### GENERAL COMMENTS

*Banksia attenuata* and *Banksia menziesii* Low Open Woodland to Low Open Forest and Jarrah, *Allocasuarina fraseriana*, *Banksia attenuata* and *Banksia menziesii* Open Woodland are the characteristic associations of this Location.

Roadsides heavily infested \**Ehrharta* and \**Eragrostis*, some rubbish dumping, off road, timber cutting. The area to the west of Site a has been burnt in 1991 as indicated by the numerous flowering *Xanthorrhoea*. Most of the vegetation is in Very Good Condition with severe localised disturbance associated with the developments. Little enrichment planting observed, owners in sympathy with the bushland.

### Site 81a

**b LOF** *Banksia attenuata* and *Banksia menziesii* Low Open Woodland with scattered Jarrah and *Nuytsia* over *Adenanthos cygnorum* high Open Shrubland over *Lambertia multiflora* and *Jacksonia densiflora* Open Shrubland over mixed Low Open heath over Open Sedgeland

Trees: *Banksia attenuata*, *Banksia menziesii*, *Eucalyptus marginata*, *Nuytsia floribunda*

Shrubs: *Adenanthos cygnorum*, 4#*Lambertia multiflora*, *Jacksonia densiflora*, *Eremaea pauciflora*, 5#*Hakea conchifolia*, *Hibbertia hypericoides*, 4#*Jacksonia restioides*, 3,5#*Isopogon drummondii*, 3,6#*Conospermum undulatum*, *Stirlingia latifolia*, *Eriostemon spicatus*, *Dryandra nivea*, *Xanthorrhoea preissii*, *Melaleuca scabra*, 5#*Pityrodia bartlingii*, 5#*Banksia incana*, *Petrophile macrostachya*, *Bossiaea eriocarpa*, *Calytrix*, 3#*Daviesia physodes*

Grasses: *Stipa* sp, *Amphipogon turbinatus*

Herbs: *Tricoryne elatior*, *Burchardia umbellata*, \**Gladiolus caryophyllaceus*, *Conostylis setigera*, *Conostylis aurea*, *Patersonia occidentalis*, *Scaevola paludosa*

Sedges: *Mesomelaena pseudostygia*, 5#*Cyathochaeta avenacea*, 5#*Caustis dioica*, *Loxocarya fasciculata*, *Schoenus subflavus*, *Schoenus ?clandestinius*

### CONDITION

Rating Good to Very Good

Comments: The bushland in the adjacent area is fragmented by tracks and some invasion of \**Ehrharta calycina* and \**Avena fatua* at the edges tracks.

Aerial Photo: Run 13 5185

Soil: pale grey sand over cream to yellow sand, F (Churchward and McArthur 1980), ?Gf7 or F2(King and Wells 1990)

Drainage: good

Aspect: flat

### Site 81b

**jab OW** Jarrah, *Allocasuarina fraseriana*, *Banksia attenuata* and *Banksia menziesii* Open Woodland with scattered *Persoonia*

*elliptica* over *Allocasuarina humilis* and *Xanthorrhoea preissii* Low Open heath.

Trees: *Eucalyptus calophylla*, *Allocasuarina fraseriana*, *Banksia attenuata*, *Banksia menziesii*,  
4#*Persoonia elliptica*

Shrubs: *Allocasuarina humilis*, *Xanthorrhoea preissii*, *Hibbertia hypericoides*, *Petrophile linearis*, *Daviesia nudiflora*, *Conostephium pendulum*, *Stirlingia latifolia*, *Dryandra nivea*,  
*Gompholobium tomentosum*, *Daviesia triflora*, 3,6#*Conospermum undulatum*  
Adjacent: 4#*Lambertia multiflora*, *Eremaea pauciflora*

Herbs: *Stylidium piliferum*, *Stylidium diuroides*, *Patersonia occidentalis*, *Anigozanthos manglesii*, *Haemodorum laxum*, *Dasypogon bromeliifolius*, 5#*Dasypogon obliquifolius*, \**Ursinia anthemoides*, *Conostylis setigera*, *Conostylis aurea*  
Adjacent: 5#*Blancoa canescens*

Sedges: *Tetraria octandra*, *Mesomelaena pseudostygia*, *Loxocarya fasciculata*, *Alexgeorgea nitens*

CONDITION

Rating Good to Very Good

Comments: Area subject to fires, rubbish dumping, off road vehicle, ?dieback dead *Banksia*, rabbits. \**Ehrharta calycina* at the edge of tracks and roads.

Aerial Photo: Run

Soil: pale grey sand over yellow sand, F (Churchward and McArthur 1980), ?Gf7 or F2 (King and Wells 1990)

Drainage: good

Aspect: flat

Table 1

Sub 135  
CONFIDENTIAL

AN INCOMPLETE LIST OF FLORA - ACTIV FOUNDATION BUSHLAND:  
SWAN Location 7561, HIGH WYCOMBE  
June - December 1993

TREES

| <u>Botanical name</u>   | <u>Common name</u>  | <u>Abundance</u>      |
|-------------------------|---------------------|-----------------------|
| Allocasuarina fraserana | (Common Sheoak)     | minor                 |
| Banksia attenuata       | (Candle Banksia)    | very common           |
| Banksia grandis         | (Bull Banksia)      | rare to minor         |
| Banksia menziesii       | (Firewood Banksia)  | very common           |
| Eucalyptus marginata    | (Jarrah)            | minor to quite common |
| Eucalyptus tottiana     | (Pricklybark)       | minor                 |
| Nutysia floribunda      | (WA Christmas Tree) | quite common          |

SHRUBS

|                       |                        |                        |
|-----------------------|------------------------|------------------------|
| Acacia pulchella      | (Prickly Moses)        | quite common           |
| Acacia stenoptera     | (Narrow winged Wattle) | very rare              |
| Acacia willowdeniana  | (Grass Wattle)         | rare-to-minor          |
| Adenanthos cygnorum   | (Woolly Bush)          | common esp. on borders |
| Allocasuarina humilis | (Dwarf Sheoak)         | quite rare             |
| Blancoa canescens     | (Maida Vale Bell)      | minor-to -quite common |

Local species thought restricted to the Maida Vale - High Wycombe area

|                         |                      |                      |
|-------------------------|----------------------|----------------------|
| Bossiaea eriocarpa      | (Common Brown Pea)   | quite rare to minor  |
| Calectasia cyanea       | (Blue Tinsel Lily)   | quite rare           |
| Calytrix (angulata)     | (Yellow starflower)  | quite rare           |
| Conospermum sp          |                      | quite rare-to -minor |
| Conostylis aculeata     |                      | minor                |
| Conostylis (?setigera)  | (Bristly Conostylis) | minor                |
| Dampiera linearis       | (Common Dampiera)    | quite common         |
| Dasyogon bromeliifolius | (Pineapple Bush)     | quite common         |

Geographically-restricted species

|                    |                  |                        |
|--------------------|------------------|------------------------|
| Davisia decurrens  |                  | quite common           |
| Davisia divaricata |                  | rare                   |
| Dryandra nivea     | (Couch Honeyvat) | minor-to- quite common |
| Dryandra sessilis  | (Parrotbush)     | very rare              |

|                     |                   |                         |
|---------------------|-------------------|-------------------------|
| Eremaea pauciflora  |                   | quite rare-to<br>-minor |
| Eremaea violacea    |                   | rare                    |
| Eriostemon spicatus | (Pepper and Salt) | quite rare              |

#### SHRUBS (continued)

| <u>Botanical name</u>  | <u>Common name</u>  | <u>Abundance</u>           |
|------------------------|---------------------|----------------------------|
| Gompholobium aristatum |                     | quite rare                 |
| Hakea prostrata        | (Harsh Hakea)       | quite rare-to<br>-minor    |
| Hakea costata          | (Ribbed Hakea)      | quite common<br>on margins |
| Hibbertia huegelii     |                     | rare                       |
| Hibbertia hypericoides | (Yellow Buttercups) | common                     |
| Hemiandra pungens      | (Snakebush)         | rare                       |
| Hovea trispermum       | (Common Hovea)      | rare-to-minor              |
| Hybanthus calycinus    | (Wild Violet)       | minor-to<br>-quite common  |
| Isopogon drummondii    |                     | minor-to<br>-quite common  |

#### Geographically-restricted species

|                           |                                |                           |
|---------------------------|--------------------------------|---------------------------|
| Isotropis cuneifolia      | (Granny Bonnets)               | rare                      |
| Lambertia multiflora      | (Many-flowered<br>Honeysuckle) | quite common              |
| Lysinema ciliatum         | (Curry Bush)                   | rare                      |
| Melaleuca pentagona       |                                | very rare                 |
| Oxylobium capitatum       | (Bacon and Eggs)               | quite rare                |
| Petrophile linearis       | (Pixie Hops)                   | minor-to<br>-quite common |
| Pimelia (?rosea)          | (Rose Banjine)                 | very rare                 |
| Pimelia sulphurea         | (Yellow Banjine)               | rare                      |
| Stachystemon vermicularis |                                | rare*                     |
| Synaphea spindulosa       |                                | minor                     |
| Xanthorrhoea brunonis     | (Blackboy)                     | very common               |

#### HERBS

|                        |                                 |                          |
|------------------------|---------------------------------|--------------------------|
| Anigozanthos humilis   | (Cat's Paw)                     | rare                     |
| Anigozanthos manglesii | (Red and Green<br>Mangaroo Paw) | very common              |
| Burchardia umbellata   | (Milkmaids)                     | quite common             |
| Caladenia flava        | (Cowslip Orchid)                | minor                    |
| Diuris longifolia      | (Common Donkey<br>Orchid)       | rare                     |
| Drosera sp             | (Sundew)                        | rare                     |
| Johnsonia pubescens    | (Pipe Lily)                     | rare                     |
| Kennedia prostrata     | (Running Postman)               | minor-to<br>quite common |

