

DEPT CONSERVATION AND LAND MANAGEMENT

**SEDGELANDS IN HOLOCENE DUNE
SWALES RECOVERY TEAM**



**ANNUAL REPORT
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Summary

The Sedgeland in Holocene Dune Swales community was assessed as a critically endangered ecological community in 1996. The community is also listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Since June 1996, the Sedgeland in Holocene Dune Swale Recovery Team coordinated the development and implementation of the Interim Recovery Plan. This report outlines the progress made in implementing the Interim Recovery Plan during January–December 2004, following the completion of the plan in May 2002.

Members of the team dealt with a series of issues in 2004 including areas that contain the sedgeland community and are the subject of proposals for reservation or development.

Members of the Recovery Team have provided advice and recommendations with regard the possible reservation of areas of the community in Industrial Park 14 (IP14), Lot 17 Bakewell Drive, the next stage of the Port Kennedy Golf Course, Lark Hill, and other areas proposed for development. Negotiations are continuing. The EPA Service Unit sought advice on the Scoping Document for IP14 from the Chair of the Team, and this was provided.

The Recovery Team have sought advice on buffers required to help maintain the hydrology of this community. This advice has been provided to decision making bodies such as the Department of Environment (DoE).

Introduction

The Sedgeland in Holocene Dune Swales community was assessed as a critically endangered ecological community in 1996. The community is also listed as Endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

The community occurs in linear damplands and occasionally sumplands (wetlands) between Holocene dunes formed over the last 7 000 years. Typical native species in the community include the shrubs *Muehlenbeckia adpressa*, *Acacia saligna* and *Xanthorrhoea preissii*, and the herbs *Baumea juncea*, *Isolepis nodosa*, and *Poa porphyroclados*.

When conserved as a representative unit the range of different ages of the wetlands along the coastal evolutionary sequence, in association with their geomorphic history, provide important opportunities for research on wetland evolution.

The community is known from the following areas (note: these are the locations of individual swales, or uncleared portions of swales):

Table 1: Extent and location of occurrences

Occurrence number	Location	Land tenure	Land manager	Estimated area (ha)
1	Port Kennedy Scientific Park #44077 (PB01, PtBecher01NORTH, PtBecher01SOUTH)	Nature Reserve	CALM	21.63
2	Port Kennedy Scientific Park #44077 (PB06)	Nature Reserve	CALM	2.58
3	Lot 461, Safety Bay Rd (COOL09)	Freehold	CALM	2.67
4	Reserve 9458, Lot 8001 (RICH01,02,03,04)	Crown Reserve; Freehold	City of Rockingham; WA Planning Commission	8.1
5	Lot 8001, Lake Richmond (RICH05)	Freehold	WA Planning Commission	0.57
6	Lot 1492 Office Rd East Rockingham (IP14-07)	Freehold	Private company	0.4
7	Lot 1492 Office Rd East Rockingham (IP14-06)	Freehold	Private company	0.6
8	Lot 1492 Office Rd East Rockingham (IP-14-05)	Freehold	Private company	1.5
9	Lot 1492 Office Rd East Rockingham (IP14-02)	Freehold	Private company	0.92
10	Lot 1492, Office Rd East Rockingham, Lot 220 Chesterfield Rd (IP14-08)	Freehold	Private company	0.91
11	Lot 1492, Office Rd East Rockingham (IP14-09)	Freehold	Private company	1.17
13	Lot 1492, Office Rd East Rockingham (IP14-03,04)	Freehold	Private company	3.55
14	Yanchep National Park 9868, Yanchep (XYAN10)	National Park	CALM	0.2
15	Reserve 18452 (Lot 22 Dixon Rd) (COOL14)	Crown Reserve	CALM	0.5
16	Reserve 18452 (Lot 22 Dixon Rd) (COOL15)	Crown Reserve	CALM	0.5
17	Lot 0, Dixon Rd Coo loongup (MYCOOL01)	Freehold	CALM	0.3
18	Lot 17, Warnbro Sound Ave (PtKennedy98)	Freehold	WA Planning Commission	0.25
19	Lot 17, Warnbro Sound Ave (PtKennedy101)	Freehold	WA Planning Commission	0.31
20	Lot 17, Warnbro Sound Ave (PtKennedy103)	Freehold	WA Planning Commission	0.4
21	Lot 17, Warnbro Sound Ave (PtKennedy95)	Freehold	WA Planning Commission	0.093
22	Lot 17, Warnbro Sound Ave (PtKennedy104)	Freehold	WA Planning Commission	0.16

