

PELICAN POINT, CRAWLEY

Boundary Definition: protected area/management boundary (Areas of bushland/native vegetation within the boundaries of the Site are not accurately mapped. The boundary has been drawn to include any unmapped bushland/native vegetation.)

SECTION 1: LOCATION INFORMATION

Bush Forever Site no. 402

Area (ha): bushland 0 (note comment under Boundary Definition)

Map no. 46

Map sheet series ref. no. 2034—II SW

Other Names: not known

Local Authorities (Suburb): City of Subiaco (Crawley)

Includes CALM Managed Land: Reserve 17375 (Recreation), Reserve 40891 (Marine Park)

System 6 (1983): M62 part System area bushland and part scattered native plants (canopy), all vegetation described

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Pinjarra Plain

Guildford Formation (Qha: S14)

Spearwood Dunes

Sands derived from Tamala Limestone (Qts: S7) (not naturally vegetated)

VEGETATION AND FLORA

Vegetation Complex

Marine (Lagoonal and Estuarine) Deposits

Vasse Complex

Floristic Community Types: not sampled, types not inferred

WETLANDS

Wetland Types: estuary (waterbody), estuary (shoreline and peripheral)

Natural Wetland Groups

Estuaries

Swan River (E.2)

Wetland Management Objectives: Conservation (17.1ha)

Swan Coastal Plain Lakes EPP: none identified

THREATENED ECOLOGICAL COMMUNITIES

Not determined

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: vegetated wetland, vegetated uplands, estuary

Vegetation and Flora: limited survey (CALM 1992b); detailed survey (Keighery, GJ, 1990b)

Structural Units: mapping (CALM 1992b)

Wetlands: *Eucalyptus rudis* Woodland; *Melaleuca raphiophylla* Open Woodland; *Melaleuca cuticularis* Low Woodland; *Juncus kraussii* Closed Sedgeland; *Bolboschoenus caldwellii*, *Cyperus gymnocaulos* and *C. tenuiflora* Mixed Closed Sedgeland

Scattered Native Plants: *Eucalyptus rudis* Woodland; *Acacia saligna* Tall Open Shrubland — regionally significant vegetation recognised as being included in the area of Site in need of protection

Vegetation Condition: >20% Excellent to Very Good, <80% Good to Degraded, with areas of severe localised disturbance

Total Flora: 27 native taxa (Keighery, GJ, 1990) (estimated >80% expected flora)

Significant Flora: none identified

Fauna: structured surveys for birds (90 species) (Job 1972; RAOU 1996 D, 13 visits). Large assemblage (17 species) and population levels of trans-equatorial wading birds protected under the JAMBA/CAMBA treaties. Significant bird species: category 1 (1), category 2 (17), category 3 (2) and category 4 (5); Significant amphibian species: Moaning Frog (BJ and GJ Keighery pers. comm.)

Linkage: no adjacent bushland; part of Greenway 24 (Tingay, Alan & Associates 1998a); part of a regionally significant contiguous bushland/wetland linkage (Part A, Map 7)

Other Special Attributes: is one of a very limited number of bushland areas on the Swan Estuary, naturally vegetated areas on the Swan Estuary having particular conservation value in providing habitat for fauna and linkage between areas of bushland; open space of regional significance (DCE 1983)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Entered in the Register of the National Estate; Directory of Important Wetlands in Australia (Swan-Canning Estuary System); location for JAMBA/CAMBA species; subject to protection under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Rarity, General criteria for the protection of wetland, streamline and estuarine fringing vegetation and coastal vegetation, Criteria not relevant to determination of regional significance, but which may be applied when evaluating areas having similar values

Recommendation: Site with Some Existing Protection; the existing purpose, care, control and management of Reserves 17375, 40891 is endorsed (see Table 3, Volume 1).

PELICAN POINT, CRAWLEY

Boundary Definition: protected area/management boundary (Areas of bushland/native vegetation within the boundaries of the Bushplan Site are not accurately mapped. The boundary has been drawn to include any unmapped bushland/native vegetation.)

SECTION 1: CADASTRAL INFORMATION

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

Bushplan Site no. 402 **Map no.** 56 **Map sheet series ref. no.** 2034-II SW
System 6 (1983): M62 part System area bushland and part scattered native plants (canopy), all vegetation described

Other Names: not known

Area (ha): total 24.1; bushland 0 (note comment under Boundary Definition)

Local Authorities (Suburb)
 City of Subiaco (Crawley)

Zoning
MRS: Parks and Recreation
TPS: Landscape

Ownership Categories
 State Government

Lot/Location/Reserve numbers (Purpose),
Street name

5390, 7568, 7996, 8167, 8168, 8169, 8442, 8443,
 10020 Hackett Dr

CALM Managed Land

Crown Reserve

Reserve 17375 (Recreation), Reserve 40891 (Marine Park)

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Pinjarra Plain

Guildford Formation (Qha: S14)

Spearwood Dunes

Sands derived from Tamala Limestone (Qts: S7) (not naturally vegetated)

VEGETATION AND FLORA

Vegetation Complex

Marine (lagoonal and estuarine) Deposits

Vasse Complex

Floristic Community Types: not sampled, types not inferred

WETLANDS

Wetland Types: estuary (waterbody), estuary (shoreline and peripheral)

Natural Wetland Groups

Estuaries

Swan River (E.2)

Wetland Management Objectives: Conservation (17.1ha)

Swan Coastal Plain Lakes EPP: none identified

THREATENED ECOLOGICAL COMMUNITIES

Not determined

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: vegetated wetland, vegetated uplands, estuary

Vegetation and Flora: detailed survey (Keighery, GJ, 1990b), limited survey (CALM 1992b)

Structural Units: mapping (CALM 1992b)

Wetlands: *Eucalyptus rudis* Woodland; *Melaleuca raphiophylla* Open Woodland; *Melaleuca cuticularis* Low Woodland; *Juncus kraussii* Closed Sedgeland; *Bolboschoenus caldwellii*, *Cyperus gymnocaulos* and *C. tenuiflora* Mixed Closed Sedgeland