## GRASSES AND GRASSLIKE PLANTS\* 3

*Nesomelaena stygia* (Telegraph Sedge) quite rare-to  
-minor

WEEDS

| <u>Botanical name</u>                                | <u>Distribution</u>   | <u>Abundance</u>          |
|--|---|---------------------------|
| <i>Arctotheca calendula</i><br>(Capeweed)            | mostly on border<br>and internal tracks   | minor-to<br>-quite common |
| <i>Briza maxima</i><br>(Blowfly Grass)               | mostly on border<br>tracks; encroaching<br>along internal tracks  | minor-to<br>-quite common |
| <i>Ennarta calycina</i><br>(Perennial Veigrass)      | mostly S.E. 2/3rds<br>of bushland, along<br>most border tracks;<br>encroaching along<br>internal tracks | very common               |
| <i>Gladiolus caryophyllaceus</i><br>(Wild Gladiolus) | scattered throughout<br>bushland  | common                    |
| <i>Lupinus consentinii</i><br>(Sandplain Lupin)      | chiefly on S. margin<br>and E. border track   | common                    |
| <i>Lupinus mutabilis</i><br>(Pearl Lupin)            | as <i>L. consentinii</i>  | quite common              |
| <i>Ursinia anthermoides</i>                          | Chiefly confined to<br>border and internal<br>tracks  | minor-to<br>quite common  |

R.L. and S.A. Brotherton  
12/10/93

Post 12/10/93 Addendum

| <u>Botanical name</u>               | <u>Common name</u>            | <u>Abundance</u>                    |
|-------------------------------------|-------------------------------|-------------------------------------|
| <u>TREES</u>                        |                               |                                     |
| <u>SHRUBS:</u>                      |                               |                                     |
| <i>Calytrix angulata</i>            | Yellow starflower             | Rare                                |
| <i>Comesperma calymega</i>          | Blue-spike Milkwort           | Quite rare                          |
| <i>Hakea conchifolia</i>            | Shell-leaved Hakea            | Rare                                |
| <i>Hakea ruscifolia</i>             | Candle-spike Hakea            | Quite common                        |
| <i>Hemiandra (ougens)</i>           | Snakebush                     | Quite rare-to<br>-minor             |
| <i>Hypocalymma sunicum</i>          | -                             | Quite rare<br>(mostly NW<br>corner) |
| <i>Lechenaultia (expansa)</i>       | -                             | Quite rare                          |
| <i>Jacksonia (?sericea)</i>         | -                             | Rare                                |
| <i>Petrophile serruriae</i>         | -                             | Rare                                |
| <i>Pittrodia axillaris</i>          | Native Foxglove               | Rare                                |
| <i>Scaevola paludosa</i>            | -                             | Quite common                        |
| <i>Stirlingia latifolia</i>         | Bluebovs                      | Quite common                        |
| <i>Stylidium piliflorum</i>         | -                             | Minor-to<br>-quite common           |
| <i>Stylidium brunonianum</i>        | Pink Fountain<br>Triggerplant | Quite rare                          |
| <i>Verticordia monodelpha</i>       | Pink Woolly<br>Featherflower  | Rare                                |
| <i>Xylomelum occidentale</i>        | Western Woody Pear            | Rare                                |
| <u>HERBS:</u>                       |                               |                                     |
| <i>Drosera menziesii</i>            | Red Ink Sundew                | Rare                                |
| <u>GRASSES AND GRASSLIKE PLANTS</u> |                               |                                     |
| <i>Schoenus grandiflorus</i>        | Large Flowered<br>Bog Rush    | Minor                               |
| <u>WEEDS:</u>                       |                               |                                     |

| <u>Botanical name</u>            | <u>Distribution</u>        | <u>Abundance</u> |
|----------------------------------|----------------------------|------------------|
| Ursinia anthemoides<br>(Ursinia) | esp. on westside<br>tracks | Common           |

16/2/94

Post February 1994 Addendum

| <u>Botanical Name</u>   | <u>Common Name</u>  | <u>Abundance</u>        |
|-------------------------|---------------------|-------------------------|
| Astroloma stomarrhena   | Red Swamp Cranberry | Quite rare              |
| Conostegium pendulum    | Pearl flower        | Quite rare              |
| Daviesia nudiflora      |                     | Quite rare-to<br>-minor |
| Daviesia triflora       |                     | Quite rare              |
| Jacksonia floribunda    | Holly Pea           | Minor                   |
| Lomandra nigricans      |                     | Quite rare              |
| Pronava fraseri         | Elegant Pronava     | Quite rare              |
| Tetraricopsis octrandra |                     | Quite rare              |

System 6 Update - Floristic Community Type Mapping Information DRAFT ONLY

AREA INFORMATION

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

|                             |
|-----------------------------|
| Conservation Area           |
| Nature Reserve              |
| Reserve No                  |
| National Park               |
| Reserve No                  |
| Local Government            |
| Reserve No                  |
| Other                       |
| Proposed Conservation Areas |
| Local Government            |
| Reserve No                  |
| Other Private Location 7561 |

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         | ACTIV | Bound | Area (ha) |
|-------|------------------|--------------|-------|-------|-----------|
|       | B1               | NOT ANALYSED |       |       |           |
|       |                  |              |       |       |           |
|       |                  |              |       |       |           |
|       |                  |              |       |       |           |
|       |                  |              |       |       |           |
|       |                  |              |       |       |           |
|       |                  |              |       |       |           |
|       |                  |              |       |       |           |
|       |                  |              |       |       |           |

Boundaries determined by use of

|                   |                                       |
|-------------------|---------------------------------------|
| aerial photograph | Metro Street Directory 13 5185 4/1/91 |
| orthophoto        |                                       |
| vegetation map    |                                       |
| soil map          |                                       |

with  
KAS2

**Department of Environmental Protection System 6 Update: Site Based Flora List for Activ**

(extracted from the CALM Swan Coastal Plain database, Activ01, 71 taxa, 25/5/95)

Anthericaceae

- Thysanotus sparteus
- Tricoryne elatior

Apiaceae

- Xanthosia huegelii

Asteraceae

- \* Sonchus oleraceus

Casuarinaceae

- Allocauarina humilis
- Allocauarina thuyoides

Chloanthaceae

- Pityrodia bartlingii

Colchicaceae

- Burchardia umbellata

Cyperaceae

- Caustis dioica
- Cyathochaeta clandestina
- Lepidosperma leptostachyum
- Mesomelaena pseudostygia
- Schoenus caespititius
- Schoenus clandestinus
- Schoenus subflavus

Dasypogonaceae

- Calectasia cyanea
- Dasypogon bromeliifolius
- Dasypogon obliquifolius
- Lomandra hermaphrodita
- Lomandra preissii
- Lomandra sericea

Dilleniaceae

- Hibbertia huegelii
- Hibbertia hypericoides

Droseraceae

- Drosera menziesii

Epacridaceae

- Astroloma stomarrhena
- Conostephium pendulum
- Leucopogon aff. nutans scps

Euphorbiaceae

- Monotaxis grandiflora

Goodeniaceae

Scaevola repens var. repens

Haemodoraceae

Conostylis aurea  
Conostylis setigera  
Haemodorum laxum

Iridaceae

\* Gladiolus caryophyllaceus  
Patersonia occidentalis

Lamiaceae

Hemiandra pungens

Lauraceae

Cassytha racemosa

Mimosaceae

Acacia sessilis  
Acacia willdenowiana

Myrtaceae

Calytrix flavescens  
Eremaea pauciflora subsp. pauciflora seps  
Melaleuca scabra

Papilionaceae

Bossiaea eriocarpa  
Daviesia divaricata  
Daviesia nudiflora  
Daviesia physodes  
Daviesia triflora  
Gompholobium tomentosum  
Jacksonia densiflora  
Jacksonia restioides

Poaceae

Amphipogon turbinatus

Proteaceae

Adenanthos cygnorum  
Banksia attenuata  
Banksia incana  
Banksia menziesii  
Conospermum undulatum seps map  
Dryandra nivea  
Hakea conchifolia  
Isopogon drummondii  
Lambertia multiflora  
Petrophile linearis  
Petrophile macrostachya  
Stirlingia latifolia  
Synaphea spinulosa

Restionaceae

Alexgeorgea nitens  
Hypolaena exsulca

CONTACT DR N. GIBSON CALM WOODVALE for further information.

Flora list for Activ (extracted from Swan Coastal Plain database, Activ01,71 taxa, 25/5/1995).

Lepidobolus preissianus  
Loxocarya fasciculata  
Lyginia barbata

Rutaceae

Eriostemon spicatus

Stylidiaceae

Stylidium repens

Xanthorrhoeaceae

Xanthorrhoea drummondii

148

ACTIV

Subm 83

COMMENTS FOR THE SYSTEM SIX UPDATE: AUGUST 1995

CONFIDENTIAL

Name: Dr Roger Brotherton and Mrs Susan Brotherton

Address: 6 Lino Place, High Wycombe 6057

Tel. No: 09 454 8527

Interest: High Wycombe residents concerned about the maintenance of the established character of the Foothills area in general, and of the retention of remaining bushland remnants and wetland areas - in particular, the intact and uncleared Jarrah-Banksia woodland on Swan Location 7561.

Summary: Swan Location 7561 is located in the northern High Wycombe area. It is owned by the Activ Foundation, and contains an approximately 21 Ha contiguous zone of uncleared and intact Jarrah - Banksia woodland. The Location is to be zoned Urban (U2) under the final version of the State Government's Foothills Structure Plan. (FSP) (September 1992). The present authors argue that the regional conservation and public amenity values of Swan Location 7561 should be assessed by the relevant government scientific agency BEFORE an irredeemable decision to develop the area is taken.

Conclusions:

1) The uncleared (21 Ha) bushland component comprising the northern portion of Activ Foundation's Swan Location 7561 very likely represents a regionally significant remnant of intact Jarrah-Banksia woodland within the Kalamunda Foothills area on the eastern side of the Swan Coastal Plain.

2) The area in question should therefore be fully and properly assessed by the appropriate government conservation authority BEFORE any irredeemable decision is made to rezone it to Urban, and consequently, to sub-divide it for housing development.