23	Lot 767,768 Forty Rd Larkhill (PtKennedy28)	Freehold	Water Corporation, WA Planning Commission	1.75
24	Lot 884 Stakehill Rd (LARKHILL30)	Freehold	Private landowner	1.64
25	Lot 2, Warnbro Sound Ave (LARKHILL17)	Freehold	WA Planning Commission	0.27
26	Lot 2, Warnbro Sound Ave (LARKHILL21)	Freehold	WA Planning Commission	0.31
27	Lot 2, Warnbro Sound Ave (LARKHILL22)	Freehold	WA Planning Commission	0.097
28	Lot 2, Warnbro Sound Ave (LARKHILL23)	Freehold	WA Planning Commission	0.16
29	Lot 2, Warnbro Sound Ave (LARKHILL24)	Freehold	WA Planning Commission	1.41
30	Lot 2, Warnbro Sound Ave (LARKHILL26)	Freehold	WA Planning Commission	0.54
31	Lot 2, Warnbro Sound Ave (LARKHILL27)	Freehold	WA Planning Commission	0.51
32	Lot 2, 40 Warnbro Sound Ave (LARKHILL29)	Freehold	WA Planning Commission	0.28
33	Lot 52 Anstey Rd (SECRETHARBOUR16)	Freehold	Private company	5.6
34	Reserve 42734 (GOLDENBAY01)	Crown Reserve	City of Rockingham	5.0
35	Lot 94 Secret Harbour (SECRETHARBOUR46)	Freehold	Private company	0.6
36	Lot 94 Secret Harbour (SECRETHARBOUR42)	Freehold	Private company	1.0
37	Lot 51, 12 Anstey Rd, Reserve 34664 (GOLDENBAY57, SECRETHARBOUR54)	Freehold; Crown reserve	Private company; State Housing Commission, City of Rockingham	10.3
38	Lot 605 Pt Kennedy Dve, Pt Kennedy (PTKENNEDY23)	Freehold	Private company	0.20
39	Lot 605 Pt Kennedy Dve, Pt Kennedy (PTKennedy26)	Freehold	Private company	1.65
40	Lot 605 Pt Kennedy Dve, Pt Kennedy (PtKennedy18)	Freehold	Private company	3.57
41	Reserve 44886 (PtKennedy50)	Reserve	City of Rockingham	0.65
42	Reserve 44886 (PtKennedy16)	Reserve	City of Rockingham	3.87
43	Reserve 44886 (PtKennedy49)	Reserve	City of Rockingham	1.86
44	Lot 328, Safety Bay Rd Warnbro (Walyungup01)	Freehold	CALM	1
45	Lot 17, Warnbro Sound Ave (PtKennedy113)	Freehold	WA Planning Commission	0.18
46	Lot 581 Warnbro Sound Ave	Freehold	WA Planning	0.1

	(PtKennedy121)		Commission	
47	Lot 581 Warnbro Sound Ave (PtKennedy120)	Freehold	WA Planning Commission	0.13
48	Port Kennedy Scientific Park #44077 (PointBecher32)	Nature Reserve	CALM	0.36
49	Port Kennedy Scientific Park #44077 (PointBecher01)	Nature Reserve	CALM	0.38
50	Port Kennedy Scientific Park #44077 (PointBecher02)	Nature Reserve	CALM	0.77
51	Port Kennedy Scientific Park #44077 (PointBecher07)	Nature Reserve	CALM	1.89
52	Port Kennedy Scientific Park #44077 (PointBecher35)	Nature Reserve	CALM	0.5
53	Lot 17, Warnbro Sound Ave (Pt Kennedy 94)	Freehold	WA Planning Commission	0.057
54	Lot 17, Warnbro Sound Ave (Pt Kennedy 91)	Freehold	WA Planning Commission	0.058
55	Lot 17, Warnbro Sound Ave (Pt Kennedy 92)	Freehold	WA Planning Commission	0.056
56	(Lot 17, Warnbro Sound Ave Pt Kennedy 100)	Freehold	WA Planning Commission	0.152
57	Lot 17, Warnbro Sound Ave (Pt Kennedy 90)	Freehold	WA Planning Commission	0.056
58	Lot 17, Warnbro Sound Ave (Pt Kennedy 97)	Freehold	WA Planning Commission	0.15
59	Port Kennedy Scientific Park #44077 (PointBecher03)	Nature Reserve	CALM	0.71
60	Lot 17, Warnbro Sound Ave (Pt Kennedy 96)	Freehold	WA Planning Commission	0.16
61	Lot 581 Warnbro Sound Ave (Pt Kennedy 116)	Freehold	WA Planning Commission	0.15
62	Lot 766 Forty Rd, Port Kennedy (Pt Kennedy 123)	Freehold	Water Corporation	0.38
63	Lots 766,767 Forty Rd Port Kennedy (Pt Kennedy 25)	Freehold	Water Corporation	1.15
65	Lot 766, Forty Rd Port Kennedy (Pt Kennedy 122)	Freehold	Water Corporation	0.08
66	Port Kennedy Scientific Park #44077 (PtBecher38Sc)	Nature Reserve	CALM	10.31
67	Lot 1492 Office Rd East Rockingham (IP14- 10CENTRE,NORTH,SOUTH)	Freehold	Private company	2.9
68	Lot 1492 Office Rd East Rockingham (IP14-11,IP14- 11CENTRE,NORTH,SOUTH)	Freehold	Private company	4.2
69	Lot 582 Warnbro Sound Ave (Pt Kennedy 118)	Freehold	WA Planning Commission	0.061
70	Lot 582 Warnbro Sound Ave (Pt Kennedy 119)	Freehold	WA Planning Commission	0.14
71	Lot 17, Warnbro Sound Ave (Pt Kennedy new 01)	Freehold	WA Planning Commission	0.04
72	Lot 461, Safety Bay Rd (Walyungup02)	Freehold	CALM	0.86
73	Lot 461, Safety Bay Rd	Freehold	CALM	0.2

