

35

01.18

**SYSTEM 6 BUSHLAND SUBMISSION FORM
FOR CONSIDERATION IN THE UPDATE PROGRAMME**

If you wish to submit more than one area for consideration in the System 6 update, please use a separate form for each area.

Please fill in each section giving as much information as possible.

LOCATION, OWNERSHIP AND ZONING OF THE AREA

1. Location

Please give as accurate and detailed a description as possible of the site location

Please include either a hand drawn or copied map showing the area of the area

a) Bordering Roads: ANNOIS RD & PARKWAY RD.

b) Nearest Corner: AS ABOVE

c) Lot Number: 576 Street Number: RESERVE 39402

d) Town/Suburb/Location: BIBRA LAKE

e) Local Council: CITY OF COCKBURN

f) Site Name (if any): TECHNICAL COLLEGE SITE

g) Approximate size of the area (ha): 7.9

h) Please locate the area on a map and give us map references if possible:

i) Map: Streetsmart/UBD/Other:

j) Map no.: 102

k) Grid Ref: 24/17

l) Please give any other information that may help us to find the location:

SEE ATTACHED MAP

m) Are you aware of any development proposals that are likely to affect the area?

RECENTLY RE-ZONED URBAN IN MRS - POSSIBLE URBAN DEVELOPMENT - HOMESWEST.

NOTE: Areas that have already been given development APPROVAL should not be nominated

Please fill out those questions that you can answer

2. Who owns the area? (If owned by the person/s making the nomination please indicate)

CROWN - VESTED IN LANDS DEPT.

3. If you own the area, and may be interested in participating in conservation on private land initiatives please indicate (and leave your name and address at the end of this submission form)

4. What is the area zoned? (please indicate whether zoning is Town Planning Scheme or Metropolitan Region Scheme) ... MRS - URBAN DISTRICT SCHEME

- PUBLIC PURPOSES.

CAN YOU TELL US A LITTLE ABOUT THE PHYSICAL CHARACTERISTICS OF THE AREA

5. Why do you consider this area important? (Refer to Guiding Issues paper)

AREA IS BUSHLAND IN VERY GOOD CONDITION & IS USED

EXTENSIVELY BY LOCAL SCHOOL, LIKELY TO CONTAIN DRF.

6. What is/are the soil type/s and colours? ... SAND - SPERWOOD

Type: Sand/Clay/Gravel/Loam/Silt

Colour: White/Grey/Brown/Orange/Yellow/Red/Black

7. Does the area have any special features such as unusual landforms / landscapes that still retain their natural vegetation? Yes/No

If yes, what are they? ... GENERAL BANKSIA WOODLAND

GENTLE SLOPE SOME LARGE JARRAN PRESENT

8. Is the area a wetland or does it include a wetland? ... NO.

If yes, what kind of a wetlands is it?

- a) lake
- b) river
- c) stream
- d) swamp
- e) estuary
- f) seasonally wet
- g) other

9. What percentage of the wetland is open water in summer?

CAN YOU TELL US A LITTLE ABOUT THE VEGETATION /FAUNA ON THE NOMINATED AREA.

10. What percentage of the area is indigenous vegetation? 90%

11. If the area includes regions cleared of native bushland please indicate reasons for the inclusion.

12. Has any previous flora or fauna survey work been done on the area?

If yes, please give details of the work YES. BY BIBRA LAKE
PARENTS & CITIZENS ASSOCIATION - SEE
ATTACHED

13. How would you rate the condition of the native bushland? (see attached table)

- a) pristine
- b) excellent
- c) very good
- d) good
- e) degraded
- f) completely degraded
- g) don't know

14. Please indicate the disturbances affecting the area and where appropriate the percentage of the area disturbed.

- a) Partial clearing
- b) fragmentation
- c) Selective removal of species: timber cutting, wildflower picking, mowing dieback and other plant diseases
- d) Fire regime, including intensity, season and frequency
- e) 'Enrichment plantings' that is plantings of species not found in that community
- f) Weed invasion MINIMAL
- g) Animal impact: horses, foxes, rabbits, cats, dogs, camels, goats etc SLIGHT IMPACT
- h) Soil movement, both removal and dumping
- i) Changes in water regimes; flooding, drainage and watering
- j) Salinity
- k) Fertiliser drift and along waterways nutrient influx
- l) Mining, including that for road works

- m) Grazing: stock, overgrazing by feral or native mammals
- n) Proliferation of tracks, fire breaks and walk trails
- o) Off-road vehicle use
- p) Use as service corridors by the SEC, Main Roads, Water Authority.

(Source: B Keighery. Bushland Plant Survey, September 1994)

15. Does the area contain any plant species of special interest that you know of? (eg. declared rare flora, priority taxa, outlier populations) **YES**

Do you know what they are? **Caladenia huegeltii, Angiozanthos humilis chrysanthos (possibly)**

16. Do you know of any native animals that use the area? **YES**

Can you list those you know of? (birds, mammals, reptiles, amphibians etc)

BIRDS - VARIOUS... BANDICOOTS - POSSIBLY, REPTILES - VARIOUS

17. Is the area used by any native animals of special interest? (eg. endangered species, large/important populations).....

If yes, please name them and indicate source of information

.....

CAN YOU TELL US A LITTLE ABOUT THE SURROUNDING AREA

18. Are there any bushland areas (including wetlands) near to this area?

.....

If yes, how close are they? **BIBRA LAKE - ~ 500M.**

.....

Are they already conservation reserves? **YES**

What is their approximate size? **V. LARGE -**

19. Does the submitted area link other bushland areas? **NO**

.....

Please attach any additional information about the area which may be of use when assessing it.

SYSTEM 6 BUSHLAND SUBMISSION FORM FOR CONSIDERATION IN THE UPDATE PROGRAMME

If you wish to submit more than one area for consideration in the System 6 update, please use a separate form for each area.

Please fill in each section giving as much information as possible.

LOCATION, OWNERSHIP AND ZONING OF THE AREA

1. Location

Please give as accurate and detailed a description as possible of the site location

Please include either a hand drawn or copied map showing the area of the area

a) Bordering Roads: ANNOIS RD + PARKWAY RD

b) Nearest Corner: AS ABOVE

c) Lot Number: 576 Street Number:

d) Town/Suburb/Location: BIBRA LAKE

e) Local Council: COCKBURN CITY COUNCIL

f) Site Name (if any): RESERVE 39402

g) Approximate size of the area (ha): 8 HA

h) Please locate the area on a map and give us map references if possible:

.....

i) Map: Streetsmart /UBD/Other:

j) Map no.: 348

k) Grid Ref: C 11

l) Please give any other information that may help us to find the location:

BIBRA LAKE PRIMARY SCHOOL (OPPOSITE)

m) Are you aware of any development proposals that are likely to affect the area?

NO

NOTE: Areas that have already been given development APPROVAL should not be nominated

Please fill out those questions that you can answer

2. Who owns the area? (If owned by the person/s making the nomination please indicate) LANDS AND SURVEYS DEPARTMENT

3. If you own the area, and may be interested in participating in conservation on private land initiatives please indicate (and leave your name and address at the end of this submission form)

4. What is the area zoned? (please indicate whether zoning is Town Planning Scheme or Metropolitan Region Scheme) M.R.S. ~~RESIDENTIAL~~ RESIDENTIAL. T.P.S.
PUBLIC PURPOSE TECHNICAL COLLEGE SITE.

CAN YOU TELL US A LITTLE ABOUT THE PHYSICAL CHARACTERISTICS OF THE AREA

5. Why do you consider this area important? (Refer to Guiding Issues paper)

6. What is/are the soil type/s and colours? SAND GREY/BLACK

Type: Sand/Clay/Gravel/Loam/Silt

Colour: White/Grey/Brown/Orange/Yellow/Red/Black

7. Does the area have any special features such as unusual landforms / landscapes that still retain their natural vegetation? Yes/No

If yes, what are they?

8. Is the area a wetland or does it include a wetland? NO

If yes, what kind of a wetlands is it?

- a) lake
- b) river
- c) stream
- d) swamp
- e) estuary
- f) seasonally wet
- g) other

9. What percentage of the wetland is open water in summer?

CAN YOU TELL US A LITTLE ABOUT THE VEGETATION /FAUNA ON THE NOMINATED AREA.

10. What percentage of the area is indigenous vegetation?100%.....

11. If the area includes regions cleared of native bushland please indicate reasons for the inclusion.

12. Has any previous flora or fauna survey work been done on the area?

.....YES.....

If yes, please give details of the work ..A RECENT SURVEY LISTED.....

38 SPECIES OF TREES, SHRUBS, WILDFLOWERS AND GROUND COVERS.....

13. How would you rate the condition of the native bushland? (see attached table)

- a) pristine
- b) excellent ✓
- c) very good
- d) good
- e) degraded
- f) completely degraded
- g) don't know

14. Please indicate the disturbances affecting the area and where appropriate the percentage of the area disturbed.

- a) Partial clearing
- b) fragmentation
- c) Selective removal of species: timber cutting, wildflower picking, mowing dieback and other plant diseases
- d) Fire regime, including intensity, season and frequency
- e) 'Enrichment plantings' that is plantings of species not found in that community
- f) Weed invasion SMALL AMMOUNT ON PERIMETER OF AREA
- g) Animal impact: horses, foxes, rabbits, cats, dogs, camels, goats etc
- h) Soil movement, both removal and dumping
- i) Changes in water regimes; flooding, drainage and watering
- j) Salinity
- k) Fertiliser drift and along waterways nutrient influx
- l) Mining, including that for road works

- m) Grazing: stock, overgrazing by feral or native mammals
- n) Proliferation of tracks, fire breaks and walk trails ✓
- o) Off-road vehicle use
- p) Use as service corridors by the SEC, Main Roads, Water Authority.

(Source: B Keighery. Bushland Plant Survey, September 1994)

15. Does the area contain any plant species of special interest that you know of? (eg. declared rare flora, priority taxa, outlier populations) ...UNAWARE OF ANY

Do you know what they are?

16. Do you know of any native animals that use the area? ...YES

Can you list those you know of? (birds, mammals, reptiles, amphibians etc)

PORT LINCOLN PARROT "28^s") PINK + GREY GALAH'S, CROWS, HONEYEATERS... GOANNA

17. Is the area used by any native animals of special interest? (eg. endangered species, large/important populations).....NOT KNOWN...

If yes, please name them and indicate source of information

.....

CAN YOU TELL US A LITTLE ABOUT THE SURROUNDING AREA

18. Are there any bushland areas (including wetlands) near to this area? YES

.....

