



Græme Jones
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Regional Offices:
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Your Ref
Our Ref 67/91
Enquiries N Thorning

Dear Mr Jones

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 on Lot 690 Gillon Street, Karawara was visited on 20 September 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 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 the area is one of many sites that we have surveyed. The fact that we visited and surveyed the site 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.

One 10 metre by 10 metre survey site was located on the property. 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 be 'MS', with a long, sweeping underline that extends to the right.

Colin Sanders
DIRECTOR
POLICY AND STRATEGIC STUDIES

14 November 1995

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: GILLON ST

b) Nearest Corner: GILLON ST and WALANNA Drive

c) Lot Number: 690 Street Number:

d) Town/Suburb/Location: KARAWAKA

e) Local Council: City of SOUTH PERTH

f) Site Name (if any):

g) Approximate size of the area (ha): 3.8 hectares

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

i) Map: UBO Streetsmart /UBD/Other:

j) Map no.: 28

k) Grid Ref: 29

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

.....

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

YES Proposed Home west Redevelopment

.....

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) HOMES WEST

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) TPS for a school.

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),
..... there is very little karaka woodland in the whole of the City of South York. #

6. What is/are the soil type/s and colours? Boranderan Sand

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? A large oval shape

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

It would be ideal to manage because of its shape and condition. It is threatened because of proposed redevelopment by Homeswest.

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? 95%

11. If the area includes regions cleared of native bushland please indicate reasons for the inclusion. to all of a buffer zone

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

If yes, please give details of the work Report on Fauna by M.J. + A.R. Bonford and A Botanical Survey of an Area in City of St. Park by Malcolm Hodgson 1993.

13. How would you rate the condition of the native bushland? (see attached table) and Muddell Branch of Wildflower scay 14 March 1994.

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

good to very good.

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
- 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

for Bowman
(how
Gordon
Subarea)

- 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)

Do you know what they are? *It is part of the rare and threatened ecosystem of Bossenden Complex - Central + South.*

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

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

birds, honey possum

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

*Frogs, fishos, toads, birds
see Bamford report.*

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? *1KM - GOSS AVE*

2KMS - WATERFORD POINT/SHORE RESERVE.

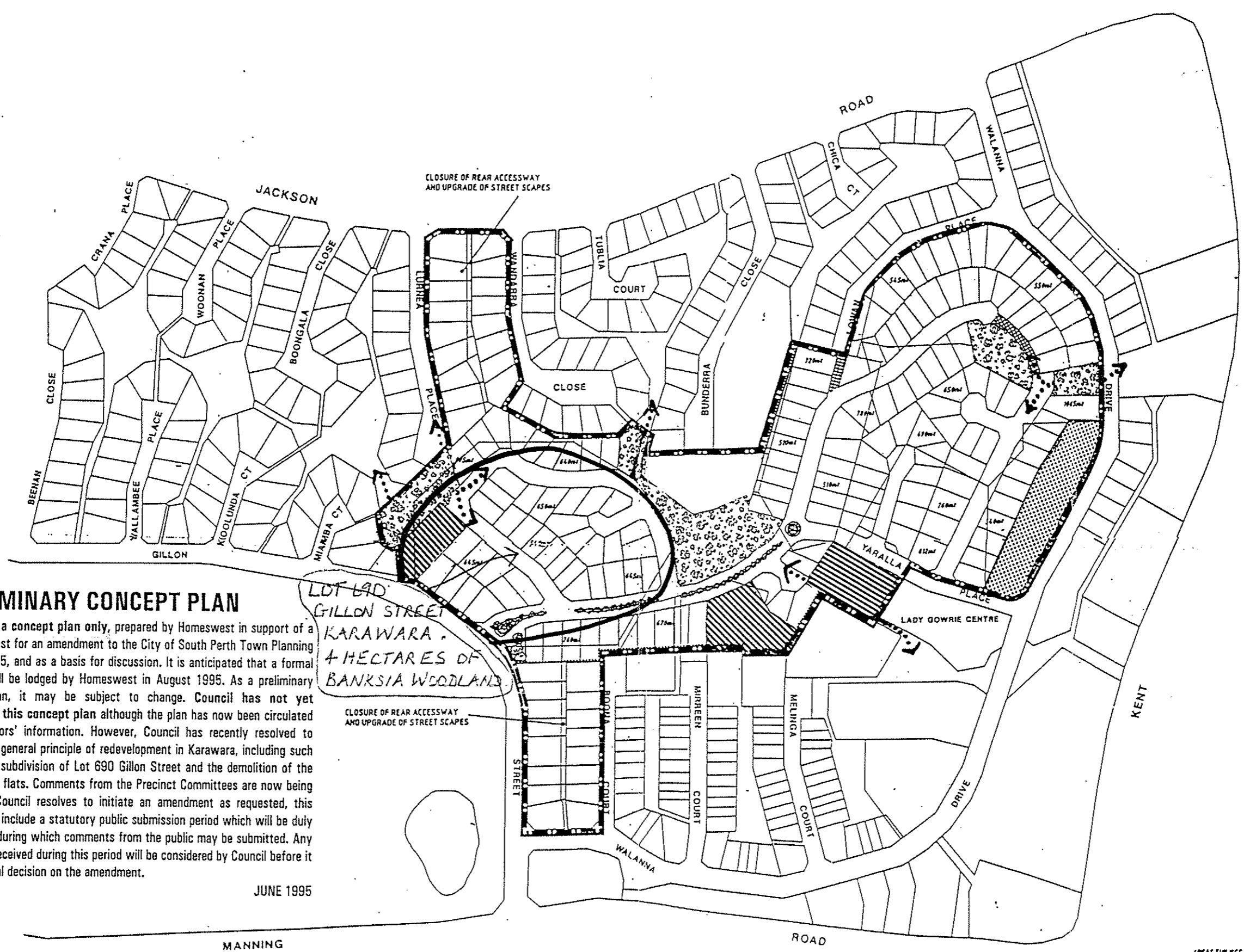
Are they already conservation reserves? *YES*

What is their approximate size? *3 hectares and 8 hectares*

19. Does the submitted area link other bushland areas?

With other reserves close by it forms a major area of remnant bushland

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



PRELIMINARY CONCEPT PLAN

This plan is a **concept plan only**, prepared by Homeswest in support of a future request for an amendment to the City of South Perth Town Planning Scheme No 5, and as a basis for discussion. It is anticipated that a formal proposal will be lodged by Homeswest in August 1995. As a preliminary concept plan, it may be subject to change. Council has not yet considered this concept plan although the plan has now been circulated for Councillors' information. However, Council has recently resolved to support the general principle of redevelopment in Karawara, including such features as subdivision of Lot 690 Gillon Street and the demolition of the three-storey flats. Comments from the Precinct Committees are now being sought. If Council resolves to initiate an amendment as requested, this process will include a statutory public submission period which will be duly advertised, during which comments from the public may be submitted. Any comments received during this period will be considered by Council before it makes a final decision on the amendment.