Scattered Native Plants: *Eucalyptus gomphocephala* and *E. calophylla* Tall Woodland; *Eucalyptus gomphocephala* Tall Open Woodland; *Eucalyptus rudis* Woodland; *Casuarina obesa* Low Open Woodland; *Acacia saligna* Tall Open Shrubland - regionally significant vegetation recognised as being included in the area of Bushplan Site in need of protection

Vegetation Condition: >20% Excellent to Very Good, < 80% Good to Degraded, with areas of severe localised disturbance

Total Flora: 27 native taxa (Keighery, GJ, 1990b) (estimated >80% expected flora)

Significant Flora: none identified



Fauna: structured multiple surveys by Job (1972) and by RAOU (1996 D), 13 visits, for birds (90). Large assemblage (17 species) and population levels of trans-equatorial wading birds protected under the JAMBA/CAMBA treaties. Significant bird species: category 1 (1), category 2 (17), category 3 (2) and category 4 (5); Moaning Frog (BJ and GJ Keighery pers. comm.)

Linkage: no adjacent bushland; part of proposed Greenway 24 (Tingay, Alan & Associates 1997a); part of a regionally significant contiguous bushland/wetland linkage (Volume 2A, Map 8)

Other Special Attributes: is one of a very limited number of bushland areas on the Swan Estuary, naturally vegetated areas on the Swan Estuary having particular conservation value in providing habitat for fauna and linkage between areas of bushland; open space of regional significance (DCE 1983)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Listed on the Register of the National Estate; Directory of Important Wetlands in Australia (Swan-Canning Estuary System); Location for JAMBA/CAMBA species

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Rarity, General criteria for the protection of wetland, streamline and estuarine fringing and coastal vegetation, Criteria not relevant to determination of conservation value, but which may be applied when evaluating areas having similar values

Opportunities and Constraints

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

Recommendation: The existing purpose, care, control and management of Reserves 17375, 40891 is endorsed.