Recommendations:

1) That steps be taken by the appropriate State Government administrative and scientific agencies TO SECURE A TEMPORARY PROHIBITION OF (URBAN) REZONING AND SUB-DIVISION OF SWAN LOCATION 7561.

2) That this action be carried out so that A FULL AND PROPER SCIENTIFIC ASSESSMENT CAN BE MADE OF THE CONSERVATION VALUES OF THE Location 7561 (ACTIV) BUSHLAND AREA - AND OF THE LATTER'S REGIONAL CONSERVATION SIGNIFICANCE.

Comments: I. (RB) am a retired consulting geologist, and my wife and I have been resident in High Wycombe for the last eight years.

Swan Location 7561 is private land and comprises the Activ Foundation Hawkevale land in northern High Wycombe. (Fig 1). The area is bounded to the east by the Roe Highway, to the north by Adelaide Street, to the west by a special rural zone (Swan Location 1435), and to the south by the developed High Wycombe townsite.

Location 7561 forms part of an area earmarked for future urban development (designated U2) under the State Government's FSP. (September 1992). (Fig 1).

The current total area of Location 7561 is about 38 Ha. (Fig 2). The southern third of the location, (approximately 12-13 Ha) is chiefly occupied by the residential, workshop and plant nursery complexes of the Activ Foundation. This zone also includes some 2-3 Ha of uncleared bushland remnants.

In addition, there is a cleared area of about 5-6 Ha in the south-eastern corner of the location. This latter area abuts the Ellis Court housing development, and is adjacent to the Roe Highway. (Fig 2).

The bushland portion of Location 7561 forms a single contiguous area. It is approximately 21 Ha in extent and occupies the northern 55-60 percent of the Location. The area is bordered on all four sides by fire access tracks used occasionally for exercising horses. A small number of internal tracks are also present. (Fig 2). These are principally utilised by an estimated small number (only) of pedestrians.

The bushland comprises gently undulating whitish Bassendean Sands that carry a tree assemblage of Eucalypts, Banksias, Allocasuarina and Nuttsia. There is also a complementary assemblage of native shrubs and herbs - including a good showing of an (increasingly rare) local species - *Blancoa canescens* - the Maida Vale Bell. Other species - apparently endemic to the Foothills portion of the eastern coastal plain: *Isopogon drummondii* and *Dasyprocton bromeliifolius*, are also present in significant numbers.

A suite of colour photographs indicating the general character of the Activ bushland, and including both pre- and post bushfire views is appended in the accompanying submission.

In all, approximately 82 species of native flora have been recorded by the authors to date, (mid-August 1995). However, a considerable number of other species remain to be located and identified (by us). A brief (incomplete) inventory of native plant species observed within Location 7561 over the past three years is presented in Table 1 below. The actual spatial (and temporal) distributions of identified individual species have not been recorded to date.

It is possible that some of the original Jarrah has been felled. However, there are a considerable number of mature Jarrah specimens still in existence - as well as considerable recent (re)growth.

All plant species appear to be in a state of active and healthy growth and renewal - this is particularly so in the aftermath of two recent major (deliberately lit) fires.

In February 1992, all but the extreme south-west and south-east portions of the bushland area were burnt, (approximately 15Ha fired), (Fig 2).

In February 1994, the southern portion of the area was burnt - chiefly in the workshop, nursery and residential zone, but also the southern extremities of the uncleared bushland area - about 7-8 Ha of bushland were affected.

Recognised weed species - in particular Veldtgrass, have made some incursions - particularly in the post-Feb 1994 fire period. The weed is present to some extent within of the periphery of the bushland, and along the borders of most of the tracks, (Table 1).

The bush area supports a number of bird species. These include various species of honeyeaters, finches, and parrots - including, in season, Carnaby's White-tailed Black Cockatoo. No assessment of the effects of the 1992 and 1994 fires on the bird population has been made by the authors.

The bushland appears mostly clear of dumped household and building rubbish except within the extreme northern and north-western margins. These zones are adjacent to the termination of Adelaide Street.

The area, to our knowledge, is just about the last remaining zone of native Jarrah - Banksia woodland of substantial size in the general High Wycombe - and (possibly), the entire Kalamunda foothills area. It is almost certainly the only substantial zone of currently un-degraded Jarrah-Banksia woodland in the western Kalamunda Shire area to which the general public has access.

**Discussion:**

We believe that Location 7561 represents one of the very few areas of good-sized uncleared contiguous Jarrah-Banksia woodland remnants remaining on the Bassendean Dune System in the northern Foothills area. And it is also likely to be the only such area that is accessible to the general public. It therefore should be - in our opinion, a public amenity resource; and one which - on that basis, should be conserved and husbanded for the future. Or at the very least be considered seriously for such treatment.

Location 7561 was not assessed as part of the 1983 System Six evaluation exercise. Pertinently, however, Part Two of that report states as number 14 of it's general recommendations (page 39) that: "The Government should establish an investigation into legislative means of achieving, through public planning procedures, the protection of the conservation and public amenity values of designated privately owned areas, without necessitating public acquisition of the land affected". (our highlighting). This approach appears to have been adopted in regard to the M53 reserve in Forrestfield. (Page 228 System Six report, 1983). We believe that the same approach might be one option to be considered for Swan Location 7561.

We believe that Location 7561 should be properly assessed on this basis, and that it's regional (and local) ecological significance should be properly and professionally determined BEFORE THE AREA IS ZONED URBAN AND HAS BEEN GIVEN HOUSING DEVELOPMENT APPROVAL.

Under the State Government's Foothills Structure Plan (FSP), the bushland area in question represents approximately 3.2 percent of Category A1 land, or 2.5 percent of combined Category A1 and B land. Which categories comprise areas of 750 Ha and 960 Ha respectively, (page 25, FSP September 1992 (Final) document).

Retention of the bushland portion of Location 7561 as natural bushland - if such were found to be scientifically merited, would therefore have only a very small impact on the stock of designated housing land available in the Foothills region as identified by the Urban Expansion Policy.

In any event, the 5-6 Ha south-east (cleared) portion of Location 7561 could, in our opinion, be usefully subdivided for housing; being - as it is, adjacent to the Ellis Court housing development, (Fig 2).

In general regard to conservation and development in the Foothills area, the State Government in its Foothills Structure Plan (August 1991), states under its Aims, (page 21) "... the conservation of important landscapes and environmental areas." Further, under its Objectives (same page), it states the former to include the following: to "... provide additional land for urban development, having regard to concerns for the environment ...", and to "...protect the Darling Escarpment and other areas of scenic, environmental and recreational value, and achieve good quality urban and natural environments in the Foothills;" also to "... retain rural wedges to accommodate compatible rural and rural-residential pursuits and to assist in creating distinctive communities with a clear demarcation between urban and non-urban areas;" finally to "... achieve a good quality urban and natural environment in the Foothills study area which is sustainable in the long term."

We believe that these aims and objectives would be served if our stated deposition were actively considered; namely, that the uncleared Jarrah-Banksia bushland component comprising the northern portion of Swan Location 7561 may represent a regionally significant remnant of uncleared native vegetation within the northern Foothills area; and, as such, it therefore should be fully and properly assessed by the appropriate government conservation authority BEFORE any irreparable decision is made to rezone it to Urban, and subsequently, sub-divide it for housing.

Table 1

AN INCOMPLETE LIST OF FLORA - ACTIV FOUNDATION BUSHLAND:  
SWAN Location 7561, HIGH WYCOMBE  
To August 1995

TREES

| <u>Botanical name</u>     | <u>Common name</u> | <u>Abundance</u>         |
|---------------------------|--------------------|--------------------------|
| / Allocasuarina fraserana | Common Sheoak      | minor                    |
| / Banksia attenuata       | Candle Banksia     | very common              |
| / Banksia grandis         | Bull Banksia       | rare to minor            |
| / Banksia menziesii       | Firewood Banksia   | very common              |
| / Eucalyptus marginata    | Jarrah             | minor to<br>quite common |
| Eucalyptus tottiana       | Fricklybark        | minor                    |
| / Nutysia floribunda      | WA Christmas Tree  | quite common             |

SHRUBS

|  |                         |  |
|--|-------------------------|--|
| / Acacia pulchella                       | Frickly Moses           | quite common                                     |
| / Acacia stenoptera                      | Narrow winged<br>Wattle | very rare  |
| Acacia willowdeniana = <i>opp</i>        | Grass Wattle            | rare-to-minor                                    |
| / Adenanthos cygnorum                    | Woolly Bush             | common esp.<br>on borders and<br>disturbed areas |
| / Allocasuarina humilis                  | Dwarf Sheoak            | quite rare                                       |
| / Bossiaea eriocarpa                     | Common Brown Pea        | quite rare to<br>minor                           |
| / Calcectasia cyanea                     | Blue Tinsel Lily        | quite rare                                       |
| / Calytrix angulata                      | Yellow starflower       | quite rare                                       |
| / Comesperma calymega                    | Blue-spike Milkwort     | quite rare                                       |
| Conospermum sp                           |                         | quite rare-to<br>-minor                          |
| Conostylis aculeata                      |                         | minor  |
| / Conostylis (?setigera)                 | Bristly Conostylis      | minor  |
| / Dampiera linearis                      | Common Dampiera         | quite common                                     |
| / Dasypogon bromoliifolius               | Pineapple Bush          | quite common                                     |
| <u>Geographically-restricted species</u> |                         |  |
| / Davisia decurrens                      |                         | quite common                                     |
| / Davisia divaricata                     |                         | rare   |
| / Dryandra nivea                         | Couch Honeypot          | minor-to-<br>quite common                        |
| Dryandra sessilis                        | Parrotbush              | very rare  |
| / Eremaea pauciflora                     |                         | quite rare-to<br>-minor                          |
| Eremaea violacea = <i>Embrictor</i>      |                         | rare   |