JUNE 1995

LOT 690
GILLON STREET
KARAWARA
4 HECTARES OF
BANKSIA WOODLAND

CLOSURE OF REAR ACCESSWAY
AND UPGRADE OF STREET SCAPES

CLOSURE OF REAR ACCESSWAY
AND UPGRADE OF STREET SCAPES

AREAS SUBJECT TO SURVEY

HOMESWEST

KARAWARA REDEVELOPMENT PLAN

STREETS		LEGEND	
←	FOOTPATH	[Hatched Box]	STUDY AREA
.....	BRICK SCREEN WALL	[White Box]	R20
[Hatched Box]	BRICK PAVING TREATMENT	[Diagonal Lines Box]	R40 - AGED PERSONS HOUSING
		[Dotted Box]	R50 - EXISTING FLATS TO BE RETAINED

[White Box]	COMMUNITY PURPOSES
[Dotted Box]	PUBLIC OPEN SPACE
[Hatched Box]	DISTRICT/LOCAL DISTRIBUTION ROADS
[White Box]	LOCAL ROADS



SCALE 1 : 4,000

KMA CARTOGRAPHICS 480 8107

Department of Environmental Protection System 6 Update: Site Based Flora List for Gillon St, Karawara
(60 taxa, Gill01, B.J. Keighery, 6/6/96)

Anthericaceae

Johnsonia pubescens
Laxmannia ramosa
Laxmannia squarrosa
Thysanotus patersonii
Tricoryne tenella

Apiaceae

Xanthosia huegelii

Asteraceae

* Hypochaeris glabra
Podotheca chrysantha
Quinetia urvillei

Brassicaceae

* Heliophila pusilla

Campanulaceae

Wahlenbergia preissii

Casuarinaceae

Allocasuarina humilis

Centrolepidaceae

Centrolepis drummondiana

Colchicaceae

Burchardia congesta

Crassulaceae

Crassula colorata

Cyperaceae

Lepidosperma angustatum

Dasyopogonaceae

Lomandra caespitosa

Lomandra hermaphrodita

Dilleniaceae

Hibbertia huegelii
Hibbertia hypericoides

Epacridaceae

Conostephium pendulum
Leucopogon conostephioides

Goodeniaceae

Dampiera linearis
Lechenaultia floribunda
Scaevola repens var. *repens*

Haemodoraceae

Conostylis setigera
Phlebocarya ciliata

Haloragaceae

Gonocarpus pithyoides

Iridaceae

* *Gladiolus caryophyllaceus*
Patersonia occidentalis

Loganiaceae

Mitrasacme paradoxa

Mimosaceae

Acacia applanata
Acacia pulchella
Acacia saligna

Molluginaceae

Macarthuria australis

Myrtaceae

Melaleuca acerosa
Melaleuca thymoides

Orchidaceae

Caladenia longicauda subsp. *longicauda* MS

Papilionaceae

Bossiaea eriocarpa
Daviesia triflora
Gompholobium tomentosum
Hovea trisperma var. trisperma
Jacksonia furcellata
Nemcia capitata

Poaceae

* Aira caryophyllea
* Briza maxima
Danthonia occidentalis
* Ehrharta calycina

Portulacaceae

Calandrinia corrigioloides

Proteaceae

Adenanthos cygnorum
Banksia ilicifolia
Banksia menziesii
Petrophile linearis

Restionaceae

Alexgeorgea nitens
Loxocarya flexuosa
Lyginia barbata

Rutaceae

Eriostemon spicatus

Santalaceae

Leptomeria sp. scps

Stylidiaceae

Levenhookia pusilla
Stylidium brunonianum

GILLON STREET SUB-DIVISION
KARAWARA

Report on Fauna

Prepared for: Bowman Bishaw Gorham.
294-296 Rokeby Road,
Subiaco, WA, 6008.

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



25/10'93

TABLE 1. Frog and reptile species recorded (*) or expected on Lot 690, Gillon Street Sub-division. The probable status of species not recorded on the site is given as either probably present (+) or probably not present (-).

Species	Status
FROGS	
Leptodactylidae (ground frogs)	
<i>Heleioporus eyrei</i> Moaning Frog	+
<i>Limnodynastes dorsalis</i> Pobblebonk or Bonk Frog	+
<i>Myobatrachus gouldii</i> Turtle Frog	+
REPTILES	
Gekkonidae (geckoes)	
<i>Diplodactylus spinigerus</i> Spiny-tailed Gecko	+
<i>Phyllodactylus marmoratus</i> Marbled Gecko	+
Pygopodidae (legless lizards)	
<i>Aprasia repens</i> Worm-Lizard	+
<i>Delma frazeri</i> Frazer's Legless-Lizard	-
<i>Lialis burtonis</i> Burton's Legless-Lizard	-
<i>Pletholax gracilis</i> Slender Legless-Lizard	-
<i>Pygopus lepidopodus</i> Common Scalyfoot	-
Agamidae (dragon lizards)	
<i>Pogona minor</i> Bearded Dragon	-
<i>Tympanocryptis adelaidensis</i> Sandhill Dragon	-
Scincidae (skink lizards)	
<i>Cryptoblepharus plagiocephalus</i> Fence Skink	+
<i>Ctenotus fallens</i>	* x
<i>Ctenotus lesueurii</i>	* x
<i>Hemiergis peronii</i>	+
<i>Lerista elegans</i>	+
<i>Lerista praepedita</i>	+
<i>Menetia greyii</i>	* x
<i>Morethia lineocellata</i>	+
<i>Morethia obscura</i>	+
<i>Tiliqua occipitalis</i> Bluetongue	+
<i>Tiliqua rugosa</i> Bobtail	* x
Typhlopidae (blind snakes)	
<i>Ramphotyphlops australis</i>	+
Elapidae (front-fanged snakes)	
<i>Pseudonaja affinis</i> Dugite	-
<i>Rhinoplocephalus gouldii</i> Gould's Whip Snake	-
<i>Vermicella bertholdi</i> Jan's Bandy-Bandy	-
<i>Vermicella bimaculata</i> Black-naped Snake	-
<i>Vermicella calonotus</i> Black-striped Snake	-
<i>Vermicella semifasciata</i> Half-ringed Bandy-Bandy	-

TABLE 2. Bird species recorded (+) or expected on Lot 690, Gillon Street Sub-division. Species are indicated as either being regularly present (R) or vagrants (V). (I) indicates introduced species.