402



BUSHPLAN SITES CORRECTED



WESTERN
AUSTRALIAN
PLANNING
COMMISSION

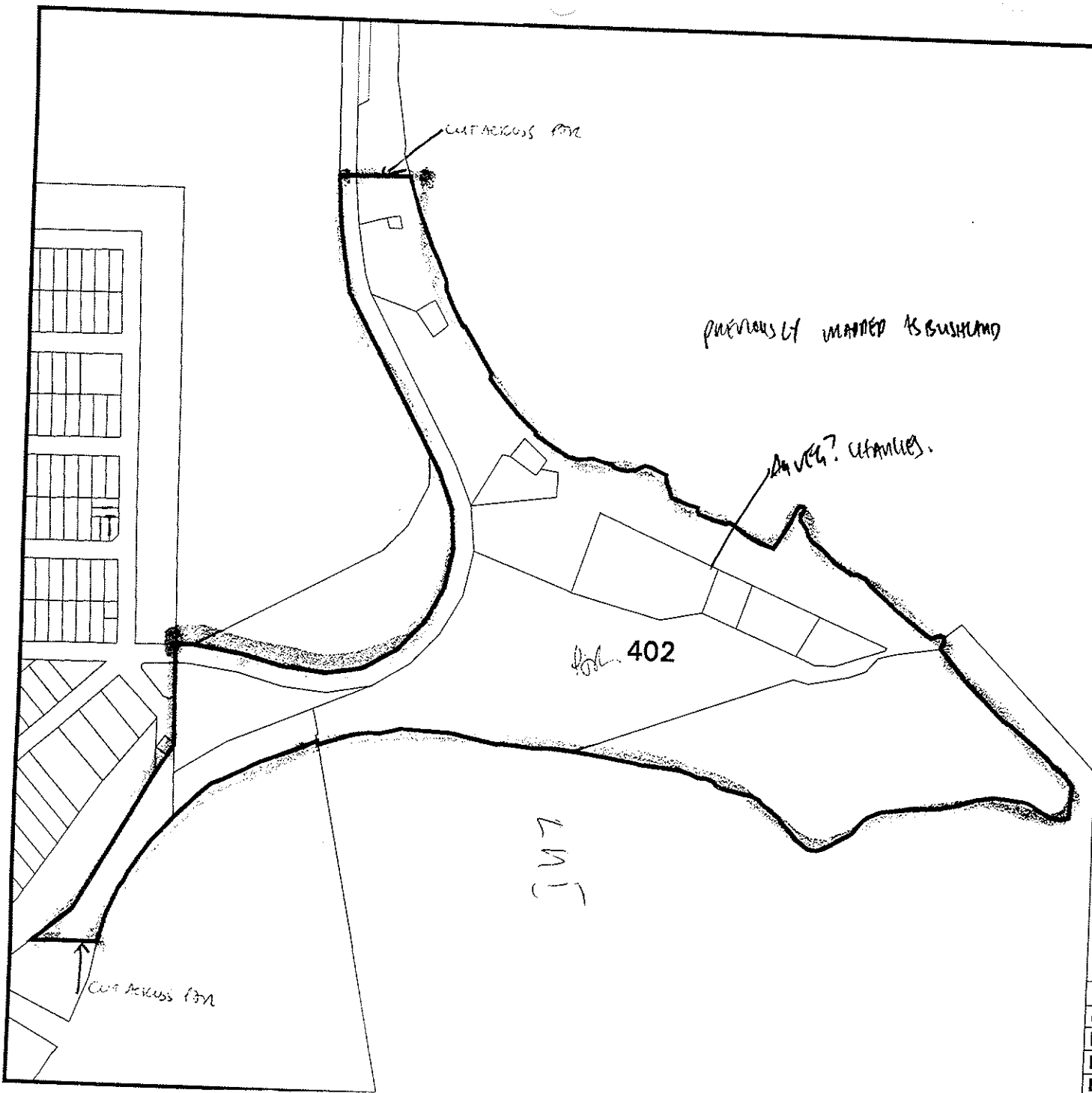


CUSTOMER
FOCUS
WESTERN AUSTRALIA

B TG 28/10/98



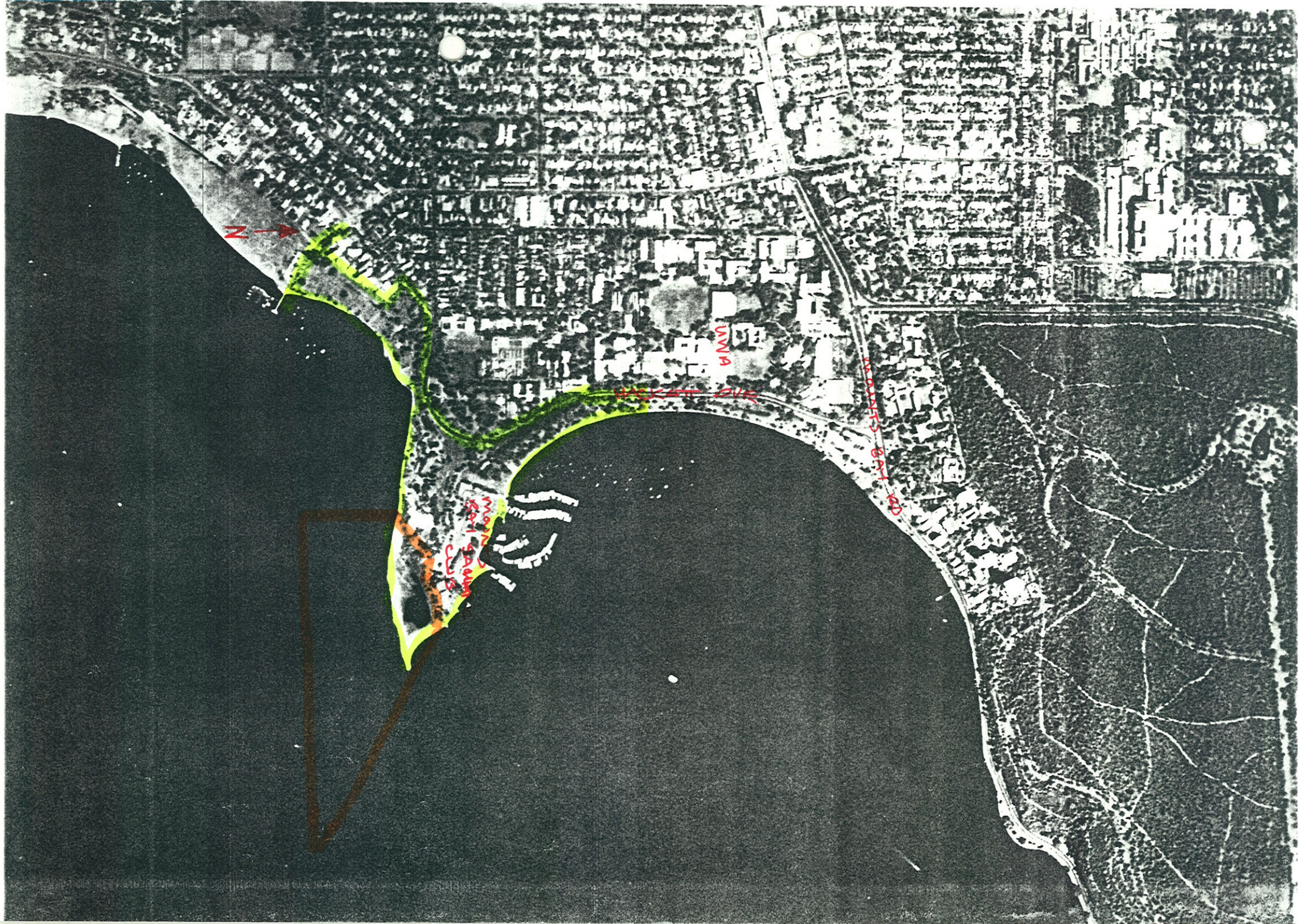
bp site 402



- Cadastre
- Bushplan sites refno 1-500 SCP BOUNDARY

23/9 BOK
Must have
note in
description to
indicate that
this area has
vegetation
changes
Needs AgWA
changes

MFP INTERNAL USE ONLY
Prepared By: Andrea Zappacosta
Prepared For:
Map Ident: plot980808_1
Date: 08 Jun 98



N →

MVA

MVA

MVA

MVA

MVA

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

Area M62 Name	<u>Pelican Point</u>		
Title	<u>Floristics of Reserves and Bushland Areas of The Park Region (System 6) PART 1</u>		
Published	<input checked="" type="radio"/> Unpublished	Date	<u>1990</u>
Author/s	<u>G.J. Keighary</u>		
Location of Publication	<u>CALM (Woodvale)</u>		
Purpose (why was the report prepared?)			
Government			
Corporate			
Community Group			
Management Plan			

Soils			
Units	mapped	<input checked="" type="radio"/> described	referenced

Landscape			
Features	<input checked="" type="radio"/> described	referenced	

Flora			
Vegetation Map			
Units	<u>described</u>	Site based (no)	
Mapped			
Veg Units	Comparable Heddle <i>et al</i>	Compared Heddle <i>et al</i>	Unit not mapped by Heddle <i>et al</i> .
Flora list			
Timing	% completion	<u>95%</u>	<input checked="" type="radio"/> Significant Taxa
<u>1 year</u>	<input checked="" type="radio"/> Trees	<input checked="" type="radio"/> Shrubs	<input checked="" type="radio"/> Herbs
	<input checked="" type="radio"/> Sedges	<input checked="" type="radio"/> Weeds	DRF CALM Priority Other

Fauna			
Timing	% completion	Significant Taxa	
	Mammals	Birds	Sched1 Sched2 Other
	Reptiles	Invertebrates	