SHRUBS (continued)

| <u>Botanical name</u>             | <u>Common name</u>            | <u>Abundance</u>                    |
|-----------------------------------|-------------------------------|-------------------------------------|
| <i>Ericostemon spicatus</i>       | Pepper and Salt               | quite rare                          |
| <i>Gompholobium aristatum</i>     |                               | quite rare                          |
| <i>Hakea prostrata</i>            | Harsh Hakea                   | quite rare-to<br>-minor             |
| <i>Hakea costata</i>              | Ribbed Hakea                  | quite common<br>on margins          |
| <i>Hakea conchifolia</i>          | Shell-leaved Hakea            | rare                                |
| <i>Hakea ruscitolia</i>           | Candle-spike Hakea            | quite common                        |
| <i>Hemiandra (budens)</i>         | Snakebush                     | quite rare-to<br>-minor             |
| <i>Hibbertia huegelii</i>         |                               | rare                                |
| <i>Hibbertia hypericoides</i>     | Yellow Buttercups             | common                              |
| <i>Hemiandra pungens</i>          | Snakebush                     | rare                                |
| <i>Hovea trispermum</i>           | Common Hovea                  | rare-to-minor                       |
| <i>Hybanthus calycinus</i>        | Wild Violet                   | minor-to<br>-quite common           |
| <i>Hypocalymma puniceum</i>       | -                             | quite rare<br>(mostly NW<br>corner) |
| <i>Isopogon drummondii</i>        |                               | minor-to                            |
| <u>?Endemic to Foothills area</u> |                               | quite common                        |
| <i>Isotrochis cuneifolia</i>      | Granny Bonnets                | rare                                |
| <i>Jacksonia (?sericea)</i>       | -                             | rare                                |
| <i>Lambertia multiflora</i>       | Many-flowered<br>Honeysuckle  | quite common                        |
| <i>Lechenaultia (expansa)</i>     | -                             | quite rare                          |
| <i>Lysinema ciliatum</i>          | Curry Bush                    | rare                                |
| <i>Melaleuca pentagona</i>        |                               | very rare                           |
| <i>Oxylobium capitatum</i>        | Bacon and Eggs                | quite rare                          |
| <i>Petrochile linearis</i>        | Fixie Mops                    | minor-to<br>-quite common           |
| <i>Petrochile serruriae</i>       | -                             | rare                                |
| <i>Pimelia (?rosea)</i>           | Rose Banjine                  | very rare                           |
| <i>Pimelia sulphurea</i>          | Yellow Banjine                | rare                                |
| <i>Pittrodia axillaris</i>        | Native Foxglove               | rare                                |
| <i>Scaevola paludosa</i>          | -                             | quite common                        |
| <i>Scaevola</i> sp                | "Rabbits Ears"                | rare                                |
| <i>Stachystemon vermicularis</i>  |                               | rare*                               |
| <i>Stirlingia latifolia</i>       | Blueboys                      | quite common                        |
| <i>Stylidium brunonianum</i>      | Pink Fountain<br>Triggerplant | quite rare                          |
| <i>Stylidium piliflorum</i>       | -                             | minor-to<br>-quite common           |
| <i>Synaphea spindulosa</i>        |                               | minor                               |
| <i>Verticordia monodelpha</i>     | Pink Woolly<br>Featherflower  | rare                                |

SHRUBS (continued)

| <u>Botanical name</u> | <u>Common name</u> | <u>Abundance</u> |
|-----------------------|--------------------|------------------|
| Xanthorrhoea brunonis | Blackboy           | very common      |
| Xanthorrhoea preissii | Blackboy           | very common      |
| Xylomelum occidentale | Western Woody Pear | rare             |

HERBS

|   |                               |                          |
|---|-------------------------------|--------------------------|
| <del>Anigozanthos humilis</del>         | Cat's Paw                     | rare                     |
| <del>Anigozanthos manglesii</del>       | Red and Green<br>Kangaroo Paw | very common              |
| <del>Astroloma stomarrhena</del>        | Red Swamp Cranberry           | quite rare               |
| <del>Biancoa canescens</del>            | Maida Vale Bell               | minor-to                 |
| <u>Local species</u>                    |                               | quite common             |
| <del>Burchardia umbellata</del>         | Milkmaids                     | quite common             |
| <del>Caladenia flava</del>              | Cowslip Orchid                | minor                    |
| <del>Conostephium pendulum</del>        | Pearl flower                  | quite rare               |
| <del>Daviesia nudiflora</del>           |                               | quite rare-to<br>-minor  |
| <del>Daviesia triflora</del>            |                               | quite rare               |
| <del>Diuris longifolia</del>            | Common Donkey<br>Orchid       | rare                     |
| <del>Drosera menziesii</del>            | Red Ink Sundew                | quite rare               |
| <del>Jacksonia floribunda = densi</del> | Holly Pea                     | minor                    |
| <del>Johnsonia pubescens</del>          | Pipe Lily                     | rare                     |
| <del>Kennedia prostrata</del>           | Running Postman               | minor-to<br>quite common |
| <del>Lomandra nigricans</del>           |                               | quite rare               |
| <del>Pronava fraseri</del>              | Elegant Pronava               | quite rare               |
| <del>Tetraricopsis octrandra</del>      |                               | quite rare               |

GRASSES AND GRASSLIKE PLANTS\*

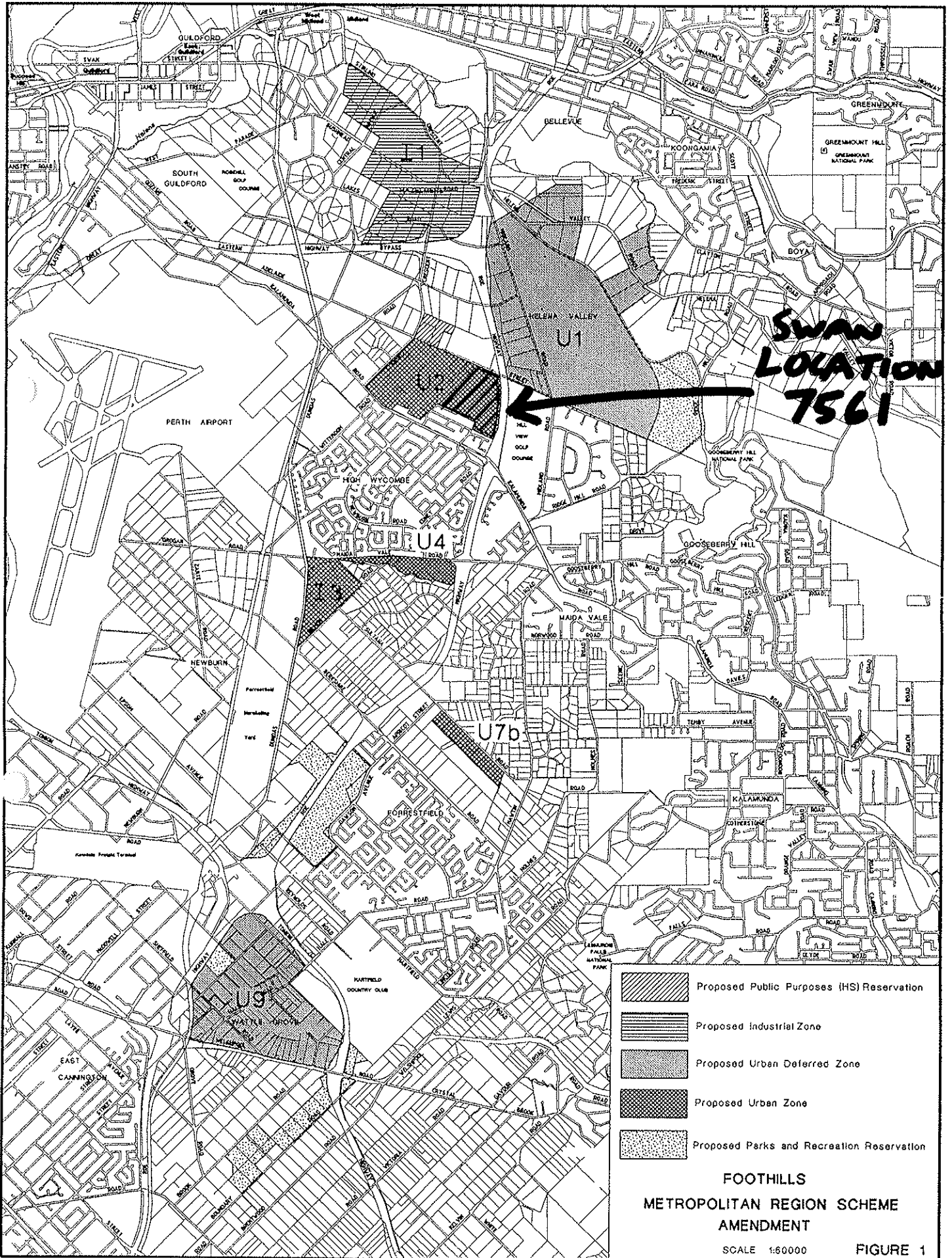
|  |                            |                         |
|--|----------------------------|-------------------------|
| <del>Mesomelaena stygia</del>          | Telegraph Sedge            | quite rare-to<br>-minor |
| <del>Schoenus grandiflorus</del><br>ND | Large Flowered<br>Boa Rush | minor                   |

WEEDS

| <u>Botanical name</u>                         | <u>Distribution</u>   | <u>Abundance</u>          |
|---|---|---------------------------|
| Arctotheca calendula<br>(Capeweed)            | mostly on border<br>and internal tracks   | minor-to<br>-quite common |
| Briza maxima<br>(Blowfly Grass)               | mostly on border<br>tracks; encroaching<br>along internal tracks                                      | minor-to<br>-quite common |
| Ehrharta calycina<br>(Perennial Veldgrass)    | mostly along<br>border tracks;<br>encroaching along<br>internal tracks                                | common                    |
| Gladiolus caryophyllaceus<br>(Wild Gladiolus) | scattered throughout<br>bushland  | quite common              |
| Lupinus consentinii<br>(Sandplain Lupin)      | chiefly on S. margin<br>and E. border track   | common                    |
| Lupinus mutabilis<br>(Pearl Lupin)            | as L. consentinii   | quite common              |
| Ursinia anthermoides                          | Chiefly confined to<br>border and internal<br>tracks. Some on bare<br>(fired) ground central<br>zone. | minor-to<br>quite common  |

R.L. and S.A. Brotherton  
16/8/95

FIG 1 LOCATION OF SWAN LOCATION 7561





24 HOURS A DAY  
365 DAYS A YEAR

9274 4088

30th Jan Lu  
99

Vol. 13 No. 651 Sa

(ACTIV) HAWKSWALK BUSHLAND BS 122 PB043

# Shire not to blame over Kenneth Rd

Kalamunda Shire President, Councillor Owen McGrath, has defended the shire's position on the Activ Foundation redevelopment in High Wycombe.