If yes, how close are they? ...APPROX. 400 METRES

.....

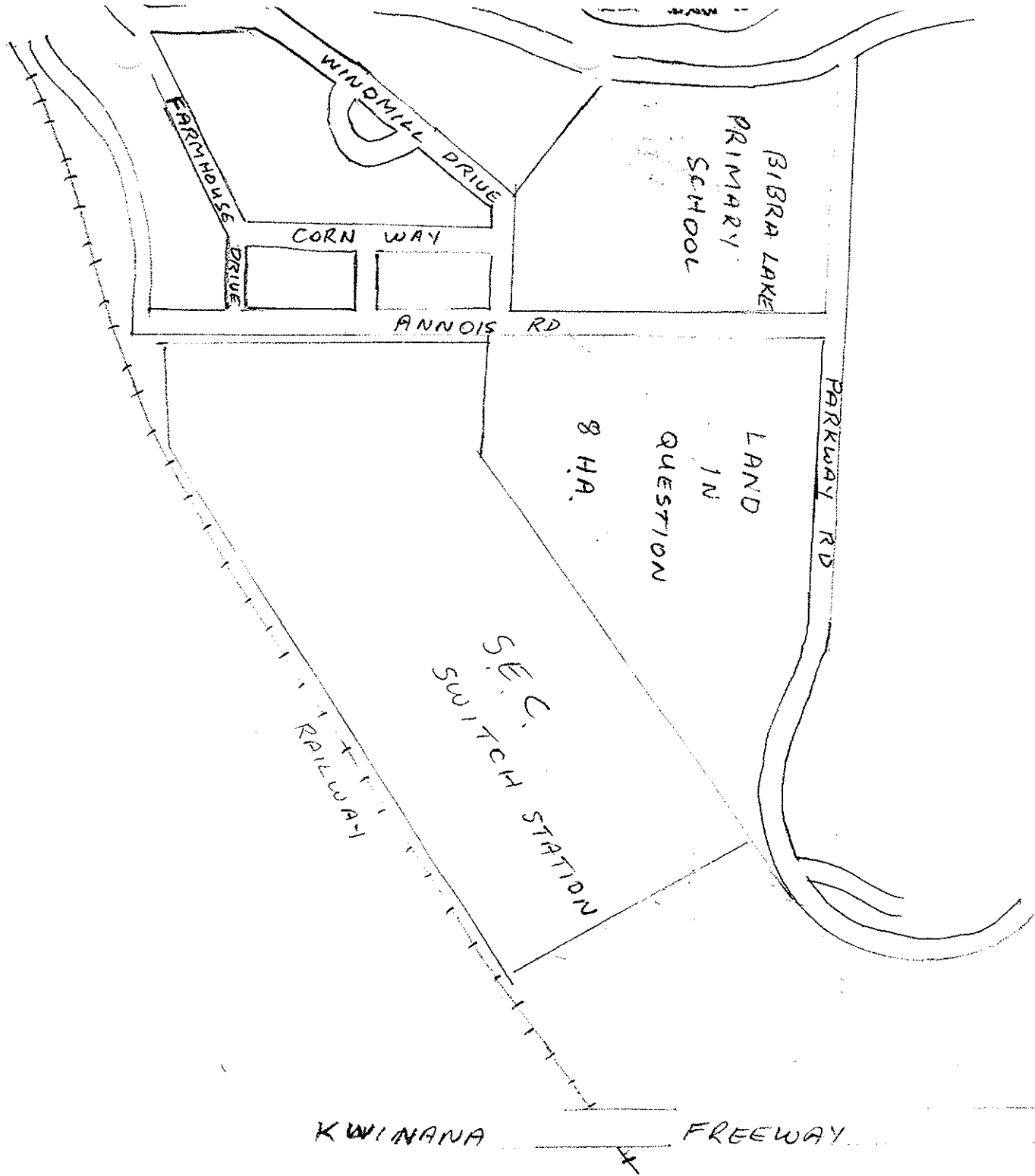
Are they already conservation reserves? ...YES

What is their approximate size? ...UNKNOWN THE RESERVE IS BIBRA LAKE

19. Does the submitted area link other bushland areas? ...~~NO~~ YES

AREA BEHIND SEC SWITCH STATION

Please attach any additional information about the area which may be of use when assessing it.



Q 5. STUDY AREA FOR PUPILS OF ADJACENT
SCHOOL

A VALUABLE PASSIVE RECREATION AREA

A NATURAL PLAY AREA FOR CHILDREN

A HANDY AREA FOR EXERCISING DOGS

A FINE EXAMPLE OF BANKSIA AND NATIVE
UNDERSTORY WE CAN'T AFFORD TO LOSE.

A SAFE HAVEN FOR BIRDLIFE

A BUFFER BETWEEN THE S.E.C. SWITCH
STATION AND THE EXISTING HOMES



Head Office:
8th Floor, Westralia Square
141 St Georges Terrace
Perth, Western Australia 6000
Tel (09) 222 7000 Fax (09) 322 1598

Waste Management Division:
Ground Floor, 32 St Georges Terrace
Perth, Western Australia 6000
Tel (09) 222 0422 Fax (09) 222 0455
or PO Box Y3030, East, St Georges Terrace
Perth, Western Australia 6832

Regional Offices:
Bunbury • Karratha • Kalgoorlie • Kwinana

Kevin Emrose
Acting Manager Acquisitions, Roads and Reserves
Department of Land Administration
Midland Square
MIDLAND WA 6056

Your Ref

Our Ref

Enquiries

67/91

N Thorning

Dear Kevin

SYSTEM SIX UPDATE PROGRAMME - FLORA SURVEY INFORMATION

Thank you for providing permission for our botanical team to survey the bushland on your property. As arranged between yourself and Miss Natalie Thorning of this Department, the bushland at the corner of Annois and Parkway Rds, Bibra Lake (previously Reserve 39402) was visited on 1 December 1995.

The botanical survey provides us with information on the natural plant communities found in the area, and their condition. This information is needed to assist the Department of Environmental Protection in its programme to update the conservation recommendations for System 6 and the coastal plain portion of System 1. The main objective of the programme is to ensure that the proposed conservation estate is representative of the ecological communities extant in the region.

As indicated in my earlier letter seeking approval to survey your vegetation, the fact that we visited and surveyed the site does not indicate that it will necessarily be included in the updated System Six Recommendations.

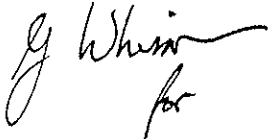
One survey site was located on the property and metal fence droppers were left in each corner of the 10 metres by 10 metres square survey site. We may wish to revisit this site at a later date, if so, we will contact you prior to our visit. A general description of the vegetation and an assessment of its condition was also completed.

The information collected during the visits will be used to assess the relative conservation values of the bushland areas. The final selections for inclusion in the updated System Six Recommendations will be the best possible examples of bushland containing plant community types that are either unrepresented or poorly represented in the current and proposed conservation system.

If you are interested in the information we have collected, the location of the survey sites or any other additional information on the System Six Update Programme please don't hesitate to contact Miss Natalie Thorning (222 7051) or Mr Kevin McAlpine (222 7055).

Once again, thank you very much for your support for this programme.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Colin Sanders', with a stylized flourish underneath.

Colin Sanders
DIRECTOR
POLICY AND STRATEGIC STUDIES

21 December 1995



Head Office:
8th Floor, Westralia Square
141 St Georges Terrace
Perth, Western Australia 6000
Tel (09) 222 7000 Fax (09) 322 1598

Waste Management Division:
Ground Floor, 32 St Georges Terrace
Perth, Western Australia 6000
Tel (09) 222 0422 Fax (09) 222 0455
or PO Box Y3030, East, St Georges Terrace
Perth, Western Australia 6832

Regional Offices:
Bunbury • Karratha • Kalgoorlie • Kwinana

Kevin Emrose
Acting Manager Acquisitions, Roads and Reserves
Department of Land Administration
Midland Square
MIDLAND WA 6056

Your Ref

Our Ref

Enquiries

67/91

N Thorning

Dear Kevin

SYSTEM SIX UPDATE PROGRAMME - FLORA SURVEY INFORMATION

Following discussions between yourself and Miss Natalie Thorning of this Department, I am writing to outline the details of the above survey and to confirm our request for permission to access to the bushland at the corner of Annois and Parkway Rds, Bibra Lake (previously Reserve 39402), which I believe is in your ownership.

As you may be aware, the Department of Environmental Protection is coordinating a programme to update the conservation recommendations for System 6 and the coastal plain portion of System 1. The main objective of the programme is to ensure that the proposed conservation estate is representative of the ecological communities remaining in the region.

As part of this programme the Department has advertised for the public to submit areas of bushland that they consider to be of regional significance. Our botanical team is surveying these submitted areas as well as those it considers may be important based on other factors such as their location and soil type etc. The botanical survey provides us with information on the natural plant communities found in the area, and their condition. Please note that we need to visit a great many sites to develop a detailed understanding of the distribution of the various plant communities. The fact that we are seeking to visit and survey the area does not indicate that it will necessarily be included in the updated System Six Recommendations.

The update programme has employed the botanical survey methodology used in Gibson et al. (1994), 'A Floristic Survey of the Southern Swan Coastal Plain', to provide the main information base upon which to review the adequacy of the existing System recommendations and to assess other bushland areas.

Survey sites are located after visiting the bushland areas. Each survey site is 10 metres by 10 metres square and, if you are agreeable, is marked by four steel posts which remain in place so that the site may be resampled at least once. Sites on CALM lands will remain as monitoring sites and you may wish to retain the sites on your lands for the same purpose. Our sampling is non-destructive and small samples of plants are only collected when we are unsure of the plants identity.

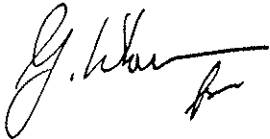


The information collected during the visits will be used to assess the relative conservation values of the bushland areas. The final selections for inclusion in the updated System Six Recommendations will be the best possible examples of bushland containing plant community types that are either unrepresented or poorly represented in the current and proposed conservation system.

It would be appreciated if you could reply as soon as possible since our field programme is concentrated around the spring flowering season. For further information please don't hesitate to contact Miss Natalie Thorning (222 7051) or Mr Kevin McAlpine (222 7055).

Thank you for your support.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Colin Sanders', with a stylized flourish at the end.