Vegetation Condition			
Site based	Mapped	Units	

Disturbance Factors			
Phytophthora	observed	Other	incidental
	tested	itemised	

Notes			

M60 Aquatic Reserve, South Perth City of South Perth Management Plan (&M61,62) <i>Robert Powell Speers 1/57</i>		
M60.1 Regional park recommendations be applied to this area.	Unresolved Issues	The Regional Parks Task Force Report proposes that the Swan Estuary be considered analogous to a regional park managed under Swan River Trust legislation. The Swan River Management Strategy (1988) recommends that all the foreshore reserves and waterways of the Swan Canning Rivers be treated as a single entity for the purposes of planning and management. However, areas of high conservation value may be added to CALM's existing Swan Estuary Marine Park estate.
M60.2 Area of water adjacent to Reserves C21483, C33803, and C33804 shown in Figure 128, System 6 Red Book, be declared "A" Class Reserve for Conservation of Flora and Fauna and be vested in NPWCA.	Implemented	Forms part of the Swan Estuary Marine Park managed by CALM. Milyu Nature Reserve Rehabilitation Committee has an interest in this area.
M61 Aquatic Reserve, Attadale City of South Perth Management Plan		
M61.1 Regional park recommendations be applied to this area.	Unresolved Issues	The Regional Parks Task Force Report proposes that the Swan Estuary be considered analogous to a regional park managed under Swan River Trust legislation. The Swan River Management Strategy (1988) recommends that all the foreshore reserves and waterways of the Swan Canning Rivers be treated as a single entity for the purposes of planning and management. However, areas of high conservation value may be added to CALM's existing Swan Estuary Marine Park estate.
M61.2 Area of water in Point Waylen and Alfred Cove shown in Figure 129, System 6 Red Book be declared "A" Class Reserve for Conservation of Flora and Fauna, and Reserve be vested in NPWCA.	Implemented	Forms part of the Swan Estuary Marine Park managed by CALM.
M61.3 CALM to consult Swan River Management Authority and Dept of Marine and Harbours in preparation of management plan.	Unresolved Issues	To be completed through CALM's Management Plan process. No current programme for developing a management plan.
M62 Pelican Point, Crawley City of South Perth Management Plan		

PB CALM Management Plan.

LM M61 Environ. Man. Class 1988
Management Plan.

PP Aust Sig Wetlands

M62.1 Regional park recommendations be applied to this area.	Unresolved Issues	The Regional Parks Task Force Report proposes that the Swan Estuary be considered analogous to a regional park managed under Swan River Trust legislation. The Swan River Management Strategy (1988) recommends that all the foreshore reserves and waterways of the Swan Canning Rivers be treated as a single entity for the purposes of planning and management. However, areas of high conservation value may be added to CALM's existing Swan Estuary Marine Park estate.
M62.2 Purpose of Reserve A17375 be amended to Conservation of Flora and Fauna, and Recreation and be vested in NPNC.	Implemented	Forms part of the Swan Estuary Marine Park managed by CALM.
M62.3 Area of water, shown in Figure 130, System 6 Red Book be added to Reserve A17375.	Implemented	Forms part of the Swan Estuary Marine Park managed by CALM.
M62.4 CALM to consult Swan River Management Trust and Dept of Marine and Harbours in preparation of management plan.	Unresolved Issues	To be completed through CALM's Management Plan process. No current programme for developing a management plan.



M62 Pelican Point, Crawley
 City of South Perth Management Plan

Friends Advocate Management

Other Names: *adjacent to Matilda Bay*

Specific Study/studies Miscellaneous studies

Flora

Vegetation Map 1 2 3 *described*

Flora list *1* 2 3 4

Significant Taxa *done / suitable* doubtful

Fauna

Mammals 1 2
 Birds 1 2 *RAOU*
 Reptiles and Amphibia 1 2
 Invertebrates 1 2

Vegetation Condition Map Sites *Comment*

Disturbance Factors Comment *Management*

Swan Coastal Plain Floristic Survey

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

Notes

R. A. O. U. TRACKING DATABASE

23/06/96

PARK SIGHTINGS REPORT

Page No.

1

Pelican Point N.R. (M62)

ORDER:	REF:	BIRD NAME	NO. SIGHTINGS
0022	0203	Black Swan	5
0025	0207	Australian Shelduck	10
0031	0948	Mallard	7
0032	0208	Pacific Black Duck	10
0033	0212	Australasian Shoveler	3
0035	0211	Grey Teal	10
0001	0061	Australasian Grebe	2
0128	0101	Darter	8
0129	0100	Little Pied Cormorant	11
0131	0099	Pied Cormorant	10
0132	0097	Little Black Cormorant	11
0133	0096	Great Cormorant	11
0135	0106	Australian Pelican	11
0139	0188	White-faced Heron	8
0145	0187	Great Egret	5
0150	0192	Nankeen Night Heron	11
0157	0179	Australian White Ibis	8
0160	0182	Yellow-billed Spoonbill	1
0163	0241	Osprey	3
0165	0232	Black-shouldered Kite	7
0175	0221	Brown Goshawk	2
0183	0235	Australian Hobby	2
0187	0240	Nankeen Kestrel	5
0198	0049	Australian Spotted Crake	1
0208	0059	Eurasian Coot	1
0001	0152	Black-tailed Godwit	1
0223	0153	Bar-tailed Godwit	8
0231	0158	Common Greenshank	10
0234	0160	Terek Sandpiper	3
0235	0157	Common Sandpiper	10
0236	0155	Grey-tailed Tattler	2
0238	0129	Ruddy Turnstone	2
0240	0165	Great Knot	10
0241	0164	Red Knot	10
0242	0166	Sanderling	3
0244	0162	Red-necked Stint	10
0249	0163	Sharp-tailed Sandpiper	7
0251	0161	Curlew Sandpiper	10
0265	0130	Pied Oystercatcher	7
0267	0146	Black-winged Stilt	10
0268	0147	Banded Stilt	4
0269	0148	Red-necked Avocet	9
0270	0806	Pacific Golden Plover	2