As reported in the *Echo* on January 23, residents angry the Kenneth Road Reserve has been given to Activ as part of a deal struck between the Minister for Planning, conservation groups, the Department of Environmental Protection and Activ.

"I'm sick of getting the blame for this," he said. "I want the High Wycombe community to know the decision to take Kenneth Road Reserve was the result of direct interference by the conservation elements. "Council did nothing more than accept the Minister's decision on this."

He said council could reverse the scheme amendment at next month's Planning Services Committee meeting, but said the decision would automatically be overturned by the Minister.

In a new development, conservation groups, who had reportedly been happy with the deal, are claiming one hectare of the 1.7 hectare Kenneth Road Reserve has con-

servation value and should be retained. Executive member and spokesperson for the Conservation Council, Ms Joan Payne, said she believed there was still room for compromise over the decision. "I wouldn't think one hectare of land was beyond the Minister to sort out," she said.

Cr McGrath slammed Ms Payne's claims describing them as, "A beat-up to stop the development going ahead". "Every piece of square dirt in Western Australia has conservation value to these people," he said.

President of Activ Foundation, Mr Murray Blanchard, concurs with Cr McGrath's sentiments. "Kenneth Road Reserve is a field of wild oats," he said.

Kenneth Road resident, Mr Barry Miles, maintains residents have been the biggest losers in the deal. Mr Miles has submitted a petition bearing 134 signatures to the shire demanding the reserve be retained.

"We are looking for support from the shire to stand up for our rights to be consulted," he said. See cartoon page 5

## SWAN VALLEY

Echo, January 30, 1999 — 5

**SAVE OVER \$4**

2 Qtr Chicken & Chips plus 2 Chicken, Cheese & Bacon Burgers **\$9.95**



### red rooster

MIDLAND: 356 Gt Eastern Hwy  
BASSENDEAN: Cnr West & Guildford Rd



Loc  
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X-Sieve: CMU Sieve 2.2  
Subject: ACTIV Foundation property, High Wycombe  
Date: Wed, 29 Nov 2006 17:16:41 +0800  
Thread-Topic: ACTIV Foundation property, High Wycombe  
Thread-Index: AcctLxTVaz2sOP1/TbeH4S8Mh/J4Vg==  
From: "Clarke, Vanessa" <Vanessa.Clarke@dec.wa.gov.au>  
To: <m.payne@sso.wa.gov.au>  
Cc: "Bronwen Keighery" <bjkeighe@it.net.au>,  
"Mitchell, David" <David.Mitchell@dec.wa.gov.au>  
X-OriginalArrivalTime: 29 Nov 2006 09:16:41.0798 (UTC)  
FILETIME=[15142660:01C71397]  
X-imss-version: 2.044  
X-imss-result: Passed  
X-imss-approveListMatch: \*@dec.wa.gov.au  
X-Scanned-By: MIMEDefang 2.57 on 202.148.68.99

Michelle

RE LOT 606 LAMBERTIA CR HIGH WYCOMBE

I accompanied Bronwen Keighery to the Activ property on Friday 24 November to examine the known population of the rare Wavy-leafed Smoke Bush, *Conospermum undulatum*. The population was estimated in 1990 to approximately 200 plants. Using a differential GPS the population was mapped to 139 plants. However, given that the plants were past-flowering (or hadn't flowered this year) and given the density of the vegetation on site, it is expected that a proportion of the plants were missed during the survey. We believe that this population estimate to remain at approximately 200 plants, consisting of both mature and juvenile individuals. The habitat at this site remains in excellent condition.

The attached image shows the general mapped distribution of the population November 2006.  
<<c\_und\_pop2\_final.jpg>>

Regards,

Vanessa Clarke

Conservation Officer Swan Region  
Department of Environment and Conservation (DEC)

Ph 9423 2907 Mob 0427 988 186

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Content-Type: image/jpeg;  
name="c\_und\_pop2\_final.jpg"  
Content-Description: c\_und\_pop2\_final.jpg  
Content-Disposition: attachment;  
filename="c\_und\_pop2\_final.jpg"

X-Sieve: CMU Sieve 2.2  
Subject: RE: Lot 606 Lambertia Way High Wycombe  
Date: Wed, 29 Nov 2006 08:21:51 +0800  
Thread-Topic: Lot 606 Lambertia Way High Wycombe  
Thread-Index: AccR6SbwIzMivTLKSraUFxSRHOG1FwBYkwBQ  
From: "Clarke, Vanessa" <Vanessa.Clarke@dec.wa.gov.au>  
To: "Bronwen Keighery" <bjkeighe@it.net.au>  
Cc: "Mitchell, David" <David.Mitchell@dec.wa.gov.au>  
X-OriginalArrivalTime: 29 Nov 2006 00:21:52.0035 (UTC)  
FILETIME=[5E16E730:01C7134C]  
X-imss-version: 2.044  
X-imss-result: Passed  
X-imss-approveListMatch: \*@dec.wa.gov.au  
X-Scanned-By: MIMEDefang 2.57 on 202.148.68.99

Bronwen

#### Bush Forever Site 122

Please find attached the differentially mapped population of *Conospermum undulatum* (DEFL pop.2) from the ACTIV site on Lambertia Cr. 139 plants were mapped but it is expected that there would be close to 200 plants as a proportion of plants were most likely missed due to the late monitoring of this population (lack of flowers) and the dense vegetation in which the plants were occurring.

Kind regards

Vanessa Clarke  
Conservation Officer Swan Region  
Department of Environment and Conservation (DEC)

Ph 9423 2907 Mob 0427 081 398

-----Original Message-----

**From:** Bronwen Keighery [<mailto:bjkeighe@it.net.au>]  
**Sent:** Monday, 27 November 2006 13:28  
**To:** m.payne@so.wa.gov.au  
**Cc:** Clarke, Vanessa; Whisson, Gary  
**Subject:** Lot 606 Lambertia Way High Wycombe

Dear Michelle

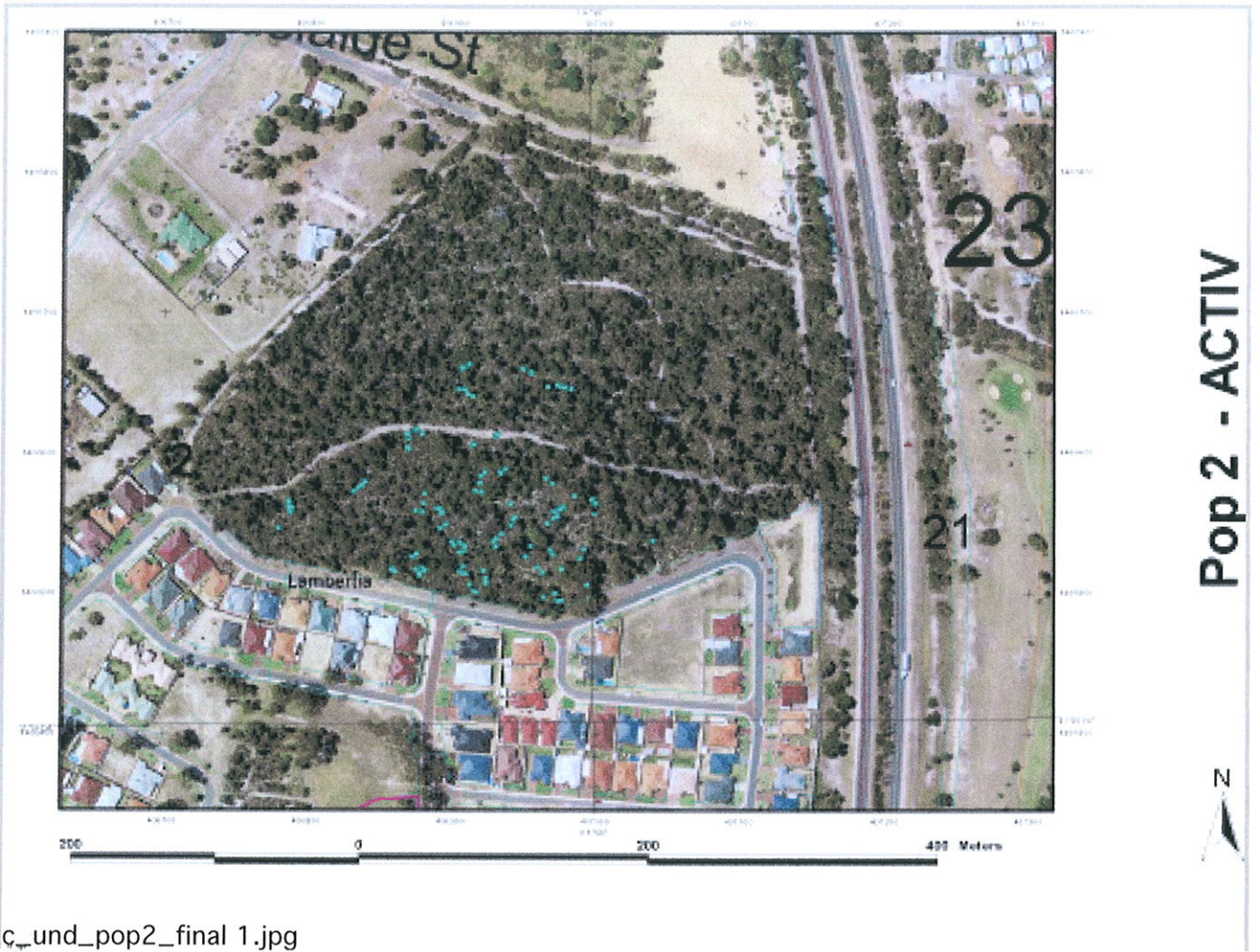
As discussed by telephone this morning I visited Lot 606 Lambertia Way High Wycombe on Friday 24th November for approximately 2.5 hours. With the aid of a 1:2000 aerial photograph of the area I traversed the lots and adjacent lots within the conservation area taking notes on the flora and vegetation condition. Digital photographs 4343 to 4375 were taken to support these notes. My observations on the flora and vegetation of Lot 606 confirmed that it had retained the values ascribed to it in my 1992 and 1995 reports and in Perth's Bushplan and Bush Forever. That is the vegetation being in predominantly excellent condition and is regionally significant. Vanessa Clarke, Conservation Officer Swan Region (Ph 9423 2907), accompanied me on the inspection.