Species	Present 15/10/'93	Status

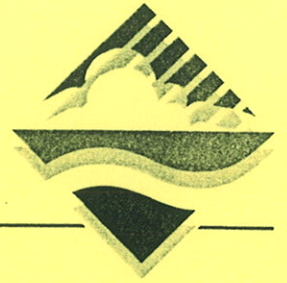
Accipitridae (kites, hawks and eagles)		
Black-shouldered Kite	<i>Elanus notatus</i>	V
Whistling Kite	<i>Haliastur sphenurus</i>	V
Brown Goshawk	<i>Accipiter fasciatus</i>	V
Collared Sparrowhawk	<i>Accipiter cirrhocephalus</i>	+ R
Wedge-tailed Eagle	<i>Aquila audax</i>	V
Little Eagle	<i>Hieraaetus morphnoides</i>	V
Falconidae (falcons)		
Peregrine Falcon	<i>Falco peregrinus</i>	V
Australian Hobby	<i>Falco longipennis</i>	V
Australian Kestrel	<i>Falco cenchroides</i>	R
Columbidae (pigeons and doves)		
Feral Pigeon	<i>Columba livia</i> (I)	R
Spotted Turtle-Dove	<i>Streptopelia chinensis</i> (I)	R
Laughing Turtle-Dove	<i>Streptopelia senegalensis</i> (I)	+ R
Cacatuidae (cockatoos)		
Carnaby's Black Cockatoo	<i>Calyptorhynchus latirostris</i>	R
Galah	<i>Cacatua roseicapilla</i>	R
Loriidae (lorikeets)		
Rainbow Lorikeet	<i>Trichoglossus haematodus</i> (I)	V
Platycercidae (broad-tailed parrots)		
Red-capped Parrot	<i>Purpureicephalus spurius</i>	V
Port Lincoln Ringneck	<i>Barnardius zonarius</i>	R
Elegant Parrot	<i>Neophema elegans</i>	V
Cuculidae (cuckoos)		
Pallid Cuckoo	<i>Cuculus pallidus</i>	R
Fan-tailed Cuckoo	<i>Cuculus pyrrhophanus</i>	V
Horsfield's Bronze-Cuckoo	<i>Chrysococcyx basalis</i>	V
Shining Bronze-Cuckoo	<i>Chrysococcyx lucidus</i>	V
Strigidae (hawk owls)		
Southern Boobook Owl	<i>Ninox novaeseelandiae</i>	R
Tytonidae (barn owls)		
Barn Owl	<i>Tyto alba</i>	R

Podargidae (frogmouths)			
Tawny Frogmouth	<i>Podargus strigoides</i>		V
Alcedinidae (kingfishers)			
Laughing Kookaburra	<i>Dacelo novaeguineae</i> (I)	+	R
Sacred Kingfisher	<i>Halcyon sancta</i>		R
Meropidae (bee-eaters)			
Rainbow Bee-eater	<i>Merops ornatus</i>		R
Hirundinidae (swallows)			
White-backed Swallow	<i>Cheramoeca leucosternum</i>		V
Welcome Swallow	<i>Hirundo neoxena</i>		R
Tree Martin	<i>Cecropis nigricans</i>		R
Fairy Martin	<i>Cecropis ariel</i>		V
Motacillidae (pipits and true wagtails)			
Richard's Pipit	<i>Anthus novaeseelandiae</i>		R
Campephagidae (cuckoo-shrikes)			
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>		R
White-winged Triller	<i>Lalage sueurii</i>		V
Muscicapidae (flycatchers and allies)			
Rufous Whistler	<i>Pachycephala rufiventris</i>		V
Grey Fantail	<i>Rhipidura fuliginosa</i>		R
Willie Wagtail	<i>Rhipidura leucophrys</i>		R
Acanthizidae (thornbills and allies)			
Western Gerygone	<i>Gerygone fusca</i>		R
Yellow-rumped Thornbill	<i>Acanthiza chrysorrhoa</i>		V
Meliphagidae (honeyeaters)			
Red Wattlebird	<i>Anthochaera carunculata</i>	+	R
Little Wattlebird	<i>Anthochaera chrysoptera</i>		R
Singing Honeyeater	<i>Lichenostomus virescens</i>	+	R
Brown Honeyeater	<i>Lichmera indistincta</i>	+	R
New Holland Honeyeater	<i>Phylidonyris novaehollandiae</i>		R
White-cheeked Honeyeater	<i>Phylidonyris nigra</i>		R
Western Spinebill	<i>Acanthorhynchus superciliosus</i>		V
Dicaeidae (flower-peckers)			
Mistletoebird	<i>Dicaeum hirundinaceum</i>		R
Pardalotidae (pardalotes)			
Striated Pardalote	<i>Pardalotus striatus</i>		R
Zosteropidae (white-eyes)			
Silvereye	<i>Zosterops lateralis</i>		R

Grallinidae (magpie-larks)		
Australian Magpie-lark	<i>Grallina cyanoleuca</i>	R
Artamidae (woodswallows)		
Black-faced Woodswallow	<i>Artamus cinereus</i>	V
Cracticidae (butcherbirds)		
Grey Butcherbird	<i>Cracticus torquatus</i>	R
Australian Magpie	<i>Gymnorhina tibicen</i>	R
Corvidae (ravens and crows)		
Australian Raven	<i>Corvus coronoides</i>	R

TABLE 3. Mammal species recorded (+) or expected on Lot 690, Gillon Street Sub-division. (I) indicates introduced species.