0271	0136	Grey Plover	2	10
0275	0143	Red-capped Plover		11
0277	0139	Lesser Sand Plover	2	6
0278	0141	Greater Sand Plover	2	3
0282	0144	Black-fronted Dotterel	2	1
0297	0125	Silver Gull		11
0303	0112	Caspian Tern		11
0305	0115	Crested Tern		10
0313	0118	Fairy Tern		1
0316	0110	Whiskered Tern		2
0324	0957	Rock Dove		11
0326	0988	Laughing Turtle-Dove		9
0327	0989	Spotted Turtle-Dove		8
0356A	1266	White-tailed Black-Cockatoo	1	7
0359	0273	Galah		1
0362	0271	Little Corella		5
0366	0254	Rainbow Lorikeet		1
0366A	0255	Red-collared Lorikeet		2
0371	0259	Purple-crowned Lorikeet		1
0385	0289	Western Rosella	4	8
0386	0294	Australian Ringneck		1
0446	0322	Laughing Kookaburra		4
0451	0326	Sacred Kingfisher		11
0453	0329	Rainbow Bee-eater		9
0472	0536	Variiegated Fairy-wren	3	4
0492	0976	Striated Pardalote		2
0517	0463	Western Gerygone		10
0537	0638	Red Wattlebird	4	3
0539	0637	Little Wattlebird		10
0561	0608	Singing Honeyeater		10
0583	0597	Brown Honeyeater	4	1
0587	0631	New Holland Honeyeater		4
0588	0632	White-cheeked Honeyeater	4	1
0597	0448	White-fronted Chat		3
0671	0415	Magpie-Lark		1
0673	0361	Grey Fantail		6
0676	0364	Willie Wagtail		6
0678	0424	Black-faced Cuckoo-shrike		1
0683	0430	White-winged Triller		1
0695	0702	Grey Butcherbird		1
0698	0705	Australian Magpie		6
0706	0930	Australian Raven		7
0725	0647	Richard's Pipit		1
0749	0657	Chestnut-breasted Mannikin		11
0763	0357	Welcome Swallow		11
0765	0359	Tree Martin		7
0781	0574	Silvereye		

- ① 1
- ② 17
- ③ 2
- ④ 5

*** END OF REPORT ***

SUMMARY REPORT

TOTAL BIRDS SIGHTED	:	90
TOTAL NUMBER OF CARDS	:	18

*** END OF SUMMARY ***

12

Floristics of System Six Reserves and Bushland.
Part 1: Alfred Cove, Pelican Point and Milyu Nature Reserves

81 226

83 402
G.J. Keighery 1990

Department of Conservation and Land Management

P.O.Box 51

Wanneroo, Western Australia, 6065

Abstract

The terrestrial flora of three small reserves fringing the Swan River Estuary is documented. All the reserves are comparatively species poor: Alfred Cove Nature Reserve; 178 species, Pelican Point Nature Reserve; 111 species and Milyu Nature Reserve; 73 species. The largest reserve Alfred Cove contains populations of the following restricted or geographically interesting flora, *Burchardia bairdii*, *Gyrostemon ramulosus*, and *Tribonanthes ? violacea*.

Naturalised plants are common on all these relatively disturbed reserves. Many of these species have entered the reserves through dumping of garden refuse or deliberate plantings. Two new weed records for Western Australia, *Casuarina glauca* and *Populus nigra* cv "Italica" were located during the survey.

INTRODUCTION

The three reserves documented here occur along the edge of the Swan River Estuary and have been reserved primarily to protect waterbird habitat (Keeling 1987). General vegetation maps for the whole waterway can be found in Penn (1983a & b). No complete flora list is available for any of the reserves.

MATERIALS AND METHODS

All reserves were visited every month during 1988/89, and plants present recorded during extensive foot traverse. All plant species present were listed under the landforms/vegetation present. Voucher collections are deposited in PERTH.

Occurrences of all vascular plant taxa recorded for each reserve and the landform/vegetation units they occur in are listed in Table 1

DISCUSSION

Vegetation

Alfred Cove has had several vegetation maps prepared for the area by Pen, 1983 and 1987 and Anon, 1989. Anon, 1989 maps 15 vegetation complexes, including mown lawns and bare ground. No vegetation maps exist for Milyu or Pelican Point.

In all cases each reserve has

- a fringing woodland usually highly degraded (almost absent at Milyu),
- closed sedgelands (generally of *Juncus kraussii*, but also composed of *Carex divisa* at Pelican Point)
- low dunes backing an open muddy beach, with large drains crossing these communities (these discharge areas have created a *Typha* sedgeland at Alfred Cove).

Alfred Cove contains an extensive area of samphire shrubland, whereas Pelican Point has a marshland with a closed community of succulent herbs and sedges surrounding a small brackish lake.

Except for the sedgelands, marshlands and succulent shrublands all areas have been invaded by weeds following extensive and repeated disturbance. One landform unit, the drains, are the result of disturbance events.

Significant Flora Records

Alfred Cove contains the southernmost plant of *Gyrostemon ramulosus* (only one plant remains); previously the stand at Bold Park (Keighery *et al.* 1990) was considered the species limit on the Swan Coastal Plain. This is the only record south of the Swan River.

The population of *Burchardia bairdii* at the time of collection the southernmost recorded, however since that time A.S. Weston has collected the species at Anstey Road, Forrestfield (Weston 1989) and B.J. Keighery at Forrestdale Lake (pers. comm.). The habitat, a low *Melaleuca* woodland edging the river is very unusual for this species, which is normally found under low heath on winter wet flats. Perhaps this current distribution pattern is an artefact of the extensive clearing along the river.

Currently Alfred Cove is the only reserve in the Metropolitan region where the sedge *Cyperus laevigatus* has been recorded.

Finally the population of *Tribonanthes ?violacea* at Alfred Cove is atypical in form and habitat. Normally found in similar sites to *Burchardia bairdii* here it is growing in a *Halosarcia* dominated saline shrubland. Again this pattern may reflect past clearing and filling along the river of this habitat.

General Floristics

There are a total of 178 species of vascular plant at Alfred Cove, of these 89 are naturalised weeds and 5 are 'enrichment' plantings. Pelican Point has 111 species, 77 are naturalised and 7 are 'enrichment' plantings. At Milyu 73 species are recorded, 43 are naturalised and 3 are 'enrichment' plantings.

The three areas are floristically dissimilar. Alfred Cove has 59 native species not recorded at the other two reserves. These are largely species of sandy soils and succulent shrublands, which are not developed in the other areas.