Colin Sanders
DIRECTOR
POLICY AND STRATEGIC STUDIES

22 November 1994

Department of Environmental Protection System 6 Update: Site Based Flora List for Reserve 39402 Annois Rd, Bibra Lake (Subm no. 87)
(82 taxa, Bibra01, B.J. Keighery, 6/6/96)

Anthericaceae

Arnocrinum preissii
Chamaescilla corymbosa
Laxmannia squarrosa
Thysanotus sp. manglesianus/patersonii scps
Tricoryne tenella

Apiaceae

Homalosciadium homalocarpum
Trachymene pilosa

Asteraceae

* Hypochaeris glabra
Podolepis gracilis
Podotheca sp. scps
Siloxerus humifusus
* Ursinia anthemoides

Casuarinaceae

Allocauarina fraseriana
Allocauarina humilis

Centrolepidaceae

Centrolepis drummondiana

Colchicaceae

Burchardia congesta

Cyperaceae

Isolepis cernua
Lepidosperma angustatum
Mesomelaena pseudostygia
Schoenus caespititius
Schoenus clandestinus
Schoenus curvifolius
Tetraria octandra

Dasypogonaceae

Calectasia cyanea
Dasypogon bromeliifolius
Lomandra hermaphrodita

Dilleniaceae

Hibbertia huegelii
Hibbertia hypericoides
Hibbertia racemosa

Droseraceae

Drosera paleacea

Epacridaceae

Conostephium pendulum
Leucopogon propinquus

Geraniaceae

* Pelargonium capitatum

Goodeniaceae

Dampiera linearis
Scaevola repens var. repens

Haemodoraceae

Anigozanthos humilis
Conostylis aculeata
Conostylis setigera
Phlebocarya ciliata

Haloragaceae

Gonocarpus pithyoides

Iridaceae

* Gladiolus caryophyllaceus
Patersonia occidentalis

Loranthaceae

Nuytsia floribunda

Mimosaceae

Acacia pulchella

Myrtaceae

Eremaea asterocarpa
Eremaea pauciflora
Eucalyptus marginata
Hypocalymma robustum

Kunzea ericifolia

Papilionaceae

Bossiaea eriocarpa
Daviesia divaricata
Daviesia nudiflora
Daviesia triflora
Gompholobium tomentosum
Hardenbergia comptoniana
Jacksonia furcellata
Kennedia prostrata
Nemcia capitata

Poaceae

* *Aira caryophyllea*
Amphipogon turbinatus
* *Briza maxima*
Danthonia occidentalis
* *Ehrharta calycina*
Stipa compressa
* *Vulpia myuros*

Polygalaceae

Comesperma calymega

Proteaceae

Adenanthos cygnorum
Banksia attenuata
Banksia menziesii
Persoonia saccata
Petrophile linearis
Stirlingia latifolia

Restionaceae

Hypolaena exsulca
Loxocarya flexuosa
Lyginia barbata

Rutaceae

Eriostemon spicatus

Stylidiaceae

Levenhookia stipitata
Stylidium brunonianum
Stylidium carnosum
Stylidium repens

Thymelaeaceae

Pimelea sulphurea

Xanthorrhoeaceae

Xanthorrhoea preissii

Department of Environmental Protection System 6 Update: Site Based Flora List for Submission area 87, Annois Rd Bibra Lake
(Bibra01, B.J. Keighery, 4/12/95)

Anthericaceae

Amocrinum preissii
Chamaescilla corymbosa
Laxmannia squarrosa
Thysanotus patersonii
Tricoryne tenella

Apiaceae

Homalosciadium homalocarpum
Trachymene pilosa

Asteraceae

* Hypochaeris glabra
Podolepis gracilis
Podotheca sp. scps
Siloxerus humifusus
* Ursinia anthemoides

Casuarinaceae

Allocasuarina fraseriana
Allocasuarina humilis

Centrolepidaceae

Centrolepis drummondiana

Colchicaceae

Burchardia congesta

Cyperaceae

Isolepis cernua
Lepidosperma angustatum
Mesomelaena pseudostygia
Schoenus caespititius
Schoenus clandestinus
Schoenus curvifolius
Tetraria octandra

Dasyogonaceae

Calectasia cyanea
Dasyogon bromeliifolius
Lomandra hermaphrodita

Dilleniaceae

Hibbertia huegelii
Hibbertia hypericoides
Hibbertia racemosa

Droseraceae

Drosera paleacea

Epacridaceae

Conostephium pendulum
Leucopogon propinquus

Geraniaceae

* Pelargonium capitatum

Goodeniaceae

Dampiera linearis
Scaevola repens

Haemodoraceae

Anigozanthos humilis
Conostylis aculeata
Conostylis setigera
Phlebocarya ciliata

Haloragaceae

Gonocarpus pithyoides

Iridaceae

* Gladiolus caryophyllaceus
Patersonia occidentalis

Loranthaceae

Nuytsia floribunda

Mimosaceae

Acacia pulchella

Myrtaceae

Eremaea asterocarpa
Eremaea pauciflora
Eucalyptus marginata
Hypocalymma robustum

Kunzea ericifolia

Papilionaceae

Bossiaea eriocarpa
Daviesia divaricata
Daviesia nudiflora
Daviesia triflora
Gompholobium tomentosum
Hardenbergia comptoniana
Jacksonia furcellata
Kennedia prostrata
Nemcia capitata

Poaceae

* *Aira caryophyllea*
Amphipogon turbinatus
* *Briza maxima*
Danthonia occidentalis
* *Ehrharta calycina*
Stipa compressa
* *Vulpia myuros*

Polygalaceae

Comesperma calymega

Proteaceae

Adenanthos cygnorum
Banksia attenuata
Banksia menziesii
Persoonia saccata
Petrophile linearis
Stirlingia latifolia

Restionaceae

Hypolaena exsulca
Loxocarya flexuosa
Lyginia barbata

Rutaceae

Eriostemon spicatus

Stylidiaceae

Levenhookia stipitata
Stylidium brunonianum
Stylidium carnosum
Stylidium repens

Thymelaeaceae

Pimelea sulphurea

Xanthorrhoeaceae

Xanthorrhoea preissii

**Flora and Fauna
Survey - Bushland
Reserve No 39402
Bibra Lake
for
City of Cockburn**

10/11/95

Prepared by :

Georgina Reiss

Regeneration Technology Pty Ltd

Suite 11 1 Sarich Way,

Technology Park,

Bentley WA 6102

451 0830

SUMMARY

- Bibra Lake reserve (39402) represents a floristic composition and vegetation structure typical of open *Banksia attenuata*-*Banksia menziesii* woodland on Bassendean sands in the Perth Coastal Plain. Species richness is high with 83 native species represented at the site.
- No rare or priority flora were recorded in the reserve this includes the absence of *Caladenia huegelii* and *Anigozanthos humilis chryanthus*.
- Vegetation condition is average with a mean score of 3 for the seven plots assessed
- The number of weed species at the reserve and weed frequency in surveyed plots was average for *Banksia* woodlands but low in terms of overall cover and competitive threat.
- Although there is evidence of bandicoots on Bibra Lake reserve 39402, it is unlikely this reserve has a permanent population of Southern Brown Bandicoots. This reserve may be used as a corridor for the more transient male bandicoots during the mating season.
- This reserve supports a variety of reptiles and a few resident bird species however the main value of this reserve is in providing bush corridor for transient birds and mammals.

1.0 METHODS

1.1 Location and Size of Reserve

Bibra Lake Reserve 39402 is located in the City of Cockburn and is bounded by Parkview Way, Annois Rd and a Western Power boundary fence on the eastern side. It is approximately 6 ha and incorporates an upper dune crest on porous Bassendean sands.

1.2 Survey

The site was visited three times to assess the vegetation; 1) an initial site assessment in late September 1995, 2) a general collection and survey of plant species in mid October 1995, six east - west transects and three north - south transect were used for this purpose and 3) species frequency was assessed in early November 1995 using seven 20m² plots, four at 50 m intervals along an east - west transect line and three at 50 m intervals along a north - south transect line.

Vegetation structure as recorded using Muir's classification (Muir 1977). Vegetation condition was scored using the five point scale developed by Trudgen (1991) and used by Gibson et al (1994) for a floristic survey of the Swan Coastal Plain. This system accords a score of one for least disturbed sites and five indicating highly disturbed sites with significant weed invasion. Species frequency and weed frequency were also recorded. Vegetation type is used to refer to structural vegetation units and community types classified according to Gibson et al (1994).

Fauna was assessed on a single occasion in early November. The report is attached.

2.0 RESULTS AND DISCUSSION

2.1 Vegetation Structure

Structurally, the vegetation type at Bibra Lake Reserve 39402 is open low wood land dominated by *Banksia attenuata* and *Banksia menziesii* with scattered *Eucalyptus marginata*, *Banksia ilicifolia* and *Nuytsia floribunda*.

The high frequency of *Acacia pulchella* and *Stirlingia latifolia* (Table 1) in the test plots is indicative that this area has been burnt within the last two to three years. Only one of the frequently recorded species is a weed (*Briza maxima*) and as a general indication shows that the weeds although present throughout the reserve do not represent the dominant species throughout the reserve.

Table 1 Frequent species based on presence in 6 or more plots.

Shrubs	Herbs
<i>Acacia pulchella</i>	<i>Briza maxima</i>
<i>Allocasuarina humilis</i>	<i>Burchardia umbellata</i>
<i>Banksia menziesii</i>	<i>Laxmannia squarrosa</i>
<i>Bossiaea eriocarpa</i>	<i>Patersonia occidentalis</i>
<i>Gompholobium tomentosum</i>	
<i>Hibbertia hypericoides</i>	
<i>Stirlingia latifolia</i>	

2.2 Floristics

The floristic composition of Bibra Lake Reserve 39402 belongs to the 'Group 3' classification of Gibson *et al* (1994), ie. typical of Bassendean Dunes. This vegetation group has the highest species richness (mean 60.4 native species per site) and lowest weed frequency (mean 3.4 species per site) of major vegetation types on the Swan Coastal Plain and this broad floristic 'supergroup' has high conservation value. Within this vegetation class are four distinct community types, with Bibra Lake Reserve 39402 most typical of Community Type 20 (Table 2).

The area is in a position where Bassendean Dunes & Spearwood Dunes are present. It is close to Element Spearwood & Bassendean communities, maybe a Spearwood type, appears to

No Eastern side plains
Banksia woodlands

Bibra lake Reserve 39402 has a high species richness with 83 native species recorded. This compares favourably with Group 3 Banksia woodlands indicating it is typical of this floristic group. It is of high species richness compared to Banksia woodland communities in general on the Swan Coastal Plain, which average a species richness of 7 to 86 per 100m² (Gibson *et al*).