Phalangeridae		
<i>Trichosurus vulpecula</i>	Brush-tailed Possum	
Mollosidae (mastiff bats)		
<i>Tadarida australis</i>	White-striped Bat	
<i>Mormopterus planiceps</i>		
Vespertilionidae (vesper bats)		
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	
<i>Chalinolobus morio</i>	Chocolate Wattled Bat	
<i>Eptesicus regulus</i>		
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	
<i>Nyctophilus gouldii</i>	Gould's Long-eared Bat	
<i>Nyctophilus major</i>	Greater Long-eared Bat	
Muridae (rats and mice)		
<i>Mus musculus</i>	House Mouse (I)	+
<i>Rattus rattus</i>	Black Rat (I)	
<i>Rattus norvegicus</i>	Brown Rat (I)	
Leporidae (rabbits and hares)		
<i>Oryctolagus cuniculus</i>	Rabbit (I)	
Canidae (foxes and dogs)		
<i>Vulpes vulpes</i>	European Red Fox (I)	
Felidae (cats)		
<i>Felis catus</i>	Feral Cat (I)	



Town Clerk
City of South Perth
Cnr Sandgate Street/South Terrace
SOUTH PERTH WA 6151

Your Ref

Our Ref

Enquiries

67/91 & S/67/91/2

B Hyder

Dear Sir

REMNANT BUSHLAND: LOT 690 GILLON STREET KARAWARA

I am writing to advise you of the Department of Environmental Protections position with respect to an area of remnant bushland on Lot 690 Gillon Street, Karawara in the context of the System 6 update programme.

As you will be aware from our letter, dated 21 July 1995, the Department of Environmental Protection is coordinating a programme to update the System 6 recommendations. One of the aims of the programme is to ensure that the conservation system proposed in System 6 is representative of the ecological communities and associated habitats of the region. We have been inviting members of the public to submit areas of bushland to us that they think have sufficiently special or high conservation value to be considered in this programme.

We have recently received a submission for the area of bushland at Lot 690 Gillon Street. The closing date for submissions is 18 August 1995 after which time we will be assessing each of the submissions and visiting those sites requiring further evaluation.

In 1994 the rezoning of Lot 690 for residential development was also the subject of a referral to the Environmental Protection Authority when the level of assessment was set at 'not assessed'. However, in light of the submission and the fact that an appeal against the level of assessment was dismissed in the absence of further information being provided by the appellant, I urge the City of South Perth to delay consideration of any proposed development on the bushland area until the Department has assessed the submissions this spring.

Please note that nomination of a site does not necessarily mean that the area will be included in the final update recommendations.

As you will be aware remnant bushland that falls outside the System 6 recommendations may still be significant at a State or local level and be recognised through other mechanisms. Remnant vegetation in the metropolitan region therefore needs to be considered in the context of the Governments recently released Urban Bushland Strategy of which System 6 is only a part .

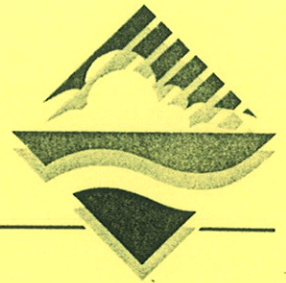
I hope this will not inconvenience you and look forward to hearing from you regarding this matter in the near future.

Yours faithfully

A handwritten signature in black ink, appearing to be 'C. Sanders', written in a cursive style.

Colin Sanders
DIRECTOR
POLICY AND STRATEGIC STUDIES

17 August 1995



Mr G Lewis
Gray and Lewis
Suite 5
2 Hardy Street
SOUTH PERTH WA 6151

Your Ref
Our Ref
Enquiries

S/67/91/2 & 67/91
B Hyder

Dear Mr Lewis

REMNANT BUSHLAND: LOT 690 GILLON STREET KARAWARA

Further to your enquiry I am writing to advise you of the Department of Environmental Protections position with respect to the area of remnant bushland on Lot 690 Gillon Street, Karawara in the context of the System 6 update programme.

As you are aware the Department of Environmental Protection is coordinating a programme to update the System 6 recommendations. One of the aims of the programme is to ensure that the conservation system proposed in System 6 is representative of the ecological communities and associated habitats of the region. We are currently inviting members of the public to submit areas of bushland to us that they think have sufficiently special or high conservation value to be considered in this programme.

We have recently received a submission for the area of bushland at Lot 690 Gillon Street. The closing date for submissions is 18 August 1995 after which time we will be assessing each of the submissions and visiting those sites requiring further evaluation. I therefore urge that any proposed development on the bushland area be delayed until the Department has assessed the submissions. Nomination of a site does not necessarily mean that the area will be included in the final update recommendations.

It should be noted that remnant vegetation in the metropolitan region needs to be considered in the context of the Governments recently released Urban Bushland Strategy. System 6 is only a part of this strategy. Remnant bushland that falls outside System 6 may still be significant at a local level and be recognised through other mechanisms.

If you have any further questions regarding this issue please do not hesitate to contact Bridget Hyder of this Department on 222 7173.

Yours sincerely

Colin Sanders
DIRECTOR
POLICY

17 August 1995

MURDOCH BRANCH
of the Wildflower Society of W.A. Inc.



CITY OF SOUTH PERTH

14 MAR 1994

1. AGENDA
2. ACTION CARD/LETTER

.....
.....
3. ORIGINAL/COPY TO: EO
FOR:

5 Danzil Street
Willagee 6156

12 March 1994

(Phone: 331-3693)

Ms Jenna Brooker,
Environmental Officer,
South Perth.

Dear Jenna,

I enclose a Flora List for Gillon Street Bushland in Karawara. This list was compiled by Michael Hislop between April and November 1993. Mike is a Committee Member of the Murdoch Branch of the Wildflower Society and a South Perth resident. As you will see the list is very complete.

Please show this list to the relevant technical and planning personnel at South Perth, as it indicates the species richness of this small piece of Bushland, which also has some fine tree specimens. Those of Banksia ilicifolia are especially notable.

The Wildflower Society is very concerned about the loss of urban bushland throughout metropolitan Perth. While we are pleased to see your plans for the foreshore, we wonder if you are planning to save a network of bushland reserves throughout South Perth?