Weeds

All three reserves contain numerous introduced species (89 at Alfred Cove, 77 at Pelican Point and 43 at Milyu). In all areas 'enrichment plantings' have also occurred (that is plantings of non-local species, native or non-native; 5 persist at Alfred Cove, 7 at Pelican Point and 3 at Milyu). Generally these plantings have failed or are at best harmless, as they persist until their death and do not spread. However at Milyu a planting of *Populus nigra* cv *Italica* (Italian Poplar) has created a large clone of this species on the northern boundary of this small reserve, which is currently being removed. Similarly at Pelican Point a planting of *Casuarina glauca* (probably obtained as *Casuarina obesa*, with which it was once placed taxonomically) has resulted in a very large vigorously suckering male clone of this species, which shaded out any understorey over a significant portion of the reserve. This stand is currently being removed. Future rehabilitation work will use local seed sources to prevent re-occurrences of this problem.

All the reserves are threatened by invasion of the rampant smothering perennial grasses, Kikuyu (*Pennisetum clandestinum*) and Buffalo (*Stenotaphum secundatum*). These species, generally spreading from grassed areas, dumped garden refuse or drains, must be controlled and prevented from further encroachment into the sedgelands and woodlands.

Only Alfred Cove has the added problem of continued dumping of garden refuse and this has almost certainly led to the establishment in this reserve of *Canna x generalis* (Cannas), *Cyperus haspan*, *Vitis vinifera* (Grape vine), *Acacia longifolia* and *Schinus terebinthifolia* (Pepper Tree). At Milyu and Pelican Point some of the alien species

recorded were probably past deliberate plantings (eg: *Phoenix dactylifera* and *Populus nigra*) rather than dumped refuse.

All areas contain or have adjacent numerous areas of disturbance (drains, drain banks, grassed areas, gardens, or semi-cleared woodlands) which has greatly aided weed invasion. Only the closed sedgelands and saline marshes have resisted and have few exotics within them, except where drains have locally disturbed the water balance.

CONCLUSION

The vegetation of these reserves occur in a naturally dynamic system, and can cope with natural disturbances (floods, storms and fluxes in salinity). However current man induced disturbances are overwhelming these areas. The most pressing need is to reduce the disturbance caused by urban water drainage, both in the physical (the drains themselves) and chemical (large influx of freshwater into normally saline areas) sense.

Community education is needed at Alfred Cove to lessen the amount of garden refuse being dumped, and removal of the currently established plants.

REFERENCES

- Anon 1989. Management Proposal for Alfred Cove. Environmental Management, Murdoch University. Perth.
- Conservation through Reserves Committee ,1983 The Darling System-System Six. Dept. Conservation and Environment, Perth.
- Keeling, S.,1987. Alfred Cove-A Wildlife Habitat. Conservation and Environment, Perth.
- Keighery, G.J., Harvey, J. and Keighery, B.J., 1990 Vegetation and Flora of Bold Park West. Aust. Naturalist 18: 100-122
- Pen, L.J.(1983) Peripheral Vegetation of the Swan-Canning Estuary-Past, Present and Future. In The Swan River Estuary Ecology and Management, Ed. J. John. Environmental Studies Group. Curtin. pp. 221-231.
- Pen, L.J. (1983) Peripheral Vegetation of the Swan and Canning Estuaries 1981 Department of Conservation and Environment Bulletin 113.
- Weston, A.S. (1989) Flora and Vegetation of Lots 65 and 66 Anstey Road, Forrestfield

TABLE 1: Vascular Flora

KEY

Column 1

Taxon, grouped according Class (and Subclass for Flowering Plants) then alphabetically by family and within families alphabetically by genus then species. An * preceding a name indicates that the species is a weed or enrichment planting.

Column 2 - 4: Reserves

AC = Alfred Cove; M = Milyu; PP = Pelican Point .

Column 4: Habitat

B: Beach Ridge

D: Dune

DR: Drains

M: Marsh

S: Samphires

SE: Sedgeland

W: woodland usually of *Banksia*

FERNS

PTERIDIACEAE

Pteridium esculentum

M

DR(Dead)

GYMNOSPERMS

ZAMIACEAE

Macrozamia riedlei

AC

W

CUPRESSACEAE

*Callitris preissii

AC

planted

MONOCOTYLEDONS

ANTHERICAEAE

Arthropodium capillipes

AC

W

Caesia micrantha

AC

W

Corynotheca micrantha

AC

W

Sowerbaea laxiflora

AC

W

*Trachyandra divaricata

AC

PP

M

B,D

ARACEAE

*Zantedeschia aethiopica

AC

DR

ARECACEAE

*Phoenix dactylifera

M

SE,W,?planted

CANNACEAE

*Canna x generalis

AC

DR

*C. X orchoides

AC

DR

CENTROLEPIDACEAE

Centrolepis drummondiana

AC

W

COLCHICACEAE			
Burchardia bairdii	AC		W,SE
CYPERACEAE			
Baumea acuta	AC		M SE
Baumea juncea	AC		SE
Bulboschoenus caldwellii	AC	PP	SE,S, DR
Carex appressa	AC		SE, DR
*Carex divisa			M SE
*Cyperus congestus	AC	PP	M SE,W,DR
Cyperus gymnocaulos		PP	M B,D
*Cyperus haspan	AC		DR
Cyperus laevigatus	AC		SE,M
Cyperus tenuiflorus	AC	PP	M B,SE
Gahnia trifida	AC		B,W
Isolepis cernua	AC		W
Isolepis nodosa	Ac	PP	M B,SE,D,M
Lepidosperma angustatum	AC		SE
Lepidosperma leptostachyum	AC		W
Lepidosperma tenue	AC		W
Schoenoplectus vallidus	AC		M,DR
Schoenus subfascicularis	AC		SE
DASYPOGONACEAE			
Lomandra suaveolens	AC		W
HAEMODORACEAE			
Conostylis aculeata ssp. aculeata	AC		W
Conostylis candicans	AC		W
Tribonanthes ?violacea	AC		S
HYACINTHACEAE			
*Lachenalia reflexa	AC		W
IRIDACEAE			
*Ferraria crispa			M D
*Freesia leichtlinii	AC		M W
*Gladiolus undulatus	AC	PP	M D,SE,W
*Gladiolus caryophyllaceus		PP	W
*Hesperantha falcata	AC		DR
*Homeria flaccida	AC	PP	B,D,W
Patersonia occidentalis	AC		W
*Romulea rosea	AC	PP	M B,D,W
*Sparaxis bulbifera	AC		D
*Watsonia bulbifera	AC	PP	M D,SE,W
JUNCACEAE			
*Juncus acutus	AC		W
Juncus bufonius	Ac	PP	M B,W
*Juncus capitatus	AC	PP	W,SE
Juncus kraussii			M B,SE
J.pallidus	AC	PP	SE,M
J.planifolius	AC		DR
JUNCAGINACEAE			
Triglochin minutissima	AC		M, D
T.mucronata	AC		M, B, D
T.striata	AC	PP	M