Conserved

Table 2. Parameters used to assess vegetation of Bibra Lake Reserve 39402.

PARAMETER	VALUE	STATUS
Species richness (no. at site)	83	high
Weed frequency (mean species no./plot)	3	low
% Weed cover	15	low
Vegetation condition	3	average

2.3 Conservation Status

The reserve is typical of Banksia woodland Community type 20 (Gibson *et al*). This community type typically comprises *Banksia attenuata* woodlands, *Eucalyptus marginata*-*Banksia attenuata* woodlands or shrub lands, and extends from Koondoola in the northern coastal plain to Yarloop in the south. This community type is characterised by high species richness and is considered poorly reserved on the Swan Coastal Plain and of vulnerable conservation status.

No

The destruction of the understorey flora of the surrounding areas, in particularly of bush adjacent to Bibra Lake means there few areas to collect local provenance seed for bushland rehabilitation. The high number of taxa and the general condition of the flora at Bibra Lake reserve suggests that this particular piece of banksia woodland may be able to act as a donor site for seed for rehabilitation of other areas within the immediate vicinity.

No rare or priority flora were recorded on the site.

RECOMMENDATIONS

1. Retain Bibra Lake Reserve 39402 as a wildlife corridor and exclude all activities not compatible with such a purpose .
2. Retain Bibra Lake Reserve 39402 as a seed source for other local rehabilitation projects.
3. Undertake weed and fire management program to protect and enhance the quality of the flora and fauna of the reserve.

REFERENCES

Gibson, N., Keighery, B., Keighery G., Burbidge, A. and Lyons, M. (1994). A floristic survey of the southern Swan Coastal Plain. Unpublished report for the Australian Heritage Commission prepared by Dept. of Conservation and Land Management and the Conservation Council of WA (Inc).

Muir, B. (1977). Biological survey of the Western Australian wheatbelt. Part II. *Records of the WA Museum, Supplement No. 3.*

Trudgen, M.E. (1991). Vegetation condition scale. *In* Urban Bushland Policy. National Trust of Australia (WA), Perth.

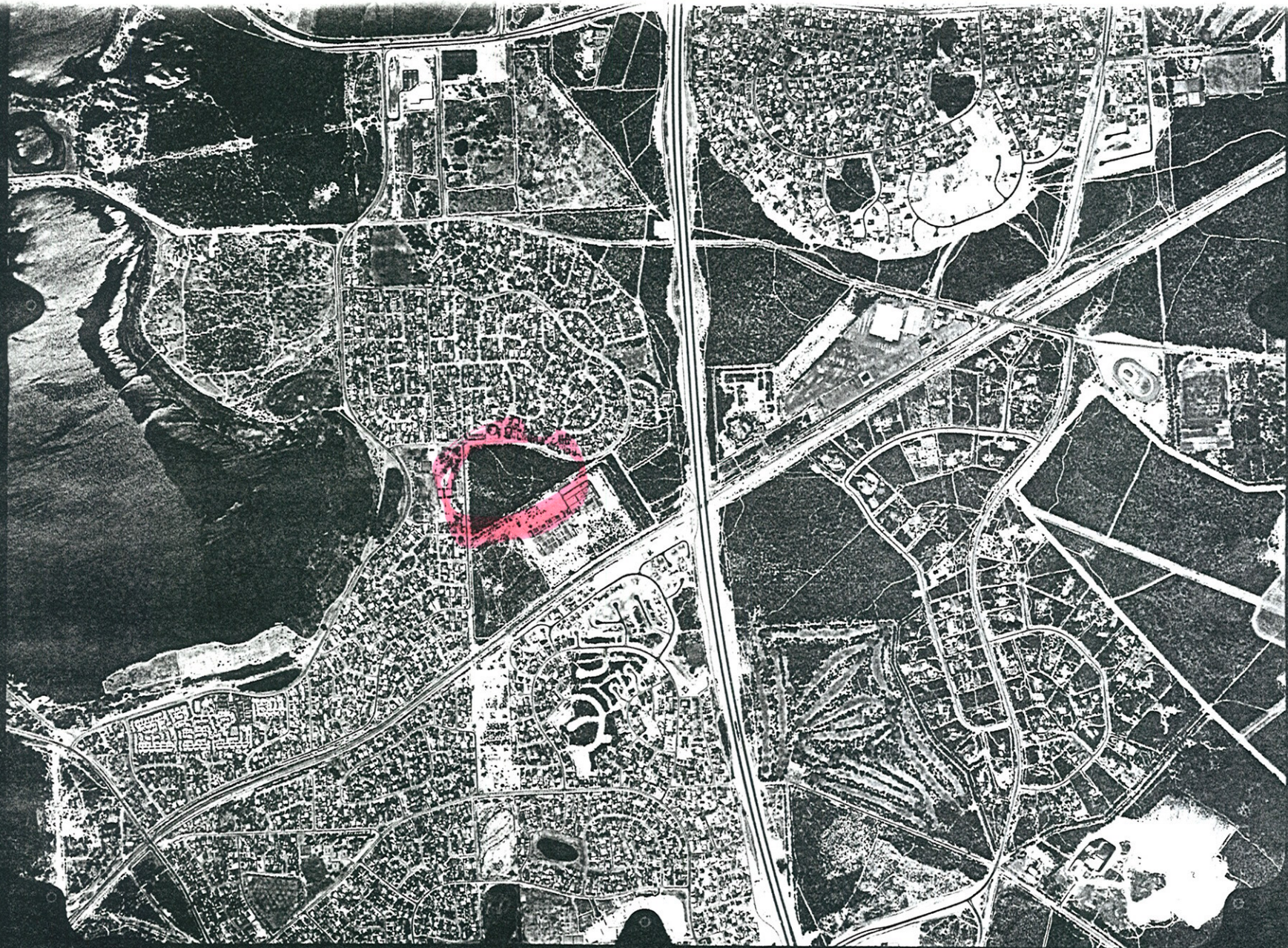
APPENDIX 1. SPECIES PRESENCE/ABSENCE DATA FOR 7 PLOTS AT BIBRA LAKE RESERVE 39402, COCKBURN.

SPECIES	Presence/absence data							Frequency
	Plot Number							
	1	2	3	4	5	6	7	
AIZOACEAE								
<i>*Carpobrotus edulis</i>								0
ANTHERICACEAE								
<i>Laxmannia squarrosa</i>	+	+	+	+		+	+	6
<i>Sowerbaea laxiflora</i>		+						1
<i>Thysanotus dichotomus</i>	+							1
<i>Thysanotus triandrus</i>					+			1
APIACEAE								
<i>Trachymene pilosa</i>			+	+		+		3
ASTERACEAE								
<i>*Arctotheca calendula</i>								0
<i>*Hypochaeris glabra</i>								0
<i>Podolepis gracilis</i>								0
CASUARINACEAE								
<i>Allocasuarina humilis</i>	+		+	+	+	+	+	6
<i>Allocasuarina fraseriana</i>	+							1
COLCHICACEAE								
<i>Burchardia umbellata</i>		+	+	+	+	+	+	6
CYPERACEAE								
<i>Lepidosperma angustatum</i>	+			+	+	+	+	5
<i>Lepidosperma scabrum</i>				+			+	2
<i>Mesomelaena pseudostygia</i>	+		+	+		+		4
<i>Schoenus aff. brevisetis</i>	+	+						2
<i>Schoenus grandiflorus</i>	+						+	2
<i>Schoenus curvifolius</i>	+		+	+	+		+	5
<i>Schoenus subflavus</i>			+	+			+	3
<i>Tetraria octandra</i>				+				1
DASYPOGONACEAE								
<i>Calectasia cyanea</i>				+			+	2

SPECIES	Presence/absence data							Frequency
	Plot Number							
	1	2	3	4	5	6	7	
<i>Dasypogon bromeliifolius</i>		+		+	+	+	+	5
<i>Lomandra hermaphrodita</i>			+		+			2
<i>Lomandra preissii</i>			+	+	+	+		4
<i>Lomandra sericea</i>								0
DILLENACEAE								
<i>Hibbertia huegelii</i>						+		1
<i>Hibbertia hypericoides</i>	+	+	+	+	+		+	6
<i>Hibbertia racemosa</i>			+					1
<i>Hibbertia subvaginata</i>	+	+	+		+			4
DROSERACEAE								
<i>Drosera stolonifera</i>				+				1
EPACRIDACEAE								
<i>Conostephium pendulum</i>	+	+		+	+	+		5
<i>Leucopogon conostephioides</i>		+		+				2
EUPHORBIACEAE								
* <i>Euphorbia pepus</i>								0
GERANIACEAE								
* <i>Pelargonium caipiatum</i>								0
GOODENIACEAE								
<i>Dampiera linearis</i>	+				+			2
<i>Scaevola canescens</i>	+			+				2
<i>Lechenaultia floribunda</i>								0
HAEMODORACEAE								
<i>Anigozanthos manglesii</i>	+		+		+			3
<i>Anigozanthos humilis</i>		+						1
<i>Conostylis aculeata</i>			+	+	+	+	+	5
<i>Conostylis setigera</i>			+					1
<i>Haemodorum spicatum</i>		+						1
<i>Phlebocarya ciliata</i>								0
IRIDACEAE								
* <i>Freesia affin leichtlinii</i>								0

SPECIES	Presence/absence data							Frequency
	Plot Number							
	1	2	3	4	5	6	7	
<i>*Gladiolus caryophyllaceus</i>	+	+	+		+			4
<i>Orthrosanthus laxis</i>								0
<i>Patersonia occidentalis</i>	+	+	+	+		+	+	6
LAMIACEAE								
<i>Hemiandra pungens</i>	+			+		+		3
LORANTHACEAE								
<i>Nuytsia floribunda</i>	+	+						2
MIMOSACEAE								
<i>Acacia pulchella</i>	+	+	+	+	+	+	+	7
<i>Acacia stenoptera</i>	+	+		+	+			4
MYRTACEAE								
<i>Calytrix flavescens</i>				+			+	2
<i>Eremaea beaufortii</i>	+		+	+	+	+		5
<i>Eucalyptus marginata</i>						+	+	2
<i>Hypocalymma robustum</i>						+	+	2
<i>Melaleuca acerosa</i>	+				+			2
<i>Melaleuca scabra</i>		+	+	+				3
ONAGRACEAE								
<i>*Oenothera stricta</i>								0
ORCHIDACEAE								
OXALIDACEAE								
<i>*Oxalis pes-caprae</i>								0
PAPILIONACEAE								
<i>Bossiaea eriocarpa</i>	+	+	+	+	+	+	+	7
<i>Daviesia divaricata</i>				+				1
<i>Daviesia nudiflora</i>			+					1
<i>Daviesia triflora</i>							+	1
<i>Gompholobium tomentosum</i>		+	+	+	+	+	+	6