Yours sincerely,

Diana Corbyn, President

CONTACT: Secretary, Diane Matthews, 457 2896 (Home)

(Home address given above)

FLORA OF GILLON ST BUSHLAND KARAWARA

NOTE * indicates weed or naturalised alien

AIZOACEAE

* *Carpobrotus edulis*

ANTHERICACEAE

Arnocrinum preissii
Chamaescilla corymbosa
Hensmania turbinata
Johnsonia pubescens
Laxmannia ramosa
Laxmannia squarrosa
Thysanotus patersonii
Thysanotus triandrus
Trycoryne elatior

APIACEAE

Homalosciadium homalocarpum
Platysace compressa
Trachymene pilosa
Xanthosia huegellii

ASTERACEAE

* *Arctotheca calendula*
* *Conyza bonariensis*
Cotula australis
* *Gazania tomentosa*
* *Hypochaeris glabra*
Lagenifera huegellii
* *Osteospermum clandestinum*
Podotheca chrysantha
Quinetia urvillei
Senecia lautus subs. *maritimus*
Siloxerus humifusus
* *Sonchus oleraceus*
* *Ursinia anthemoides*

BRASSICACEAE

* *Brassica tournefortii*
* *Heliophila pusilla*

CAMPANULACEAE

- Wahlenbergia capensis
- Wahlenbergia preissii

CARYOPHYLLACEAE

- Cerastium glomeratum
- Petrorhagia velutina
- Polycarpon tetraphyllum
- Silene gallica
- Stellaria media

CASURINACEAE

- Allocasuarina fraseriana
- Allocasuarina humilis

COLCHICACEAE

- Burchardia umbellata

CRASSULACEAE

- Crassula colorata
- Crassula decumbens

CYPERACEAE

- Isolepis marginata
- Lepidosperma angustatum
- Lepidosperma "Terete West Plain SP"
- Mesomelaena pseudostygia
- Schoenus caespititius
- Schoenus curvifolius

DASYPOGONACEAE

- Dasypogon bromeliifolius
- Lomandra caespitosa
- Lomandra hermaphrodita
- Lomandra nigricans
- Lomandra preissii
- Lomandra suaveolens

DILLENACEAE

- Hibbertia aurea
- Hibbertia huegelii
- Hibbertia hypericoides
- Hibbertia racemosa

DROSERACEAE

Drosera erythrorhiza subs. *erythrorhiza*
Drosera menziesii

EPACRIDACEAE

Conostephium pendulum
Leucopogon conostephioides,
Lysinema ciliatum

EUPHORBIACEAE

* *Euphorbia peplus*
Monotaxis occidentalis
Poranthera microphylla

FABACEAE

Bossiaea eriocarpa
Daviesia physodes
Daviesia triflora
Gompholobium tomentosum
Hovea trisperma
Jacksonia furcellata
* *Lupinus angustifolius*
* *Medicago polymorpha*
Nemcia reticulata
* *Trifolium arvense*
* *Trifolium campestre*

GERANIACEAE

* *Erodium botrys*
* *Pelargonium capitatum*

GOODENIACEAE

Dampiera linearis
Lechenaultia floribunda
Scaevola repens var *repens*

HALORAGACEAE

Gonocarpus pithyoides

HAEMODORACEAE

Anigozanthos humilis
Conostylis aculeata
Conostylis juncea

Conostylis setigera
Haemodorum spicatum
Phlebocarya ciliata

IRIDACEAE

*
*
Gladiolus caryophyllaceus
Patersonia occidentalis
Romulea rosea

LAMIACEAE

Hemiandra pungens

LOGANIACEAE

Mitrasacme paradoxa

LORANTHACEAE

Nuytsia floribunda

MIMOSACEAE

Acacia huegelii
Acacia pulchella
Acacia saligna
Acacia stenoptera
Acacia willdenowiana

MOLLUGINACEAE

Macarthuria australis

MYRTACEAE

*
Calytrix flavescens
Calytrix fraseri
Chamelaucium uncinatum
Eremaea pauciflora
Eucalyptus calophylla
Eucalyptus marginata
Eucalyptus tottiana
Hypocalymma angustifolium
Melaleuca seriata
Melaleuca thymoides
Scholtzia involucrata

ONAGRACEAE

- * Oemothera drummondii
- * Oemothera stricta

PHORMIACEAE

Dianella divaricata

PHYTOLACCAECEAE

- * Phytolacca octandra

POACEAE

- * Aira cupaniana
- * Avena barbata
- * Briza maxima
- * Briza minor
- * Bromus diandrus
- * Cynodon dactylon
- * Danthonia occidentalis
- * Ehrharta calycina
- * Ehrharta longiflora
- * Eragrostis curvula
- * Lolium rigidum
- * Poa annua
- * Stipa compressa
- * Stipa semibarbata

PORTULACACEAE

Calandrinia corrigioloides
Calandrinia granulifera

PROTEACEAE

Adenanthos cygnorum
Banksia attenuata
Banksia ilicifolia
Banksia menziesii
Petrophile linearis
Stirlingia latifolia
Synaphea spinulosa

RESTIONACEAE

Alexgeorgea nitens
Hypolaena exsulca

Loxocarya flexuosa
Lyginia barbata

RUBIACEAE

Opercularia vaginata

RUTACEAE

Eriostemon spicatus

SANTALACEAE

Leptomeria empetriformis

SCOPHULARIACEAE

* Dischisma capitatum

SOLANACEAE

* Solanum nigrum

STYLIDIACEAE

Levenhookia stipitata
Stylidium brunonianum
Stylidium junceum
Stylidium piliferum
Stylidium repens
Stylidium schoenoides

XANTHORRHOEACEAE

Xanthorrhoea preissii

ZAMIACEAE

Macrozamia reidleyi

155 Total Species

113 Native

42 Weed/Naturalised Alien

Species list compiled by Michael Bishop
between April and November 1993

APPENDIX B

FLORA LIST

Species recorded in the study area are indicated by an s. For comparison, species known from a remnant similar to the study area (Signal Hill in the City of Belmont) are indicated by an x.

Introduced species are marked with an asterisk (*). Species marked with a hatch (#) are native species recorded at, but not naturally found at, Signal Hill (i.e have been cultivated there). Species marked with a plus sign (+) are native species recorded at, but not naturally found at, the South Perth study area (i.e have been cultivated there).