ORCHIDACEAE				
Microtis media		PP	SE,D,W	
Prasophyllum macrostachyum	AC		M	
PHORMIACEAE				
Dianella divaricata	AC		W	
POACEAE				
Agrostis avenacea			M	S
*Aira cupiana	AC	PP		D, W
*Arundo donax	AC	PP	M	B, DR, W
*Avena barbata	AC	PP	M	D, DR
*Briza maxima	AC	PP	M	B, D, M, W
*Briza minor	AC	PP		W
*Bromus diandrus	AC	PP	M	B, D, W.
*Cortadaria seloana	AC			S, W
*Cynodon dactylon	AC	PP	M	B, D, DR, W
*Digitaria sanguinalis	AC	PP		D, W, S.
*Ehrharta calycina	AC	PP	M	D, W
*Ehrharta longiflora		PP		B, D, W.
*Eragrostis curvula		PP		W
*Holcus lanatus		PP		W
*Hordeum leporinum		PP	M	B, D, W.
*Hyparrhenia hirta		PP		W
*Lagurus ovatus	AC	PP	M	B, D, DR, SE, W
*Lolium perenne	AC	PP	M	B, D, W, SE
*Lolium rigidum		PP		D, W
*Paralophis incurva	AC	PP	M	B, D, SE, W
*Paspalum dilatatum	AC			DR
*Paspalum urvillei	AC			DR
*Pennisetum clandestinum	AC	PP	M	DR, S, W, SE
*Pennisetum purpureum	AC			DR
*Poa annua	AC	PP		B, D, SE, DR
*Sporobolus indicus	AC			D
Sporobolus virginicus	AC	PP		B
*Stenotaphum secundatum	AC	PP	M	B, D, DRSe, S, W
*Vulpia bromoides		PP		W
*Vulpia myorus		PP		D, W
POTAMOGETONACEAE				
Potamogeton pectinatus		PP		S
RESTIONACEAE				
Leptocarpus co-angustatus	AC			SE
Loxocarya flexuosa	AC			W
TYPHACEAE				
*Typha orientalis	AC	PP	M	DR, SE
XANTHORRHOEACEAE				
Xanthorrhoea preissii	AC			W

DICOTYLEDONS

AIZOACEAE

*Carpobrotus edulis	AC	PP	M	B,D,W
*Galena secunda		PP		B
*Tetragonia decumbens		PP	M	B,DR
Tetragonia tetragonioides		PP		B

AMARANTACEAE

Alternanthera nodiflora	AC			SE,DR
-------------------------	----	--	--	-------

ANACARDIACEAE

*Schinus terebinthifolius	AC		M	S,DR
---------------------------	----	--	---	------

APIACEAE

Apium annuum	AC			M
Apium prostratum	AC	PP		S
Centella cordifolia	AC	PP		S,SE
*Foeniculum vulgare	AC			D,DR

APOCYNACEAE

*Nerium oleander	AC	PP		planted
------------------	----	----	--	---------

ASTERACEAE

Angianthus micropodioides	AC			B
*Arctotheca calendula		PP	M	B,W
*Aster subulatus	AC	PP	M	SE,DR,D
*Conyza albida	AC		M	SE,D,DR
*Conyza bonariensis	AC	PP	M	SE,D,DR
*Conyza parva	AC		M	DR,SE
Cotula australis	AC			M
Cotula coronopifolia	AC	PP		SE,M,S
*Dittrichia graveolens		PP		W
*Hedynopsis rhagadioioides		PP	M	B,D
*Helianthus debilissimus			M	D
*Hypochaeris glabra	AC	PP	M	B,D,DR,SE,W
*Lactuca saligna	AC			DR
*Lactuca serriola		PP	M	SE,W
*Pseudognaphalium luteo-album		PP		D,SE
Senecio lautus				
ssp. maritimus	AC	PP	M	B,D,M,SE
*Sonchus asper	AC			DR
Sonchus hydrophilus	AC	PP		SE
*Sonchus oleraceus	AC	PP	M	DR,D,W
*Ursinia anthemoides	AC	PP	M	B,D,W
*Vellerophyton dealbatum		PP		B,W

BRASSICACEAE

*Brassica tournefortii	AC			B
*Cakile maritima	AC	PP	M	B
*Heliophila pusilla		PP		B,D,W
*Rhaphanus raphanistrum	AC	PP	M	B,D,DR

CAMPANULACEAE

*Wahlenbergia capensis	AC	PP		W
------------------------	----	----	--	---

CASUARINACEAE				
Allocauarina humilis	AC			W
*Casuarina glauca		PP		W
Casuarina obesa	AC	PP	M	B,W,SE
CARYOPHYLLACEAE				
*Cerastium glomeratum	AC	PP		B,D,DR,W
*Petrohagia velutina	AC	PP		DR,SE,W
*Polycarpon tetraphyllum	AC	PP		SE,DR,W
*Silene gallica		PP		Se,W
*Spergularia rubra	AC	PP		B,D,SE,M
CHENOPODIACEAE				
Atriplex hypoleuca	AC		M	B
*A. prostrata	AC	PP	M	B,SE,DR
*Chenopodium ambrosioides	AC			DR
Halosarcia halocnemoides	AC			M
H. indica ssp. bidens	AC			M
Rhagodia baccata		PP		B,M
Sarcocornia quinqueflora	AC	PP	M	M
Suaeda australis	AC	PP	M	B,M
CONVOLVULACEAE				
*Ipomaea indica		PP		W,S
CRASSULACEAE				
Crassula exserta	AC			W
*C. natans	AC			SE,DR
CUSCUTACEAE				
*Cuscuta epithimum		PP		D
DROSERACEAE				
Drosera glanduligera	AC			W
D. menziesii	AC			M,W
D. nitidula	AC			W
EUPHORBIACEAE				
*Euphorbia peplus	AC	PP	M	DR,W
*Ricinus communis	AC	PP		D,DR
FABACEAE (PAPILIONACEAE)				
*Cytissus prolifera	AC			DR
Jacksonia furcellata	AC		M	W
Jacksonia sternbergiana	AC	PP		W
Kennedia prostrata	AC			
*Lotus angustissimus	AC	PP		D,DR
*Lupinus consentinii		PP		W
*Medicago polymorpha	AC	PP	M	D,DR,M
*Melilotis indica	AC		M	B,D,DR,W
*Trifolium angustifolium		PP		D,W
*Trifolium campestre	AC	PP	M	B,D,W
*Trifolium cernuum			M	D
*Trifolium dubium		PP	M	D,W
*Trifolium scabrum	AC	PP	M	B,D,W
*Vicia sativa ssp. sativa	AC	PP	M	Dr,M,D,W
Viminaria juncea	AC		M	SE