SPECIES	Presence/absence data							Frequency
	Plot Number							
	1	2	3	4	5	6	7	
THYMELAEACEAE								
<i>Pimelea rosea</i>		+	+	+			+	4
<i>Pimelea sulphurea</i>			+				+	2
STYLIDIACEAE								
<i>Stylidium brunonianum</i>	+			+				2
VIOLACEAE								
<i>Hybanthus calycinus</i>				+				1
XANTHORRHOEACEAE								
<i>Xanthorrhoea preissii</i>	+	+	+		+			4
ZAMIACEAE								
<i>Macrozamia riedlei</i>								0
								Mean
Total number of species	32	35	33	40	33	29	33	34
Number of weed species	3	4	2	1	3	2	1	3
Weed Cover (%)	10	15	30	20	10	15	5	15
Vegetation condition	2.5	4	3.5	3	2.5	3.5	2	3



now VOL

**REPORT ON
BUSHLAND RESERVE NO 39402
ANNOIS ROAD, BIBRA LAKE**

**By Manager - Environmental Services
4/8/95**

At the request of Council an investigation in relation to the environmental and conservation status of the above reserve has been carried out. The reserve is 7.9 hectares in size and is located on the corner of Annois and Parkway Roads, Bibra Lake. The reserve is currently vested with the Department of Lands and Surveys and has in the past been flagged for use as a Technical School site.

The reserve contains Banksia woodland with a diverse understorey. Overstorey species consist mainly of Banksia and Sheoak with scattered Christmas Tree and Jarrah. The site slopes gently upwards to the east and contains several examples of large Jarrah and Banksia ilicifolia. A list of flora provided by the Bibra Lake P & C shows that at least 38 native plant species are found on the site including a number of orchids and other wildflowers. Of note is that the species list provided indicates the presence of a declared rare flora the King Spider Orchid - *Caladenia huegelii*. Another possible declared rare flora species of catspaw being *Angiozanthos humilis chrysanthus* may also be present.

The condition of the vegetation within the reserve area varies, with overstorey species being affected by what appears to be dieback or from frequent fires. Many of the overstorey species, particularly Banksia and Jarrah, are affected. The understorey, however is in good condition and is particularly diverse. Weed infestation is limited to edge effects around the boundary of the site and tracks within the area. Good natural regeneration is evident throughout the site. Tracks within the site are limited and have minimal impact upon the vegetation. Some rubbish is evident within the site and includes parts of vehicle bodies, pipes and other material. Rabbit activity was also noted within the site, however it is not as severe as other nearby reserves such as Yangebup Lake.

Based on a vegetation condition scale used in Western Australia, the bushland is considered to be in a good to very good condition.

The bushland is likely to provide habitat for a range of native animals. No terrestrial animals were sighted during the field visits, however possible evidence of Bandicoot digs was noted. A range of native bird species utilise the bushland as was evident by the number of birds present during site visits.

The lot immediately adjacent to the south of the site contains a Western Power facility which appears to be a switching yard. Noise from this facility was clearly discernible in the corner of the bushland and consists of low frequency humming. Electromagnetic radiation emanating from the site would also need to be considered but was not measured. These two issues provide constraints to urban development of the site and will require suitable buffers to be established.

CONCLUSIONS:

The reserve is considered to be a good example of remnant urban bushland. The vegetation on the reserve is generally in good to very good condition, however a number of the overstorey species have been affected by dieback or frequent fire regimes. The understorey is nonetheless in very good condition and disturbance factors are limited to the boundaries of the site and edges of pathways.

The site represents a vegetation complex which is now largely removed from the area due to urbanisation and other developmental impacts. The possible presence of two rare flora species on the site adds substantially to the conservation value of the area and would make the area eligible for regional bushland status under the recently released Urban Bushland Strategy. The presence of rare flora would also require management under the Wildlife Conservation Act and could preclude development of parts of the site.

Given these added conservation values, and the proximity of the Bibra Lake Primary School and nearby urban areas the bushland provides an excellent opportunity for environmental education and appreciation from local school children and residents.

The use of the site for urban purposes is considered to be constrained substantially by the adjacent Wester Power Utility. Substantial buffers are likely to be necessary around the site for noise and electromagnetic radiation.

The use of the reserve for a properly managed urban bushland reserve is considered compatible with the condition and location of the site. Management emphasis would need to be placed on minimising disturbance factors, protection of rare and endangered flora present and replacement of overstorey species which are currently declining.

It is considered that the bushland area is worthy for nomination in the System 6 Review which is currently being undertaken by the Department of Environmental Protection. Further to this it is considered that the bushland meets the criteria for regionally important bushland on the basis of the possible presence of declared rare flora.

Appendix A

List of Flora Species on Reserve 39402

Eucalyptus marginata (Jarrah)
Nuytsia floribunda (Christmas tree)
Banksia menziesii (Menzies' banksia)
Banksia attenuata (Slender banksia)
Banksia ilicifolia (Holly-leaved banksia)
Allocasuarina fraseriana (Sheoak)
Xanthorrhoea preissii (Blackboy)
Adenanthos cygnorum (Woolly bush)
Jacksonia furcellata (Grey stinkwood)
Macrozamia riedlei (Zamia palm)
Acacia pulchella (Prickly moses)
Anigozanthos manglesii (Mangles' Kangaroo Paw)
Stirlingia latifolia (Blueboy)
Anigozanthos humilis (Cat's paw)
Kennedia prostrata (Running Postman)

Stylidium piliferum (White Butterfly Triggerplant)
Elythranthera brunonis (Enamel Orchid)
Patersonia occidentalis (Purple Flag)
Isotropis cuneifolia (Granny's Bonnet)
Caladenia huegelii (King Spider Orchid)
Hybanthus calycinus (Native Violet)
Diuris longifolia (Donkey Orchid)
Hypocalymma robustum (Swan River Myrtle)
Caladenia flava (Cowslip Orchid)
Hovea pungens (Devil's Pins)
Caladenia discoidea (Bee Orchid)
Chamaescilla corymbosa (Blue Squill)
Hibbertia huegellii (Hibbertia)
Lobellia tenuior (Lobellia)
Drosera stolonifera (Sundew)
Sowerbaea laxiflora (Purple Tassels)
Pinelea rosea (Rose Banjine)
Burchardia umbellata (Milkmaids)
Lyperanthus nigricans (Red Beak Orchid)
Calectasia cyanea (Star of Bethlehem)
Caladenia longicauda (White Spider Orchid)
Stylidium schoenoides ("Cow Kicks" Triggerplant)
Stylidium brunonianum (Fountain Triggerplant)

SYSTEM 6 BUSHLAND SUBMISSION FORM FOR CONSIDERATION IN THE UPDATE PROGRAMME

If you wish to submit more than one area for consideration in the System 6 update, please use a separate form for each area.

Please fill in each section giving as much information as possible.

LOCATION, OWNERSHIP AND ZONING OF THE AREA

1. Location

Please give as accurate and detailed a description as possible of the site location
Please include either a hand drawn or copied map showing the area of the area

a) Bordering Roads: ANNOIS RD & PARKWAY RD.

b) Nearest Corner: AS ABOVE

c) Lot Number: 576 Street Number: RESERVE 39402

d) Town/Suburb/Location: BIBRA LAKE

e) Local Council: CITY OF COCKBURN

f) Site Name (if any): TECHNICAL COLLIDAGE SITE

g) Approximate size of the area (ha): 7.9

h) Please locate the area on a map and give us map references if possible:

.....

i) Map: Streetsmart/UBD/Other:

j) Map no.: 102

k) Grid Ref: 24/17

l) Please give any other information that may help us to find the location:

SEE ATTACHED MAP

m) Are you aware of any development proposals that are likely to affect the area?

RECENTLY RE-ZONED URBAN IN MRS - POSSIBLE URBAN DEVELOPMENT - HOMESWEST.

NOTE: Areas that have already been given development APPROVAL should not be nominated

Please fill out those questions that you can answer

2. Who owns the area? (If owned by the person/s making the nomination please indicate)

CROWN - VESTED IN LANDS DEPT.

3. If you own the area, and may be interested in participating in conservation on private land initiatives please indicate (and leave your name and address at the end of this submission form)

4 .What is the area zoned? (please indicate whether zoning is Town Planning Scheme or Metropolitan Region Scheme) ... MRS - URBAN DISTRICT SCHEME

- PUBLIC PURPOSES.

CAN YOU TELL US A LITTLE ABOUT THE PHYSICAL CHARACTERISTICS OF THE AREA

5. Why do you consider this area important? (Refer to Guiding Issues paper)

AREA IS BUSHLAND IN VERY GOOD CONDITION & IS USED EXTENSIVELY BY LOCAL SCHOOL, LIKELY TO CONTAIN DRF.

6. What is/are the soil type/s and colours ? ... SAND - SPERWOOD

Type: Sand/Clay/Gravel/Loam/Silt

Colour: White/Grey/Brown/Orange/Yellow/Red/Black

7. Does the area have any special features such as unusual landforms / landscapes that still retain their natural vegetation? Yes/No

If yes, what are they? ... GENERAL BANKSIA WOODLAND

GENTLE SLOPE SOME LARGE JARRAH PRESENT

8. Is the area a wetland or does it include a wetland? ... NO.

If yes, what kind of a wetlands is it?

a) lake

b) river

c) stream

d) swamp

e) estuary

f) seasonally wet

g) other

9. What percentage of the wetland is open water in summer?

CAN YOU TELL US A LITTLE ABOUT THE VEGETATION /FAUNA ON THE NOMINATED AREA.