Additions 20/9/95 System Update Site
GILCON #1

FUNGI

Polyporaceae

Polyporus cinnabarinus

s

Xxxx

(slime mould)

s

Gymnosperms

Zamiaceae

Macrozamia reidlei

s

Angiosperms

MONOCOTYLEDONS

Poaceae

*Aira caryophyllea

Silvery Hairgrass

s

x

Amphipogon strictus

s

x

*Avena fatua

Wild Oats

x

*Briza maxima

Quaking Grass

s

x

*Cynodon dactylon

Couch Grass

s

x

*Ehrharta calycina

Veldt Grass

s

x

*Eragrostis curvula

African Love Grass

s

x

Stipa compressa

Compressed Speargrass

s

x

Stipa sp.

s

Danthonia occidentalis

Cyperaceae

Lepidosperma angustatum

s

x

Lepidosperma scabrum

x

Lepidosperma sp. (?sp. E)

x

Lepidosperma sp. (?sp. C)

x

Conostylis setigera		S	X
Conostylis setosa		S	X
Haemodorum spicatum		S	X
Phlebocarya ciliata		S	
Iridaceae			
*Gladiolus caryophyllaceus		S	X
Patersonia occidentalis		S	X
*Romulea rosea	Guildford Grass	S	X
Orchidaceae			
Caladenia deformis			X
Caladenia sp. (only leaf seen)			X
Caladenia sp. (Fruit only)		S	
Microtis sp. (fruit only)		S	
*Monadenia bracteata		S	
Pterostylis ? vittata			X
DICOTYLEDONS			
Casuarinaceae			
Allocasuarina fraseriana		S	X
Allocasuarina humilis		S	X
Santalaceae			
Leptomeria empetriformis		S	X
Proteaceae			
Adenanthos barbigerus <i>cygnorum</i>		S	X
Banksia attenuata		S	X
Banksia grandis			X
Banksia ilicifolia		S	
Banksia menziesii		S	X
Persoonia saccata			X
Petrophile linearis		S	X
Petrophile macrostachya			X
Stirlingia latifolia		S	X
Loranthaceae			
Nuytsia floribunda	W.A. Christmas Tree	S	X
Aizoaceae			
*Carpobrotus edulis		S	
Molluginaceae			
Macarthuria australis		S	X

c LW/LF *Casuarina obesa* Low Open Forest to Low Woodland over
Myriocephalus helichrysoides and *Villarsia capitata* Closed Herbland

Trees: *Casuarina obesa*

Herbs: *Villarsia capitata*, 6#*Myriocephalus helichrysoides*, ?**Crassula natans*
Adjacent: 6#*Stylidium longitubum*

Sedges: *Triglochin procera*, *Isolepis cernua*, 2#*Eleocharis ?acuta*
Adjacent: *Triglochin muellerii*

CONDITION

Rating Very Good

Comments: The presence of *Crassula natans* may indicate this heavily weed invaded but there are doubts about the status of the origin of this species(GJK pers com).

Aerial Photo GG GW: 26 5219

Soils: dark grey to black clay, Yanga(Churchward and McArthur, 1980)

Drainage: poor, free water in lowest level, 20/11/1991

Aspect: flat

Site 123c

b LW *Banksia prionotes* Open Low Woodland over *Kunzea ericifolia* and
Jacksonia furcellata High Open Shrubland to Open Scrub over
Xanthorrhoea preissii and *Conostephium preissii* Low Shrubland

Trees: *Banksia prionotes*, *Acacia saligna*

Shrubs: *Kunzea ericifolia*, *Jacksonia furcellata*, *Regelia ciliata*, *Xanthorrhoea preissii*,
Conostephium preissii, *Calytrix angulata*, *Gonolobium tomentosum*
Adjacent: *Macrozamia riedli*

Grasses: **Briza maxima*, misc exotic grasses

Herbs: *Haemodorum spicatum*, *Lobelia tenuior*, *Podolepis angustifolia*, *Kennedia prostrata*,
Hypochaeris glabra, *Millotia tenuifolia*, *Trachymene nilesa*, *Stylidium brunonianum* 'purple'

Sedges: 3, 6#*Restio stenostachyus*

CONDITION

Rating Poor

Comments: There has been substantial soil disturbance in the past possibly recently associated with chaining and the area has undoubtedly been grazed. Rabbits are present.

Aerial Photo GG GW: 26 5219

Soils: grey sand, Yanga(Churchward and McArthur, 1980)

Drainage: good

Aspect: very gentle, S

**A
BOTANICAL
SURVEY
OF AN AREA IN
THE CITY OF SOUTH PERTH**

prepared for

Bowman Bishaw Gorham

by

Malcolm Trudgen
Consultant Botanist

December 1993

is a very synoptic description for a varied ecosystem which has a significant number of vegetation associations and a varied flora.

1.6 Conservation Status of the Bassendean Complex - Central and South

The original extent of the Bassendean Complex - Central and South (which extended between Lake Gnangara and the Bunbury area) on the area covered by the vegetation maps in the Atlas of the Darling System (Heddle 1980) was in the order of 87,329 hectares and of this some 3,567 hectares (or 4.1%) may be in reserves in the CALM Central Forest and Swan Regions with possibly a similar area in State Forest (P. Hanley {Dept. CALM} pers comm.). However, at least some of the area which was originally the Bassendean Complex - Central and South and which is in State Forest has been cleared for pine plantations and Hanley's figures have not been corrected for this.

In contrast to Hanley's figures, Burbidge and Hopper (1989) have stated that 1.6% of the original extent of the Bassendean Complex - Central and South is protected in reserves and the general opinion among botanists familiar with the complex is that somewhat less than 5% of the complex remains in total with a significant amount of this in the Jandakot area, where there is significant development pressure. This impression fits better with the view of Beard and Sprenger (1984) that some 99% of the Swan Coastal Plain between Bunbury and Perth is effectively cleared and that of the Department of Conservation and Environment (D.C.E 1981) that the Lowlands block (which is on Bassendean Complex - Central and South) is "very valuable since it is the only large area of its type between Perth and Bunbury".