Regrads Bronwen Keighery

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Content-Description: c\_und\_pop2\_final.jpg  
Content-Disposition: attachment;

filename="c\_und\_pop2\_final.jpg"



c\_und\_pop2\_final 1.jpg

To: m.payne@sso.wa.gov.au  
From: Bronwen Keighery <bjkeighe@it.net.au>  
Subject: Lot 606 Lambertia Way High Wycombe  
Cc: Vanessa, GaryW  
Bcc:

Attachments:

Dear Michelle

As discussed by telephone this morning I visited Lot 606 Lambertia Way High Wycombe on Friday 24th November for approximately 2.5 hours. With the aid of a 1: 2000 aerial photograph of the area I traversed the lots and adjacent lots within the conservation area taking notes on the flora and vegetation condition. Digital photographs 4343 to 4375 were taken to support these notes. My observations on the flora and vegetation of Lot 606 confirmed that it had retained the values ascribed to it in my 1992 and 1995 reports and in Perth's Bushplan and Bush Forever. That is the vegetation being in predominantly excellent condition and is regionally significant. Vanessa Clarke, Conservation Officer Swan Region (Ph 9423 2907), accompanied me on the inspection.

Regrads Bronwen Keighery



BFS 122 Hawkevale Bushland  
Aerial 2005

1:2,000

X Approx Location  
most photos  
... Route  
24/11/06



0 50 100 150 200 Meters



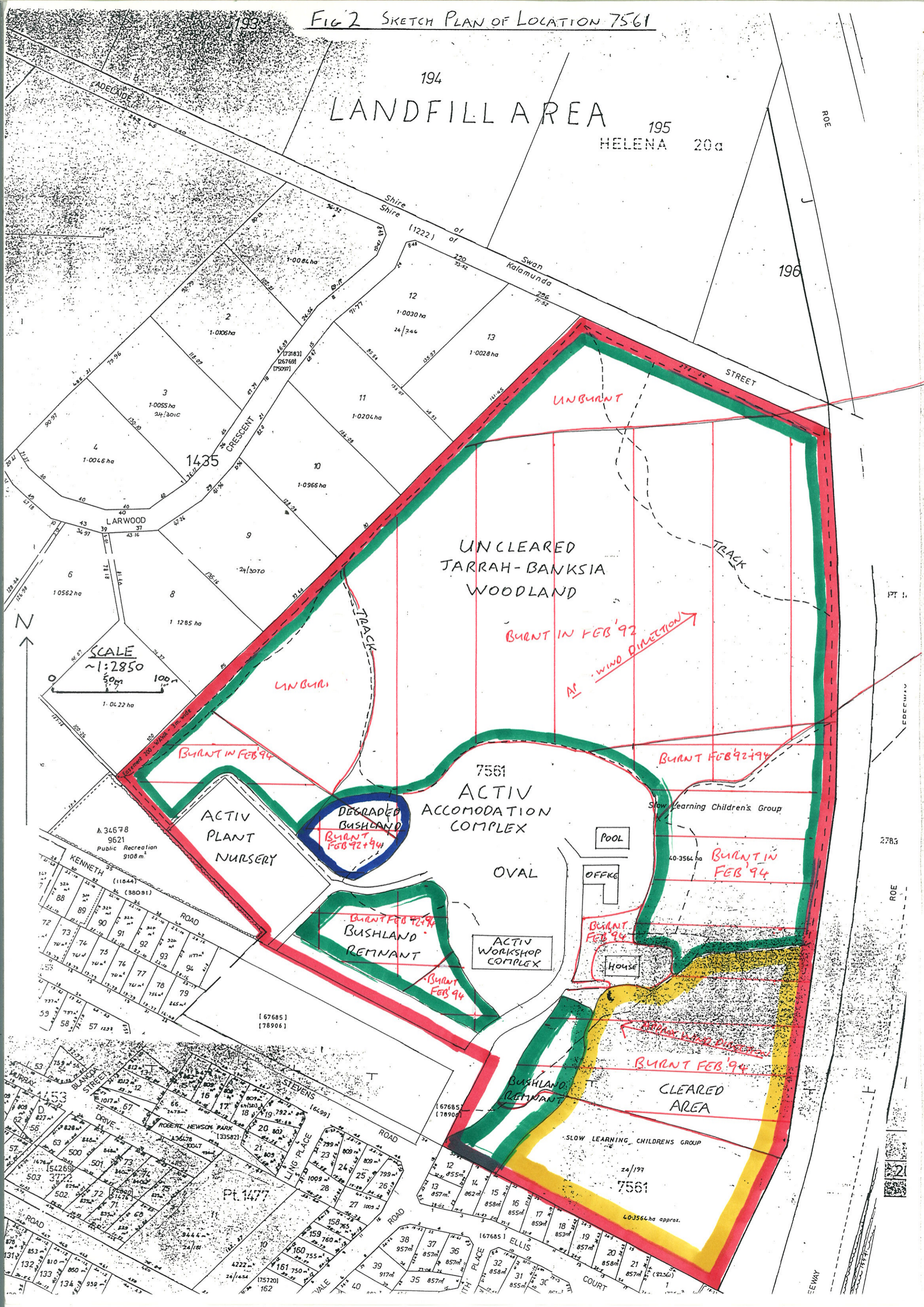
Actio Industries Site





ACTIV

FIG 2 SKETCH PLAN OF LOCATION 7561



# LANDFILL AREA

195  
HELENA 20a

UNBURNED  
UNCLEARED  
JARRAH-BANKSIA  
WOODLAND

7561  
ACTIV  
ACCOMODATION  
COMPLEX

ACTIV  
PLANT  
NURSERY

DEGRADED  
BUSHLAND  
BURNED  
FEB 92+94

BURNED FEB 92+94  
BUSHLAND  
REMNANT

ACTIV  
WORKSHOP  
COMPLEX

POOL

OFFICE

HOUSE

Slow Learning Children's Group

BURNED IN  
FEB 94

BURNED FEB 94

CLEARED  
AREA

BUSHLAND  
REMNANT

SLOW LEARNING CHILDRENS GROUP

7561

40-3564 ha approx.

SCALE  
~1:2850  
50m 100m



193  
ADELAIDE

1435  
CRESCENT

LARWOOD

KENNETH ROAD

MURRAY ROAD  
BLANCKO STREET  
ROBERT HEWSON PARK  
LING PLACE  
VALE ROAD

Shire  
Shire

Swan  
Kalamunda

ROE

196

STREET

TRACK

TRACK

PT 1

2783

ROE

2

SEWAY

7

ACTIN I P A  
30-8-95



ACTIN Ø 1



ACTIVØ2





ACTIV I.P.A  
30-8-95





ACTIV I.P.A

30-8-95





⑧ Hawkevale Bushland  
September 1996.

Joan Payne



⑤ Haekuae bushland  
September 1994

John Payne



① Haukevale  
bushland  
High Wycombe.

Jean Payne  
Please  
return

September 1996



④ *Haukeia*  
bushland  
September 1996.

Joan Payne

(3)

Haukevaki bushland

September 1996



Joan Payne



① Haukevale Bushland  
September 1996

go -  
page



⑥ Hauhehale bushland  
Sept ember 1996

Joan  
Payne

BS 199 Foot/Pinj  
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WESTRALIA SQUARE  
141 ST. GEORGE'S TERRACE, PERTH

**VEGETATION AND FLORA  
SURVEY  
OF THE  
SHIRE OF KALAMUNDA  
VESTED RESERVES**

**VOLUME 1 - REPORT  
OCTOBER 1992 TO MARCH 1993**

**PAUL ARMSTRONG RESEARCH OFFICER  
SHIRE OF KALAMUNDA**

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VEGETATION AND FLORA  
SURVEY  
OF THE  
SHIRE OF KALAMUNDA  
VESTED RESERVES

VOLUME 2 - RESERVE SPECIES LIST

OCTOBER 1992 TO MARCH 1993

BY PAUL ARMSTRONG RESEARCH OFFICER

SHIRE OF KALAMUNDA

MARCH 1993

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**FLORISTIC COMMUNITY TYPES - PERTH METROPOLITAN AREA (PMA)**

All floristic community types (FCT) identified from the sites in the Perth Metropolitan Area are listed below.

Garden Island, Rottnest Island and the Wilbinga area are included at this stage. Floristic community types will be inferred from the distributions of the FCT's and geomorphic units for areas in which we have no sites that are considered by other processes to be significant (MfP, Submissions to System 6 Update etc).

**Key****Floristic Community Types**

FCT confined to PMA = #FCT

FCT principally confined to PMA = FCT

**DRAFT Threatened Communities (CALM)**

CR = Critically Endangered

EN = Endangered

VU = Vulnerable

CR, EN & VU are boxed to indicate the categories considered as threatened.