10. What percentage of the area is indigenous vegetation? 90%

11. If the area includes regions cleared of native bushland please indicate reasons for the inclusion.

12. Has any previous flora or fauna survey work been done on the area?

If yes, please give details of the work YES. BY BIBRA LAKE
PARENTS & CITIZENS ASSOCIATION - SEE
ATTACHED

13. How would you rate the condition of the native bushland? (see attached table)

- a) pristine
- b) excellent
- c) very good
- d) good
- e) degraded
- f) completely degraded
- g) don't know

14. Please indicate the disturbances affecting the area and where appropriate the percentage of the area disturbed.

- a) Partial clearing
- b) fragmentation
- c) Selective removal of species: timber cutting, wildflower picking, mowing dieback and other plant diseases
- d) Fire regime, including intensity, season and frequency
- e) 'Enrichment plantings' that is plantings of species not found in that community
- f) Weed invasion MINIMAL - SLIGHT IMPACT
- g) Animal impact: horses, foxes, rabbits, cats, dogs, camels, goats etc
- h) Soil movement, both removal and dumping
- i) Changes in water regimes; flooding, drainage and watering
- j) Salinity
- k) Fertiliser drift and along waterways nutrient influx
- l) Mining, including that for road works

- m) Grazing: stock, overgrazing by feral or native mammals
- n) Proliferation of tracks, fire breaks and walk trails
- o) Off-road vehicle use
- p) Use as service corridors by the SEC, Main Roads, Water Authority.

(Source: B Keighery. Bushland Plant Survey, September 1994)

15. Does the area contain any plant species of special interest that you know of? (eg. declared rare flora, priority taxa, outlier populations) **YES**

Do you know what they are? **Caladenia huegelli, Angiozanthos humilis chrysanthos (possibly)**

16. Do you know of any native animals that use the area? **YES**

Can you list those you know of? (birds, mammals, reptiles, amphibians etc)

BIRDS - VARIOUS. BANDICOOTS - POSSIBLY, REPTILES - VARIOUS

17. Is the area used by any native animals of special interest? (eg. endangered species, large/important populations).....

If yes, please name them and indicate source of information

.....

CAN YOU TELL US A LITTLE ABOUT THE SURROUNDING AREA

18. Are there any bushland areas (including wetlands) near to this area?

.....

If yes, how close are they? **BIBRA LAKE - ≈ 500M.**

.....

Are they already conservation reserves? **YES**

What is their approximate size? **V. LARGE -**

19. Does the submitted area link other bushland areas? **NO**

.....

Please attach any additional information about the area which may be of use when assessing it.



FACSIMILE NO: (09) 273 7683 - LAND OPERATIONS DIVISION

RESERVES SUB-SECTION

FACSIMILE TRANSMISSION

TO: Ms NATALIE THORNIC
D.E.P.

FACSIMILE NUMBER: (09) 321 5184

FROM: KEVIN EMMROSE OUR REF: 2517/985

TELEPHONE NO: (09) 273 7282

DATE: 22/11/95

NUMBER OF PAGES (including this page): ONE

REMARKS:

BUSHLAND AT THE CORNER OF ANNOIS AND PARKWAY RDS
BIBRA LAKE. -- (YOUR REF 67/91)

PERMISSION IS GRANTED TO ENTER UPON JANBAKOT FM
LOT 576 (FORMERLY RESERVE 34002) TO CONDUCT FLORA
SURVEY AS OUTLINED IN YOUR FACSIMILE DATED 22/11/94.

AS DISCUSSED THIS AREA IS TO BE CROWN GRANTED TO
THE STATE HOUSING COMMISSION IN THE NEAR FUTURE. AT
THIS TIME YOU WILL NEED TO SEEK FURTHER ACCESS
PERMISSION FROM THAT AUTHORITY.

NO PERMANENT STRUCTURES SHOULD BE ERECTED AND THE
SITE SHOULD BE LEFT IN A NEAT AND TIDY CONDITION.



City of Cockburn

P.O. BOX 1215, BIBRA LAKE, WESTERN AUSTRALIA 6163
9 COLEVILLE CRESCENT, SPEARWOOD 6163

ALL WRITTEN COMMUNICATIONS TO BE ADDRESSED TO CITY MANAGER

ENQUIRIES
OUR REF.

D Walsh
1114666; 6119

YOUR REF.

17 November 1995

Department of Environmental Protection
Westralia Square
141 Mounts Bay Road
PERTH WA 6000

DEPARTMENT OF ENVIRONMENTAL PROTECTION	
20 NOV 1995	
File No 1	S/67/71/2 Initials KMA
File No 2	Initials BAY

OFFICE HOURS:

8.30 a.m.--4.30 p.m.
MONDAY TO FRIDAY

TELEPHONE:

ADMINISTRATION
CENTRE (09) 411 3444

WORKS
DEPOT 411 3490

FAX 411 3416

ATTENTION KEVIN McALPINE

Dear Sir

NOMINATION OF BUSHLAND RESERVE NO 39402 CORNER OF ANNOIS AND PARKWAY ROADS, BIBRA LAKE IN SYSTEM 6 REVIEW

Further to previous correspondence in relation to nomination of the above reserve for inclusion in the System 6 Review, please find attached a copy of a report on a recently concluded Flora and Fauna Survey of the bushland carried out for the City.

As can be seen from the report whilst no rare flora or fauna were observed on the site, the reserve provides a valuable corridor linkage for the movement of transient mammal and bird species between Beeliar Regional Park to the west and bushland to the east of the site. Further to this the reserve contains vegetation with a high species richness and has low weed frequency and cover.

I trust that this information is useful in the consideration of the inclusion of the reserve in the System 6 Review. Please do not hesitate to contact Council's Manager - Environmental Services, Darren Walsh on 411 3444 should you require any further information in relation to the matter.

Yours faithfully


R W BROWN
CITY MANAGER/TOWN CLERK

DW:NW

Enc

091555 / info

21/12/95

Spoke to • Georgina Reiss 21/12/95

Bibra Lake not Community Type 20

- rang Mrs Brooking 417 4720
not home 9.15, 9.45



City of Cockburn

P.O. BOX 1215, BIBRA LAKE, WESTERN AUSTRALIA 6163
9 COLEVILLE PRESCENT, SPEARWOOD 6163

ALL WRITTEN COMMUNICATIONS TO BE ADDRESSED TO CITY MANAGER

25

CONFIDENTIAL

ENQUIRIES
OUR REF.

YOUR REF.

Mr D Walsh
1114667; 6119

OFFICE HOURS:
8.30 a.m.-4.30 p.m.
MONDAY TO FRIDAY

TELEPHONE:
ADMINISTRATION
CENTRE (09) 411 3444

WORKS
DEPOT 411 3480

FAX 411 3416

Department of Environmental
Protection
Westralia Square
141 St Georges Tce
PERTH WA 6000

9 - 9 1995
s/67/91/2 Initials KMD 9
Initials

ATTENTION: KEVIN McALPINE

Dear Sir

NOMINATION OF RESERVE NO. 39402 - ANNOIS ROAD, BIBRA LAKE IN SYSTEMS SIX REVIEW

At its meeting of 1 August 1995, Council resolved to nominate the above reserve for inclusion in the Systems Six review.

The reserve contains approximately 7.9 hectares of good quality banksia woodland with a diverse understorey. A species list for the reserve provided to Council indicates the likely presence of several species of declared rare flora.

Attached is a completed submission form, locality map, species list and copy of a report on the reserve by Council's Manager - Environmental Services.

I urge the Department of Environmental Protection to give serious consideration to the inclusion of the reserve in the Systems Six review. Should you have any enquiries please do not hesitate to contact the Manager - Environmental Services, Darren Walsh on 411 3441.

Yours faithfully


R W BROWN
CITY MANAGER/TOWN CLERK

DW:LB
7 August 1995

Encs.

88345

52

**REPORT ON
BUSHLAND RESERVE NO 39402
ANNOIS ROAD, BIBRA LAKE**

**By Manager - Environmental Services
4/8/95**

At the request of Council an investigation in relation to the environmental and conservation status of the above reserve has been carried out. The reserve is 7.9 hectares in size and is located on the corner of Annois and Parkway Roads, Bibra Lake. The reserve is currently vested with the Department of Lands and Surveys and has in the past been flagged for use as a Technical School site.

The reserve contains Banksia woodland with a diverse understorey. Overstorey species consist mainly of Banksia and Sheoak with scattered Christmas Tree and Jarrah. The site slopes gently upwards to the east and contains several examples of large Jarrah and Banksia ilicifolia. A list of flora provided by the Bibra Lake P & C shows that at least 38 native plant species are found on the site including a number of orchids and other wildflowers. Of note is that the species list provided indicates the presence of a declared rare flora the King Spider Orchid - *Caladenia huegelii*. Another possible declared rare flora species of catspaw being *Angiozanthos humilis* chrysanthus may also be present.

The condition of the vegetation within the reserve area varies, with overstorey species being affected by what appears to be dieback or from frequent fires. Many of the overstorey species, particularly Banksia and Jarrah, are affected. The understorey, however is in good condition and is particularly diverse. Weed infestation is limited to edge effects around the boundary of the site and tracks within the area. Good natural regeneration is evident throughout the site. Tracks within the site are limited and have minimal impact upon the vegetation. Some rubbish is evident within the site and includes parts of vehicle bodies, pipes and other material. Rabbit activity was also noted within the site, however it is not as severe as other nearby reserves such as Yangebup Lake.

Based on a vegetation condition scale used in Western Australia, the bushland is considered to be in a good to very good condition.

The bushland is likely to provide habitat for a range of native animals. No terrestrial animals were sighted during the field visits, however possible evidence of Bandicoot digs was noted. A range of native bird species utilise the bushland as was evident by the number of birds present during site visits.

The lot immediately adjacent to the south of the site contains a Western Power facility which appears to be a switching yard. Noise from this facility was clearly discernible in the corner of the bushland and consists of low frequency humming. Electromagnetic radiation emanating from the site would also need to be considered but was not measured. These two issues provide constraints to urban development of the site and will require suitable buffers to be established.

CONCLUSIONS:

The reserve is considered to be a good example of remnant urban bushland. The vegetation on the reserve is generally in good to very good condition, however a number of the overstorey species have been affected by dieback or frequent fire regimes. The understorey is nonetheless in very good condition and disturbance factors are limited to the boundaries of the site and edges of pathways.

The site represents a vegetation complex which is now largely removed from the area due to urbanisation and other developmental impacts. The possible presence of two rare flora species on the site adds substantially to the conservation value of the area and would make the area eligible for regional bushland status under the recently released Urban Bushland Strategy. The presence of rare flora would also require management under the Wildlife Conservation Act and could preclude development of parts of the site.

Given these added conservation values, and the proximity of the Bibra Lake Primary School and nearby urban areas the bushland provides an excellent opportunity for environmental education and appreciation from local school children and residents.

The use of the site for urban purposes is considered to be constrained substantially by the adjacent Wester Power Utility. Substantial buffers are likely to be necessary around the site for noise and electromagnetic radiation.