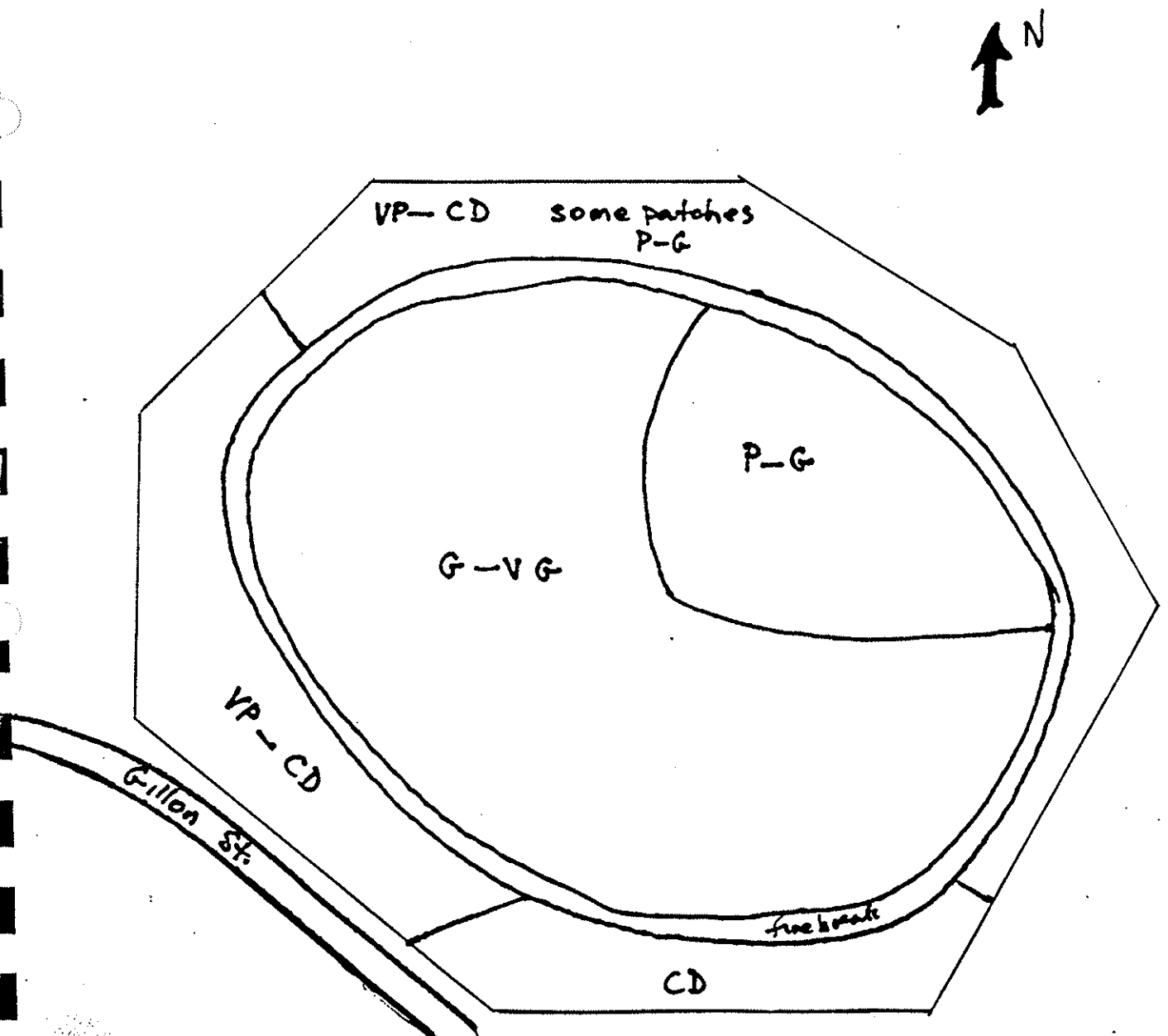
Whichever figures are more accurate, it is obvious that the conservation status of the Bassendean Complex - Central and South is very poor and it should be considered a rare and threatened ecosystem. Consequently, areas of this complex are of significant conservation value, with the degree of this significance related to the size and condition of a particular area as well as other factors such as the particular vegetation types present and the presence of any flora or fauna which is declared rare or are on the Department of Conservation and Land Management priority lists.

FIGURE ONE
SKETCH MAP OF VEGETATION CONDITION

The condition of the vegetation was ranked on a scale from "completely degraded" to "excellent" as follows:

E = Excellent , VG = Very good, G = Good, P = Poor, VP = Very poor,
D = Completely degraded

The definitions of the terms used in the scale are given in Appendix A.



APPENDIX A

VEGETATION CONDITION SCALE

E = Excellent. Pristine or nearly so, no obvious signs of damage caused by the activities of European man.

VG = Very good. Some relatively slight signs of damage caused by the activities of European man. E.g. some signs of damage to tree trunks caused by repeated fire and the presence of some relatively non-aggressive weeds such as Ursinia anthemoides or Briza spp., or occasional vehicle tracks.

G = Good. More obvious signs of damage caused by the activities of European man, including some obvious impact on the vegetation structure such as caused by low levels of grazing or by selective logging. Weeds as above, possibly plus some more aggressive ones such as *Ehrharta* spp.

P = Poor. Still retains basic vegetation structure or ability to regenerate to it after very obvious impacts of activities of European man such as grazing or partial clearing (chaining) or very frequent fires. Weeds as above, probably plus some more aggressive ones such as *Ehrharta* spp.

VP = Very poor. Severely impacted by grazing, fire, clearing or a combination of these activities. Scope for some regeneration but, not to a state approaching good condition without intensive management. Usually with a number of weed species including aggressive species.

D = Completely degraded. Areas that are completely or almost completely without native species in the structure of their vegetation. I.e. areas that are cleared or "parkland cleared" with their flora comprising weed or crop species with isolated native trees or shrubs.

APPENDIX B

FLORA LIST

Species recorded in the study area are indicated by an s. For comparison, species known from a remnant similar to the study area (Signal Hill in the City of Belmont) are indicated by an x.

Introduced species are marked with an asterisk (*). Species marked with a hatch (#) are native species recorded at, but not naturally found at, Signal Hill (i.e have been cultivated there). Species marked with a plus sign (+) are native species recorded at, but not naturally found at, the South Perth study area (i.e have been cultivated there).