FRANKENIACEAE				
<i>Frankenia pauciflora</i>	AC			B
GENTIANACEAE				
* <i>Centaurium erythraea</i>	AC	PP		D,S,DR,W
GERANIACEAE				
* <i>Pelargonium capitatum</i>		PP	M	B,D,W
GOODENIACEAE				
<i>Dampiera linearis</i>	AC			W
<i>Goodenia pulchella</i>	AC			W
GYROSTEMONACEAE				
<i>Gyrostemon ramulosus</i>	AC			W
LAMIACEAE				
* <i>Mentha spicata</i>	AC			DR
* <i>Stachys arvensis</i>	AC			DR
LOBELIACEAE				
* <i>Monopsis debilis</i>	AC			D
LYTHRACEAE				
* <i>Lythrum hyssopifolium</i>	AC			SE,DR
MALVACEAE				
* <i>Hibiscus diversifolius</i>	AC			SE
* <i>Malva parvifolia</i>	AC			D
MIMOSACEAE				
* <i>Acacia longifolia</i>	AC	PP		W,DR
<i>Acacia pulchella</i>	Ac			W
<i>Acacia rostellifera</i>	AC		M	SE,W
<i>Acacia saligna</i>	AC	PP	M	SE,W
MORACEAE				
* <i>Ficus carica</i>	AC			W
MYRTACEAE				
<i>Astarea fascicularis</i>		PP		SE
* <i>Callistemon phoenicus</i>		PP		planted
* <i>Eucalyptus gomphocephala</i>		PP		planted
* <i>Eucalyptus leucoxydon</i>		PP		planted
* <i>Eucalyptus ?maculata</i>		PP		planted
* <i>Eucalyptus rudis</i>	AC			planted
* <i>Leptospermum laevigatum</i>		PP		B,M,W
<i>Melaleuca cuticularis</i>	AC	PP	?	S,D/?planted
* <i>Melaleuca incana</i>	AC			planted
* <i>Melaleuca lanceolata</i>		PP		planted
<i>Melaleuca raphiophylla</i>	AC	?	?	SE/?planted
* <i>Melaleuca quinqueflora</i>		PP		planted
<i>Melaleuca viminea</i>	AC			SE,S,D
* <i>Melaleuca violacea</i>	AC			planted
ONAGRACEAE				
<i>Epilobium hirtigerum</i>	AC			SE
* <i>Oenothera stricta</i>	AC			DR

OROBANCHACEAE					
*Orobanche minor	AC	PP	M		D,W
OXALIDACEAE					
*Oxalis pes-caprae	AC	PP	M		B,D,W
POLYGONACEAE					
Polygonum salicifolium	AC				DR
*rumex acetosella	AC				DR,W
*R. conglomeratus	AC				DR
*Rumex crispus	AC		M		SE,DR
PORTULACACEAE					
Calandrinia brevipedata	AC				W
C. corrigioloides	AC				W
PRIMULACEAE					
*Anagallis arvensis var arvensis	AC	PP	M		B,D,DR
*Anagallis arvensis var caerulea	AC	PP			S,M
Samolus junceus	AC				SE
Samolus repens	AC	PP			M,S
PROTEACEAE					
Banksia grandis	AC				W
Hakea prostrata	AC				W
H. varia	AC				W
RUBIACEAE					
Opercularia vaginata	AC				D
SALICACEAE					
*Populus nigra cv italica			M		B
SANTALACEAE					
Exocarpus sparteus	AC				W
SOLANACEAE					
*Solanum nigrum	AC				DR
TAMARICACEAE					
*Tamarix aphylla			M		planted
VERBENACEAE					
*Phyla nodiflora	AC				DR
VITACEAE					
*Vitis vinifera	AC				DR,SE

M62

01

Matilda Bay Reserve

Draft Management Plan

November 1991



**Full document
available
on request**



Department of Conservation
and Land Management



National Parks and Nature
Conservation Authority

SWAN ESTUARY MARINE PARK AND ADJACENT NATURE RESERVES DRAFT MANAGEMENT PLAN

1996

Planning Team

Chris Portlock (CALM, Plan Coordinator)
Laurie Poole (Fisheries)
John Brooker (Dept of Transport, Maritime Div)
Peter Dans (CALM)
Lyndon Mutter (CALM)
John Edwards (CALM)
Paul Brown (CALM)
Rob Hutchison (Swan River Trust)

Local Government Representatives

Jenny Easton (Melville)
Wally Darch (Subiaco)
Jim Elliot (Nedlands)
Brett Carter (South Perth)

**Full document
available
on request**

Department of Conservation and Land Management
for the
National Parks and Nature Conservation Authority
Perth, Western Australia

Matilda Bay Reserve

Management Plan

1992 - 2002



**Full document
available
on request**

MANAGEMENT PLAN No 25



Department of Conservation
and Land Management



National Parks and Nature
Conservation Authority

WILD 15740AGA
Nr 13037 152.72

000053

- 5022 - 1 267 - 57 100 0200 0280 56 -

000000 003120 23012560 1904