The use of the reserve for a properly managed urban bushland reserve is considered compatible with the condition and location of the site. Management emphasis would need to be placed on minimising disturbance factors, protection of rare and endangered flora present and replacement of overstorey species which are currently declining.

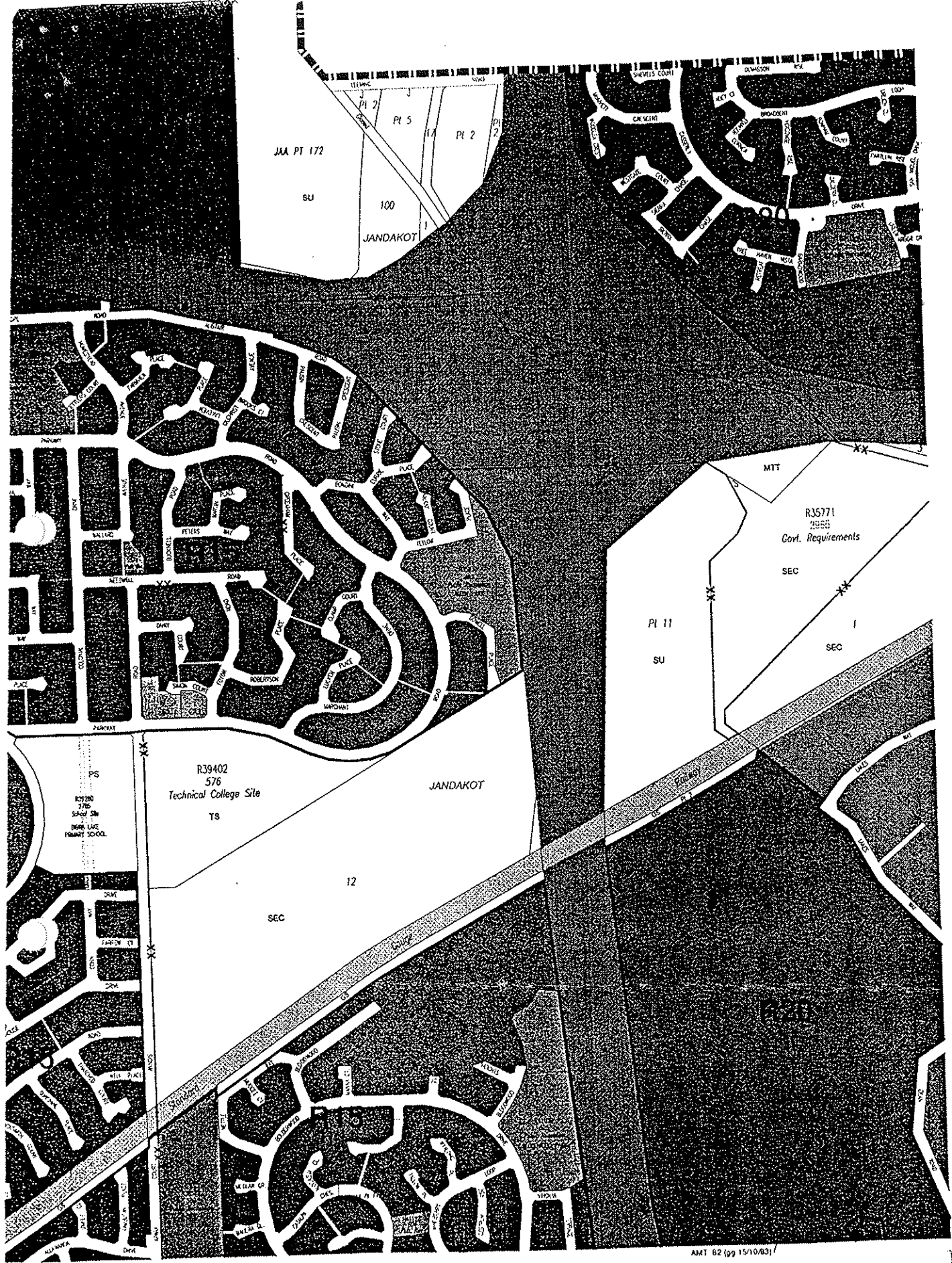
It is considered that the bushland area is worthy for nomination in the System 6 Review which is currently being undertaken by the Department of Environmental Protection. Further to this it is considered that the bushland meets the criteria for regionally important bushland on the basis of the possible presence of declared rare flora.

Appendix A

List of Flora Species on Reserve 39402

- Eucalyptus marginata (Jarrah)
- Nuytsia floribunda (Christmas tree)
- Banksia menziesii (Menzies' banksia)
- Banksia attenuata (Slender banksia)
- Banksia ilicifolia (Holly-leaved banksia)
- Allocasuarina fraseriana (Sheoak)
- Xanthorrhoea preissii (Blackboy)
- Adenanthos cygnorum (Woolly bush)
- Jacksonia furcellata (Grey stinkwood)
- Macrozamia riedlei (Zamia palm)
- Acacia pulchella (Prickly moses)
- Anigozanthos manglesii (Mangles' Kangaroo Paw)
- Stirlingia latifolia (Blueboy)
- Anigozanthos humilis (Cat's paw)
- Kennedia prostrata (Running Postman)

- Stylidium piliferum (White Butterfly Triggerplant)
- Elythranthera brunonis (Enamel Orchid)
- Patersonia occidentalis (Purple Flag)
- Isotropis cuneifolia (Granny's Bonnet)
- Caladenia huegelii (King Spider Orchid)
- Hybanthus calycinus (Native Violet)
- Diuris longifolia (Donkey Orchid)
- Hypocalymma robustum (Swan River Myrtle)
- Caladenia flava (Cowslip Orchid)
- Hovea pungens (Devil's Pins)
- Caladenia discoidea (Bee Orchid)
- Chamaescilla corymbosa (Blue Squill)
- Hibbertia huegelii (Hibbertia)
- Lobellia tenuior (Lobellia)
- Drosera stolonifera (Sundew)
- Sowerbaea laxiflora (Purple Tassels)
- Pinelea rosea (Rose Banjine)
- Burchardia umbellata (Milkmaids)
- Lyperanthus nigricans (Red Beak Orchid)
- Calectasia cyanea (Star of Bethlehem)
- Caladenia longicauda (White Spider Orchid)
- Stylidium schoenoides ("Cow Kicks" Triggerplant)
- Stylidium brunonianum (Fountain Triggerplant)



AMT 62 (99 15/10/83)

CITY OF COCKBURN

TOWN PLANNING SCHEME DISTRICT ZONING SCHEME No 2
SCHEME MAP



1:10,000

SHEET No. 13

Amended to 4th March 1994

This map has been derived from an electronic version of the Scheme field and maintained by the City of Cockburn. Council accepts no responsibility for the zoning depicted on the map. Any references should be made to the original Scheme Map.

ANNOIS ROAD BUSHLAND,
BIBRA LAKE

Conservation Value for Fauna

Prepared for: Revegetation Technology.
11B/1 Sarich Way,
Technology Park,
Bentley, 6102.

Prepared by: M.J. & A.R. Bamford,
CONSULTING ECOLOGISTS.
23 Plover Way,
Kingsley, WA, 6026.



08/11/'95

SPECIES	Presence/absence data							Frequency
	Plot Number							
	1	2	3	4	5	6	7	
<i>Hovea trisperma</i>			+				+	2
<i>Hardenbergia comptoniana</i>								0
<i>Jacksonia sternbergiana</i>		+						1
<i>Kennedia prostrata</i>		+				+		2
POACEAE								
* <i>Aira caryophylla</i>		+						1
<i>Amphipogon turbinatus</i>			+	+		+	+	4
* <i>Briza maxima</i>	+	+	+	+		+	+	6
* <i>Ehrharta calycina</i>	+	+				+		3
* <i>Lagurus ovatus</i>								0
<i>Neurachne alopecuroidea</i>				+				1
POLYGALACEAE								
<i>Comesperma calymega</i>				+				1
PROTEACEAE								
<i>Adenanthos barigerus</i>								0
<i>Adenanthos cygnorum</i>			+					1
<i>Banksia attenuata</i>		+				+	+	3
<i>Banksia ilicifolia</i>							+	1
<i>Banksia menziesii</i>	+	+	+	+	+	+	+	7
<i>Petrophile linearis</i>	+	+			+	+	+	5
<i>Stirlingia latifolia</i>	+	+	+	+	+	+	+	7
<i>Synaphea spinulosa</i>								0
<i>Xylomelum occidentale</i>				+				1
RESTIONACEAE								
' <i>Desmocladius</i> ' <i>flexuosus</i> ined (ex <i>Loxocarya flexuosus</i>)		+		+	+	+	+	5
<i>Hypolaena exsulca</i>		+						1
<i>Lyginia barbata</i>	+	+	+		+		+	5
RUTACEAE								
<i>Boronia ramosa</i>		+						1
<i>Scholtzia involucrata</i>		+				+	+	3

BACKGROUND

We have been asked to provide some brief comments on the conservation value for fauna of a small (6 ha) bushland remnant in the suburb of Bibra Lake. This assessment is based on a site visit conducted on the morning of 6 November 1995, our previous experience in similar habitats within and outside the Perth metropolitan area, and published information on fauna of bushland remnants in Perth. Most observations and comments are on vertebrate fauna, as invertebrates of bushland remnants are poorly known and therefore difficult to assess during a brief inspection.

The Annois Road bushland lies to the east of Bibra Lake (which is within Beeliar Regional Park), from which it is separated by the Bibra Lake Primary School. Land to the north and south is urbanized or developed for light industry. To the east of the Annois Road bushland lies the Kwinana Freeway, with bushland around Jandakot Airport beyond this.

The vegetation of the site is described in detail elsewhere. It is essentially *Banksia* woodland with a few emergent eucalypts (Jarrah *Eucalyptus marginata*) and a shrubby understorey. The understorey is invaded by weeds, particularly around the margins of the site, and the vegetation appears to be regenerating after a fire that had occurred perhaps two years previously. The site is level and contains no wetlands or damplands.

OBSERVATIONS ON FAUNA

During the site inspection, definite records of two reptile species, 11 bird species (one introduced) and three mammal species (all introduced and two domestic) were made (Table 1). In addition, diggings were noted which were probably made by the goanna *Varanus gouldii* or possibly *Varanus rosenbergi*. Some old diggings, partly obliterated by recent rain, may have been made by the Quenda or Southern Brown Bandicoot *Isodon obesulus*. These were not clear, however, and it was apparent that there had been no recent activity by this species on the site.