Identified as Threatened or Poorly Plant Communities by the DEP, not included in the above

DD = Data deficient

NA = Not assessed

**Major Geomorphic Systems on the Plain (see Figure 1)**

DN = Dandaragan Plateau

RH = Ridge Hill Shelf (Foothills)

PP = Pinjarra Plain

BS = Bassendean Dunes

SS = Spearwood Dunes

LS = Tamala Limestone surfaces in Spearwood Dunes

QS = Quindalup Dunes

**Areas**

Listed from N to S in the PMA, areas in *italics* are considered the least suitable opportunities within the PMA for conservation of this FCT.

**SUPERGROUP 1 - FOOTHILLS/PINJARRA PLAIN****1a NA *E. haematoxylon* - *E. marginata* woodlands on Whicher foothills**

Single site in the PMA Norman (Norm 02 = DRF site), most northern occurrence, disjunct

**2 EN Southern wet shrublands**

Predominantly southern, single occurrence in M53 (M53 04 = *Bybylis*), most northern occurrence, disjunct

**3a CR *E. calophylla* - *Kingia australis* woodlands on heavy soils**

Predominantly in the PMA, two occurrences outside (Pinjarra 1, C53 SWaroonna)

\*Pearce1 Threatened &/or poorly res

\*Pearce2 Threatened &/or poorly res

M53 (most N sites)

Prop. Yule Brook Nature Reserve

Lambert Lane

Brickwood  
Mundijong Road  
Punrack Road

**3b VU *E. calophylla* - *E. marginata* woodlands on sandy clay soils M80**

M80 Ellis Brook Valley Reserve (most N)  
Rushton Rd Threatened &/or poorly res...  
M83 Cardup NR  
Norman Threatened &/or poorly res...  
M85 Serpentine NP  
Page Threatened &/or poorly res...

**3c CR *E. calophylla*- *Xanthorrhoea preissii* woodlands and shrublands**

Pearce5 Threatened &/or poorly res (most N)  
\*Pearce3 Threatened &/or poorly res  
M17 Ellen Brook Nature Reserve  
Talbot Road Bushland, Shire of Swan  
Mundijong Road Threatened &/or poorly res...

**S8 NA *E. wandoo* Woodlands (Scarp)**

\*Pearce6 Threatened &/or poorly res

M15 Pearce Aerodrome (Pearce 03)  
M21 Red Hill  
M80 Ellis Brook Valley Reserve

**SUPERGROUP 2: SEASONAL WETLANDS**

**4 NA *Melaleuca preissiana* damplands  
(BS, BS/PP)**

Gnangara Water Reserve  
M9 *Melaleuca Park* (many mined for marl)  
Subm Ellenbrook Bushland  
M13 Whiteman Park  
Subm 178 Lightning Swamp, Noranda  
M40 *Dianella Open Space* (small area)  
M52 Perth Airport  
Gosnells Area 34, Trudgen & Keighery (1995)  
Gosnells Area 4, Trudgen & Keighery (1995)  
Gosnells Area 6, Trudgen & Keighery (1995)  
M95 Forrestdale Lake  
M98 Reserve C31874 Casuarina  
M99 Modong NR  
M105 Lowlands property  
Subm 220 Lot 399 Henderson Rd, west of Serpentine

**5 NA Mixed shrub damplands (PP,BS; predominantly PMA)**

Gnangara Water Reserve  
M14 Bullsbrook NR  
Lot 39 Great Northern Highway, Ellenbrook  
M8 Lake Pinjar  
Subm 116 Ellenbrook Bushland (Vines)  
M52 Perth Airport  
M105 Lowlands property  
M93 Harry Waring Marsupial Reserve  
M94 Jandakot Airport  
Paganoni block

**7 VU Herb rich saline shrublands in clay pans (PP, PMA central)**

M14 Bullsbrook NR  
 \*Pearce2 Threatened &/or poorly res  
 M52 Perth Airport  
 Gosnells Area 33, Trudgen & Keighery (1995)  
 Prop. Yule Brook Nature Reserve  
 Punrack Rd Threatened /or poorly res..., Serpentine

**8 VU Herb rich shrublands in clay pans (PP, PMA central)**

M15 Pearce Aerodrome  
 \*Pearce2 Threatened &/or poorly res  
 \*Pearce3 Threatened &/or poorly res  
 \*Pearce5 Threatened &/or poorly res  
 M17 Ellen Brook Nature Reserve  
 Gosnells Area 33, Trudgen & Keighery (1995)  
 M95 Forrestdale Lake  
 Prop. Yule Brook Nature Reserve  
 Mundijong Road Threatened &/or poorly res...

**9 VU Dense shrublands on clay flats (PP, N most in PMA)**

LG Brickwood Reserve (most N)  
 Mundijong Road Threatened &/or poorly res...

**10a EN Shrublands on dry clay flats (PP, N in PMA)**

M8 Lake Pinjar (most N, and only assoc Qts/Qpb)  
 Gosnells Area 33, Trudgen & Keighery (1995)  
 M69 Part Prop. Yule Brook Nature Reserve  
 M95 Forrestdale Lake  
 Punrack Rd Threatened /or poorly res..., Serpentine

**11 NA Wet forests and woodlands (SS/BS, BS, PP; centred PMA)**

M14 Bullsbrook NR  
 M17 Twin Swamps NR  
 M92 North Lake  
 M99 Modong NR  
 M93 Harry Waring Marsupial Reserve  
 M105 Lowlands property

**12 NA *M. teretifolia* and / or *Astartea* aff. *fascicularis* shrublands (BS, most N)**

M8 Lake Pinjar (most N)  
 M52 Perth Airport  
 M95 Forrestdale Lake

**13 NA Deeper wetlands on heavy soils (PP?BS, PP; PMA central)**

M100 Reserve C22167, south west of Byford  
 Paganoni block

**14 DD Deeper wetlands on sandy soils (broad Qpb, Opt)**

M4 Ridges MPA  
 M5 Yeal NR

**15 VU Forests and woodlands of deep seasonal wetlands (PP, PMA central)**

M15 Pearce Aerodrome  
 M17 Twin Swamps NR  
 Subm 219 Yangedi Swamp Bushland

**16 NA Highly saline seasonal wetlands (esturine/saltlakes, PMA south)**

M61 Alfred Cove  
 M67 Canning River Foreshore, Salter Point to Clontarf  
 M91 Naval Base

**17 NA *M. raphiophylla* - *Gahnia trifida* seasonal wetlands**  
(OS, SS; mostly south Swan except for Guild)

M92 Mt Brown (effectively most N)  
Paganoni block  
M104 Leda  
M103 Lake Coo loongup

**18 VU Shrublands on calcareous silts**

Subm Ellenbrook Bushland

**#19a CR Sedgeland in Holocene dune swales (OS)**

M102 Lake Richmond  
M106 Port Kennedy

**#19b NA Woodlands over sedgeland in Holocene dune swales (Qhs)**

M3 Yanchep NP  
M103 Lake Coo loongup

**S1 NA *Astartea* aff. *fascicularis*/ *Melaleuca* species dense shrublands**  
(BS; Pinjar south)

M8 Lake Pinjar (N)  
Subm 199 Caversham Airbase  
Gosnells Area 34, Trudgen & Keighery (1995)  
Subm 219 Yangedi Swamp Bushland

**S2 NA northern *Pericalymma ellipticum* dense low shrublands**  
(PP/BS, BS; mostly PMA)

M8 Lake Pinjar  
M9 Melaleuca Park  
Subm Ellenbrook Bushland  
Subm 199 Caversham Airbase

Hartfield Park, Forrestfield, Threatened &/or poorly res. (most S)

**S3 NA Wet sedgeland on sandy clays**  
(BS, BS/SS; Gosnells N, one outside PMA)

M8 Lake Pinjar  
Subm Ellenbrook Bushland  
M8 Lake Gnangara  
Gosnells Area 6, Trudgen & Keighery (1995) (moost S)

**S5 NA *Acacia saligna* wetlands (associated calcareous soils)**  
Subm Ellenbrook Bushland

**S6 NA Northern dense low shrublands (Qpb/Qpa, DN; Ellenbrook N)**  
Subm Ellenbrook Bushland (most S)

**S7 Northern woodlands to forests over tall sedgeland alongside permanent wetlands (SS, BS, PP, DN, mostly PMA)**

M15 Pearce Aerodrome  
M41 Bennett Brook  
Subm 199 Caversham Airbase  
M7 Lake Joondalup  
M47 Bold Park  
M61 Alfred Cove (most S)

**S17 NA *Eucalyptus rudis*/ *Agonis linearifolia* wetlands in Bassendean Dunes**  
(BS, DN; mostly N PMA, S east Yalgorup)

Subm Ellenbrook Bushland  
M8 Lake Pinjar

M13 Whiteman Park  
M8 Lake Gnangara

**SUPERGROUP 3:****UPLANDS, CENTRED ON BASSENDEAN DUNES AND THE DANDARAGAN PLATEAU**

|            |           |   |
|------------|-----------|---|
| <b>20a</b> | <b>EN</b> | <b><i>Banksia attenuata</i> woodlands over species rich dense shrublands</b><br>(SS, PP/RH; almost all PMA) |
|------------|-----------|---|

Koondoola Threatened &/or poorly res...

Landsdale Threatened &/or poorly res...

M12 Marangaroo

Subm 275 Maida Vale Reserve

Subm 284 Bushmead Rifle Range

Activ Threatened &/or poorly res...

Sultana Rd Threatened &/or poorly res...

Agriculture Protection Board, Forrestfield

M52 Perth Airport

M53 Reserve C29880 Forrestfield

Hartfield Park, Forrestfield, Threatened &/or poorly res..

|            |           |  |
|------------|-----------|--|
| <b>20b</b> | <b>EN</b> | <b>Eastern <i>Banksia attenuata</i> and / or <i>E. marginata</i> woodlands</b><br>(BS/PP/RH; PMA soth, predom. PMA, 2 areas outside) |
|------------|-----------|--|

M52 Perth Airport (most N)

Rushton Rd Threatened &/or poorly res...