Additions Mike Hislop 1993
 Additions 20/2/95 System Update Site
 GIRON #1

FUNGI

Polyporaceae

Polyporus cinnabarinus

s

Xxxx

(slime mould)

s

Gymnosperms

Zamiaceae

1 Macrozamia reidlei

s

Angiosperms

MONOCOTYLEDONS

Poaceae

*Aira caryophyllea	Silvery Hairgrass	s	x
2 Amphipogon strictus		s	x
*Avena fatua	Wild Oats	x	
*Briza maxima	Quaking Grass	s	x
*Cynodon dactylon	Couch Grass	s	x
*Ehrharta calycina	Veldt Grass	s	x
*Eragrostis curvula	African Love Grass	s	x
3 Stipa compressa	Compressed Speargrass	s	x
4 Stipa sp. <i>semibarbatum</i>		s	
5 <i>Danthonia occidentalis</i>			
Cyperaceae			
6 Lepidosperma angustatum		s	x
7 Lepidosperma scabrum			x
8 Lepidosperma sp. (?sp. E)			x
9 Lepidosperma sp. (?sp. C)			x

10	Lepidosperma sp. "coastal terete"	S	
11	Mesomelaena pseudostygia	S	x
12	Schoenus brevisetis	S	x
13	Schoenus curvifolius	S	x
	# Schoenus caespitosus		
	Restionaceae		
14	Alexgeorgia nitens	S	x
15	Hypolaena exsulca	S	
16	Loxocarya cinerea - flexuosa	S	x
17	Lyginia barbata	S	x
18	Restio ? sp. C		x
	□ CENTROLEPIDACEAE ¹⁹ Centrolepis drummondii		
	Dasypogonaceae		
20	Calectasia cyanea		x
21	Dasypogon bromeliifolius	S	x
22	Lomandra effusa	S	
23	Lomandra hermaphrodita	S	
24	Lomandra nigricans	S	
25	Lomandra preissii	S	x
26	Lomandra suaveolens ?		x
27	Lomandra sp. (material inadequate)		x
28	Sowerbaea laxiflora		x
29	□ Lomandra caespitosa		
	Anthericaceae		
30	Amocrinum preissii	S	
31	Corynotheca micrantha	S	x
32	Hensmannia turbinata	S	
33	Johnsonia lupulina pubescens	S	
34	Laxmannia ramosa	S	x
35	Laxmannia squarrosa	S	
36	Thysanotus manglesianus / patersonii	S	x
37	Thysanotus multiflorus	S	
38	Tricoryne tenellus	S	
	# Thysanotus triandrus		
	Cholchicaceae		
39	Burchardia umbellata	S	x
	Xanthorrhoeaceae		
40	Xanthorrhoea brunonis	S	x
41	Xanthorrhoea preissii		x
	Haemodoraceae		
42	Anigozanthos humilus Cats Paw	S	
43	Conostylis aculeata	S	x
44	Conostylis aurea	x	
45	Conostylis juncea	S	x

Isolepis marginata

Chamaecilla conyngbosa

RUOUMIACEAE
Dianella divaricata

3

46	Conostylis setigera	S	X
47	Conostylis setosa (unlikely)	S	X
48	Haemodorum spicatum	S	X
49	Phlebocarya ciliata	S	

Iridaceae

	*Gladiolus caryophyllaceus	S	X
50	Patersonia occidentalis	S	X
	*Romulea rosea Guildford Grass	S	X

Orchidaceae

51	Caladenia deformis		X
52	Caladenia sp. (only leaf seen)		X
53	Caladenia sp. (Fruit only)	S	
54	Microtis sp. (fruit only)	S	
	*Monadenia bracteata	S	
55	Pterostylis ? vittata		X

DICOTYLEDONS

Casuarinaceae

56	Allocasuarina fraseriana	S	X
57	Allocasuarina humilis	S	X

Santalaceae

58	Leptomeria empetriformis	S	X
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Proteaceae

59	Adenanthos barbigerus <i>cygnorum</i>	S	X
60	Banksia attenuata	S	X
1	Banksia grandis		X
2	Banksia ilicifolia	S	
3	Banksia menziesii	S	X
4	Persoonia saccata		X
5	Petrophile linearis	S	X
6	Petrophile macrostachya		X
7	Stirlingia latifolia	S	X

Synephaea spinulosa

Loranthaceae

8	Nuytsia floribunda	W.A. Christmas Tree	S	X
---	--------------------	---------------------	---	---

Aizoaceae

	*Carpobrotus edulis	S	
--	---------------------	---	--

Molluginaceae

9	Macarthuria australis	S	X
---	-----------------------	---	---

Caryophyllaceae

*Petrohragia velutina

S X

Fumariaceae

*Fumaria capreolata

S

Brassicaceae

*Heliophila pusilla

X

Droseraceae

70 Drosera erythrorhiza

X

1 Drosera menziesii

X

Crassulaceae

2 Crassula colorata

X

*Crassula decumbens***Pittosporaceae**

3 Pronaya fraseri

X

Mimosaceae

4 Acacia cochlearis (A. benthamii ?)

X

5 Acacia cyclops? (1 plant at edge, poss. cultivated)

S

6 Acacia huegelii

S

7 Acacia pulchella

S

X

8 Acacia saligna

S

X

9 Acacia stenoptera

S

80 Acacia aff. wildenowiana (fruit hairy)

S

Papilionaceae

1 Bossiaea eriocarpa

S

X

2 Daviesia divaricata

X

3 Daviesia physodes

S

4 Daviesia triflora

S

X

5 Gompholobium tomentosum

S

X

6 Hovea trisperma

S

X

7 Jacksonia densiflora

X

8 Jacksonia furcellata

S

9 Kennedia prostrata

S

90 ~~100~~ Pultenaea reticulata

S

*Trifolium spp.

Clover species (2).

S

X

Geraniaceae91 ~~100~~ Pelargonium littorale

S

Rutaceae

3 Eriostemon spicatus

S

X

Convolvulaceae

*Ipomoea cairica

x

Lamiaceae

9 Hemiandra pungens

s

120 Hemiandra linearis

s

x

(These two species are sometimes considered to be one species, as intermediates do exist, but in the current study area were quite distinct in foliage; only H. linearis being in flower at the time of the survey.)

Rubiaceae

1 Opercularia vaginata

x

Goodeniaceae

2 Dampiera linearis

s

x

3 Lechenaultia expansa

s

x

4 Scaevola repens ssp. repens

s

x

Stylidiaceae

5 Stylidium brunonianum

s

x

6 Stylidium repens

s

x

7 Levenhookia pusilla

Stylidium pilularum
" Schoenoides
Stylidium juncea
Levenhookia stipitata

Asteraceae

*Conyza canadensis

s

x

*Hypochaeris glabra

s

x

*Sonchus oleraceus

s

x

*Ursinia anthemoides

s

x

8 Anemone urviellii

9 Podotroche chrysantha

Lagotis huegelii

Senecio latus subsp. maritimus

Silvarum humilis

CAMPANULACEAE

130 Wohlwendia priessii

PORTULACACEAE

131 Calandrinia corrigioloides

Calandrinia grandiflora

LOGANIACEAE

Mitrasacme parviflora

ADDITIONAL 22 from M. Hislop 1993

total 153 native taxa