While detailed observations were not made on invertebrates, a diversity of invertebrate life was noted and this included species that would not be expected to occur in the nearby suburbs. This included a small brown butterfly of the Sub-family Satyrinae.

CONSERVATION VALUE OF THE SITE FOR FAUNA

The fauna observed on the site during the brief visit represents only a small proportion of the fauna that could be expected to use the site. Detailed surveys of small bushland remnants elsewhere in the Perth metropolitan area have identified some common patterns to the survival of fauna in such areas (for example, Turpin 1990, How and Dell 1990, How and Dell in prep., Wykes 1991).

Frog and reptile species display a remarkable ability to persist in bushland remnants in urban areas. Most of the species that were present at the Annois Road site before the surrounding area was developed are probably still present on the site. Of the three frog species most likely to be present, one breeds terrestrially and the remaining two probably breed around Bibra Lake but migrate into upland habitats outside the breeding season. Some 25 reptile species may be present and could include the Black-striped Snake *Simoselaps (Vermicella) calanotus*, classified as endangered by Cogger *et al.* (1993). The Striped Lerista *Lerista lineata* may also be present and has a very restricted range between the Swan River and Rockingham, including Garden and Rottnest Islands.

Birds are less able to persist in bushland remnants than frogs and reptiles. Small, resident species, such as fairy-wrens, thornbills and scrubwrens, are unable to recolonize such sites if they disappear, as surrounding suburbs will not usually support them. Their disappearance from remnants can result from small population size which makes the species vulnerable to factors such as increased predation pressure from domestic cats. Mobile and migratory species which can utilize bushland remnants on a "part-time" basis and for which suburbs are not a barrier, may still be present, however. The bird species recorded on the site were all wide-ranging or nomadic species and no small, resident species were present. One such species, however, the Splendid Fairy-wren *Malurus splendens*, was present nearby at Bibra Lake. If detailed observations were made, as many as 50-60 species of birds could probably be recorded at the site. Species which may use the site would include several of conservation significance, most notably the Short-billed (white-tailed) Black-Cockatoo *Calyptorhynchus latirostris*, listed as vulnerable by Garnett (1992) and classed under Schedule Four (other specially protected fauna) of the Wildlife Protection Act.

The mammal fauna of the site is likely to be very depauperate. The only native species which may be consistently present are several species of bats, such as the White-striped Bat *Tadarida australis* and the Lesser Long-eared Bat *Nyctophilus geoffroyi*. These would shelter under loose bark and in hollows of the bankias and

eucalypts. The Quenda, which is listed under Schedule One (rare and likely to become extinct) of the Wildlife Protection Act, could be expected to visit the site occasionally. This species occurs around nearby Bibra Lake and young males, for example, may be displaced by adult males and find their way to the site. They would be unlikely to survive there, however, as the vegetation is not as dense as that which they usually favour and they would be subject to predation by domestic cats. Despite this, the site could be of significance for Quendas because it may act as a corridor for movement between Bibra Lake and suitable sites around Jandakot Airport and further east. The juxtaposition of the railway line passing beneath the Kwinana Freeway may be significant in this respect, as it could be used as a wildlife underpass.

LOCAL SIGNIFICANCE OF THE FAUNA OF THE SITE

The Annois Road bushland is a small area compared with bushland in Beeliar Regional Park and the large area of bushland around Jandakot Airport. It is therefore unlikely that any fauna is present which isn't better represented elsewhere. The site does have local significance for fauna, however, because of its location.

As mentioned above, the site may be part of a corridor facilitating the movement of Quendas and other terrestrial fauna between Beeliar Regional Park and other areas of native vegetation to the east. As development in the region continues, the preservation and enhancement of such wildlife corridors will become increasingly important if some components of the original fauna are to be retained within the urban area. The relationship between the site and the railway underpass beneath the Kwinana Freeway is particularly significant in this respect.

The site is also significant because it has community support, including from the adjacent primary school. Bushland remnants in urban areas inevitably become degraded and their value for fauna declines if active management is not undertaken. Such active management may be possible at the Annois road site because of the community interest and this enhances the long-term value of the site for fauna.

 TABLE 1. Vertebrate fauna observed at the Annois Road bushland on 6 September 1995.

REPTILES

- Agamidae (dragon lizards)
 Bearded Dragon *Pogona minor*
- Scincidae (skink lizards)
 Fence Skink *Cryptoblepharus plagiocephalus*

BIRDS

- Columbidae (pigeons and doves)
 Laughing Turtle-Dove *Streptopelia senegalensis*

- Cacatuidae (cockatoos)
 Galah *Cacatua roseicapilla*

- Psittacidae (parrots)
 Australian Ringneck (28) *Barnardius zonarius*
 Red-capped Parrot *Purpureicephalus spurius*

- Meliphagidae (honeyeaters)
 Red Wattlebird *Anthochaera carunculata*
 Little Wattlebird *Anthochaera chrysoptera*
 Brown Honeyeater *Lichmera indistincta*
 White-cheeked Honeyeater *Phylidonyris nigra*

- Artamidae (woodswallows and butcherbirds)
 Grey Butcherbird *Cracticus torquatus*
 Australian Magpie *Gymnorhina tibicen*

- Corvidae (ravens and crows)
 Australian Raven *Corvus coronoides*

MAMMALS

- Leporidae (rabbits and hares)
 Rabbit *Oryctolagus cuniculus*

- Canidae (foxes and dogs)
 Domestic Dog *Canis familiaris*

- Felidae (cats)
 Domestic Cat *Felis catus*

REFERENCES

- Cogger, H.G., Cameron, E.E., Sadlier, R.A. and Egger, P. (1993). The Action Plan for Australian Reptiles. Australian Nature Conservation Agency.
- Garnett, S. (1992). Threatened and Extinct Birds of Australia. Royal Australasian Ornithologists Union and Australian National Parks and Wildlife Service. RAOU Report No 82. RAOU Melbourne.
- How, R.A. and Dell, J. (1989). Vertebrate fauna of *Banksia* woodlands. J. Roy. Soc. W.A. 71: 97-98.
- How, R.A. and Dell, J. (1990). Vertebrate fauna of Bold Park. West. Aust. Nat. 18: 122-131.
- Turpin, M.C. (1990). Ecological appraisal of an isolated banksia woodland reserve No. 3694 south of the Swan river, Perth. West. Aust. Nat. 18: 131-139.
- Wykes, B. (1991). Perth Wildlife Watch. World Wide Fund for Nature Project 134.



(81) Bibra~~l~~ Reserve 39402 Annois Road, Bibra Lake

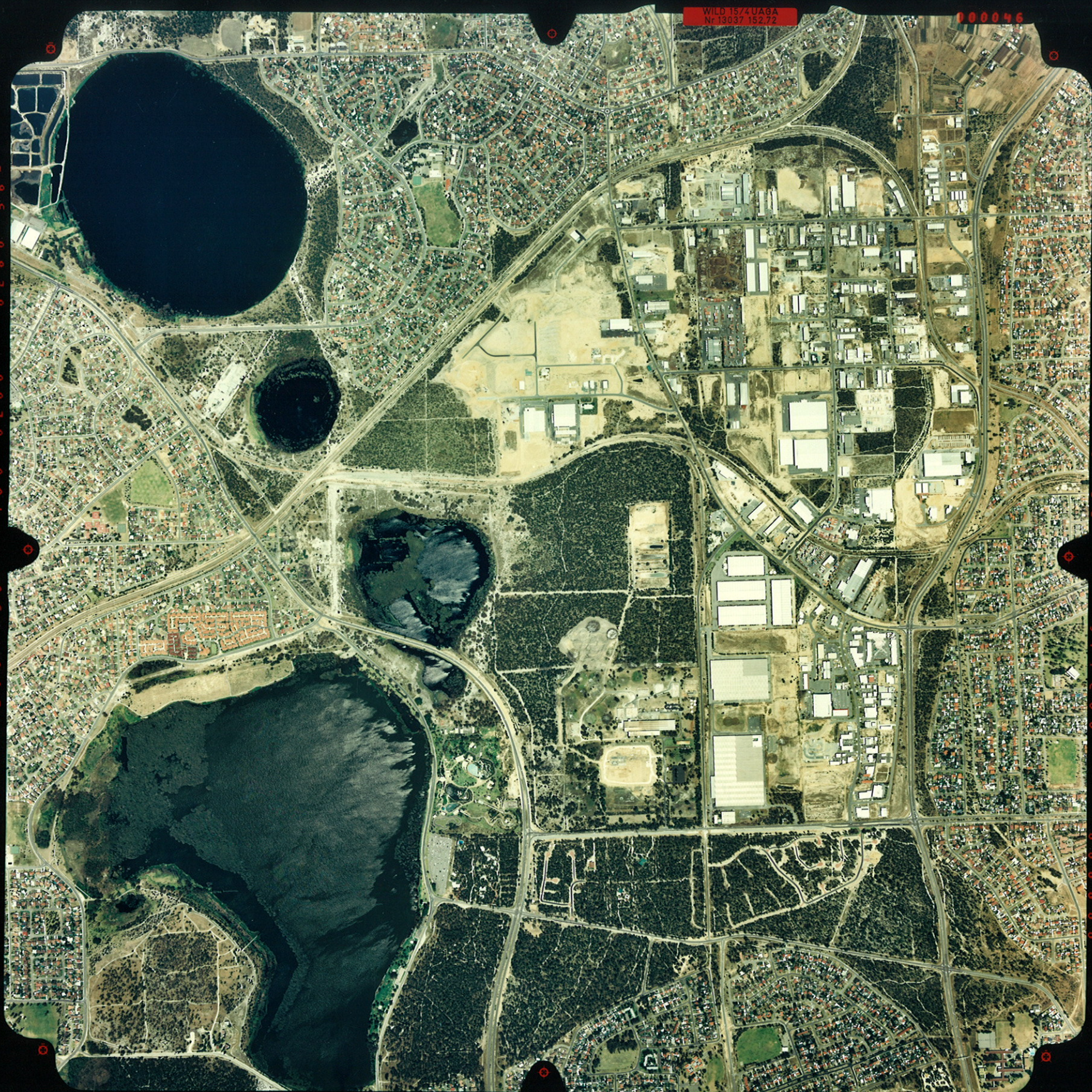
WILD 1574 UAGA
Nr 13037 152.72

900077



-5022-1269-561000180030056-

9202095210615552000000000



WILD 1574UAGA
Nr 13037 152.72

000046