LG Brickwood Reserve

\*Connel 48

M83 Cardup NR

Norman Threatened &/or poorly res...

Lambkin Reserve, Serpentine

|             |           |  |
|-------------|-----------|--|
| <b>#20c</b> | <b>CR</b> | <b>Eastern shrublands and woodlands</b><br>(Qpa; entirely PMA) |
|-------------|-----------|--|

Subm 284 Bushmead Rifle Range

Talbot Road Bushland, Shire of Swan

|            |           |  |
|------------|-----------|--|
| <b>20d</b> | <b>NA</b> | <b>Dandaragan Plateau shrublands and woodlands</b><br>(RH, DN; single PMA) |
|------------|-----------|--|

M80 Ellis Brook Valley Reserve (atypical)

|            |           |  |
|------------|-----------|--|
| <b>21a</b> | <b>NA</b> | <b>Central <i>Banksia attenuata</i> - <i>E. marginata</i> woodlands</b><br>(SS, BS; PMA mostly northern sites) |
|------------|-----------|--|

Gnangara Water Reserve (most N)

M5 Yeal NR

M8 Lake Pinjar

Subm Ellenbrook Bushland

Subm 199 Caversham Airbase

M105 Lowlands property

M83 Cardup NR

M93 Harry Waring Marsupial Reserve

M98 Reserve C31874 Casuarina

M95 Forrestdale Lake

M104 Leda

Paganoni block

Tamworth Hill

|            |           |   |
|------------|-----------|---|
| <b>21c</b> | <b>NA</b> | <b>Low lying <i>Banksia attenuata</i> woodlands or shrublands</b> |
|------------|-----------|---|



(BS, PP; mostly PMA)

SF 65

Gnangara Water Reserve  
 M17 Twin Swamps NR  
 Subm Ellenbrook Bushland  
 M13 Whiteman Park

M69 Part Prop. Yule Brook Nature Reserve

M94 Jandakot Airport  
 M95 Forrestdale Lake  
 Subm 250 Denis de Young Reserve 33002  
 M99 Modong NR

**22 NA *Banksia ilicifolia* woodlands (BS, DN; PMA central)**

Gnangara Water Reserve  
 M8 Lake Pinjar  
 M4 Ridges MPA  
 M9 Melaleuca Park  
 Subm Ellenbrook Bushland  
 M13 Whiteman Park  
 M100 Reserve C22167, south west of Byford  
 M94 Jandakot Airport  
 Subm 250 Denis de Young Reserve 33002

**#23a NA Central *Banksia attenuata* - *B. menziesii* woodlands (BS; ALL PMA)**

SF 65

M14 Bullsbrook NR (most N)  
 M8 Lake Pinjar  
 M8 Lake Gnangara  
 M13 Whiteman Park  
 M40 Dianella Open Space  
 M52 Perth Airport  
 Hartfield Park, Forrestfield, Threateneded &/or poorly res..  
 Ken Hurst Park, Leeming

M69 Part Prop. Yule Brook Nature Reserve

Gosnells Area 4, Trudgen & Keighery (1995)  
 Gosnells Area 6, Trudgen & Keighery (1995)  
 M92 North Lake  
 M93 Harry Waring Marsupial Reserve  
 M94 Jandakot Airport  
 M97 Wandi NR  
 M98 Reserve C31874 Casuarina  
 M99 Modong NR  
 M100 Reserve C22167, south west of Byford  
 M105 Lowlands property  
 Subm 114 Crestwood Estate Bushland  
 Subm 178 Lightening Swamp, Noranda  
 Subm 195 Telecommunication networks, Dianella  
 Subm 212 Kensington Bushland  
 Subm 219 Yangedi Swamp Bushland  
 Subm 220 Lot 399 Henderson Rd, west of Serpentine  
 Subm 27 Gillon Street, Karawara  
 Subm 87 Annois Road, Bibra Lake

**23b NA Northern *Banksia attenuata* - *B. menziesii* woodlands (BS, DN; PMA north from Ellenbrook Bushland)**

Gnangara Water Reserve  
 M4 Ridges MPA  
 M5 Yeal NR  
 M9 Melaleuca Park  
 Subm Ellenbrook Bushland (most S)

**S9 NA *Banksia attenuata* woodlands over dense low shrublands**

(SS, DN mostly outside PMA)

Subm Ellenbrook Bushland (only BS, most S)

**SUPERGROUP 4: UPLANDS CENTRED ON SPEARWOOD AND QUINDALUP DUNES**

**SPEARWOOD DUNES**

**24 NA Northern Spearwood shrublands and woodlands**

(SS; mostly PMA, only one area outside, atypical)

M6 Neerabup NP

Subm 159 Hepburn Bushland Reserve

M35 Star Swamp

M36 Trigg Bushland Reserve

M47 Bold Park

M55 Buckland Hill

M93 Thompson Lake

M56 Foreshore Reserves, Mosman Park (Chidley Point)

M58 Blackwall Reach Foreshore

M91 Naval Base

M92 Mt Brown

M103 Lake Cooloongup (most S)

**25 NA Southern *E. gomphocephala* - *Agonis flexuosa* woodlands**

(SS: PMA most north then south)

M1 Two Rocks (most N)

M47 Bold Park

M7 Lake Joondalup

M104 Leda

Paganoni block

Subm 116 Ellenbrook Bushland (atypical)

**26a ?NA *M. huegelii* - *M. acerosa* shrublands of limestone ridges**

(LS/SS; major distrib PMA, series of disjunct areas)

M3 Yanchep NP

M4 Ridges MPA

Shire View Hill Threatened &/or poorly res...

**26b ?NA Woodlands and mallees on limestone**

(LS/SS; major distrib PMA, series of disjunct areas)

Wilbinga

M1 Two Rocks

M3 Yanchep NP

M4 Ridges MPA

Military Rd, W of Gingin

SF 65

Subm 159 Hepburn Bushland Reserve

**27 NA Species poor mallees and shrublands on limestone**

Wilbinga

M3 Yanchep NP

Shire View Hill Threatened &/or poorly res...

Burns Beach

M47 Bold Park

**28 NA Spearwood *B. attenuata* or *B. attenuata* - *Eucalyptus* woodlands**

(SS, DN: PMA then north, majority distribution in PMA)

M14 Bullsbrook NR (outlier on east)

\*Pearce1 Threatened &/or poorly res

\*Pearce2 Threatened &/or poorly res

\*Pearce4 Threatened &/or poorly res  
 \*Pearce6 Threatened &/or poorly res

M1 Two Rocks  
 SF 65  
 M3 Yanchep NP  
 M4 Ridges MPA  
 M6 Neerabup NP  
 M7 Lake Joondalup  
 LG Reserve 8121 (DEPOT)  
 M7 Woodvale NR  
 M11 Warwick  
 Subm 146 Pinnaroo Memorial Cemetary Bushland  
 Subm 159 Hepburn Bushland Reserve  
 M35 Star Swamp  
 M36 Trigg Bushland Reserve  
 Shenton Park Bushland  
 M49 Kings Park  
 M64 Wireless Hill Park  
 M63 Harry Sandon Park  
 M72 Sir Frederick Samson Park  
 M92 North of North Lake on Murdoch land  
 M93 Harry Waring Marsupial Reserve  
 M104 Leda (most S)

**QUINDALUP SANDS**

**29a NA Coastal shrublands on shallow sands (QS; PMA central)**

Burns Beach  
 M2 Burns Beach  
 M2 Mindarie  
 Subm 146 Pinnaroo Memorial Cemetary Bushland  
 M36 Trigg Bushland Reserve  
 M91 Naval Base  
 M96 Garden Island  
 M102 Lake Richmond

Wilbinga  
 C45 Rottnest Island

**29b NA Acacia shrublands on taller dunes (QS; PMA north, except Yalgorup)**

M1 Two Rocks  
 M2 Mindarie  
 Mindarrie  
 M36 Trigg Bushland Reserve  
 M47 Bold Park  
 M46 Swanbourne Beach and Rifle Range  
 M106 Port Kennedy (PMA most S, single at Yalgorup futher S)

Wilbinga

**#30a1 EN *Callitris preissii* forests (QS, only Metro)**

M96 Garden Island

**30a2 ?EN Woodlands and shrublands on Holocene dunes  
 (re-allocated from 30c)**

M3 Yanchep NP  
 M47 Bold Park  
 M54 Foreshore reserves, Peppermint Grove  
 M66 Mount Henry  
 M90 Woodman Point  
 M96 Garden Island

**30b NA Quindalup *Eucalyptus gomphocephala* and/or *Agonis flexuosa* woodlands**

M3 Yanchepp NP (outlier, mostly Bunbury and south)

**#11 NA Northern *Acacia rostellifera* - *Melaleuca acerosa* shrublands**  
(QS; PMA central)

M2 Mindarie

M36 Trigg Bushland Reserve

M46 Swanbourne Beach and Rifle Range

M47 Bold Park

C45 Rottnest Island

**S12 NA Rottnest Island *Callitris preissii* and/or *M. lanceolata* forests and woodlands**

C45 Rottnest Island

Strandline Quindalup Sands, probably go south but not sampled.

**S13 NA Northern *Olearia axillaris* - *Scaevola crassifolia* shrublands**

M2 Mindarie

M36 Trigg Bushland Reserve

M46 Swanbourne Beach and Rifle Range

Wilbinga

**#S14 NA *Spinifex longifolius* - *Tetragonia decumbens* low shrublands**

M2 Mindarie

M36 Trigg Bushland Reserve

M46 Swanbourne Beach and Rifle Range

Not suitable for consideration in designing reserves:

**6 NA Weed dominated wetlands on heavy soils**

Pearce5 Threatened &/or poorly res..

M17 Ellen Brook Nature Reserve

M17 Twin Swamps NR

M83 Cardup NR

**S15 Weed group, poorly allied**

M1 Two Rocks

M21 Red Hill

M47 Bold Park