	(Walyungup03)			
75	Lot 461,19 Safety Bay Rd, Reserve 23780 (Walyungup04,05)	Freehold, Crown reserve	CALM	18.78
78	Port Kennedy Scientific Park #44077 (MYPoint Becher01)	Nature Reserve	CALM	0.1
79	Lot 1492 Office Rd East Rockingham (IP14-01)	Freehold	Private company	1.8
80	Port Kennedy Scientific Park #44077 (MYPoint Becher02)	Nature Reserve	CALM	0.67
81	Port Kennedy Scientific Park #44077 (MYPoint Becher03)	Nature Reserve	CALM	0.11
82	Port Kennedy Scientific Park #44077 (MYPoint Becher04)	Nature Reserve	CALM	0.09
83	Port Kennedy Scientific Park #44077 (MYPoint Becher05)	Nature Reserve	CALM	0.18
84	Port Kennedy Scientific Park #44077 (MYPoint Becher06)	Nature Reserve	CALM	0.11
85	Port Kennedy Scientific Park #44077 (MYPoint Becher07)	Nature Reserve	CALM	0.13
86	Port Kennedy Scientific Park #44077 (MYPoint Becher08)	Nature Reserve	CALM	0.17
87	Lot 692 Port Kennedy Drive (MYPoint Becher09)	Unvested Crown Land	DOLA	0.92
88	Lot 9011 Warnbro Sound Ave (Secret Harbour 168)	Freehold	Private company	0.1
89	Lot 9011 Warnbro Sound Ave (Secret Harbour 19)	Freehold	Private company	0.28
90	Lot 9011 Warnbro Sound Ave (Secret Harbour 20)	Freehold	Private company	0.13
91	Lot 9011 Warnbro Sound Ave (Secret Harbour 169)	Freehold	Private company	0.10

The most typical form occurs in the Becher Suite within the Port Kennedy Scientific Park, a Class A Nature Reserve (Rockingham – Becher plain).

The sedgeland community is threatened by clearing, changes to hydrological processes, weed invasion, inappropriate fire regimes, erosion by wind and water, disturbance due to recreational use/maintenance activities, and grazing by rabbits.

Since June 1996, the Sedgelands in Holocene Dune Swale Recovery Team coordinated the development and implementation of the Interim Recovery Plan. This report outlines the progress made in implementing the Interim Recovery Plan during January –December 2004, following the completion of the plan in May 2002.

Recovery Team

Members of the team include:

- Ms Valerie English (Chair) (WA Threatened Species and Communities Unit, CALM). (Replaces previous Chair - John Blyth, who resigned from the Team in February 2003).
- Dr Neil Gibson (Woodvale Research, CALM)

- Dr Jenny Davies (Murdoch University)
- Dr Phil Jennings (Murdoch University)
- Mr Ian Barker (City of Rockingham) (replaced John Tucker from City of Rockingham in 2003)
- Mr Tim Bowra (Regional Parks Co-ordinator, CALM)

The Recovery Team did not meet in 2004, but a meeting is planned for early 2005. Members of the team dealt with a series of issues in 2004 including areas that contain the sedgeland community and are the subject of proposals for reservation or development.

Major issues addressed during 2004.

- **Waikiki Station.** The alignment for the Perth to Mandurah rail line proposed by New MetroRail will result in impacts to an occurrence of the sedgeland community at Waikiki. A consultant has developed a draft weed management plan for this site, and members of the Recovery Team made a series of recommendations about this plan.
- **Port Kennedy Golf Course.** In December 2004, the proponents and their consultant referred the new proposal for development of the next stage of the Port Kennedy Golf Course for assessment under the Commonwealth *Environment Protection and Biodiversity Act 1999* (EPBC Act). The new proposal has been scaled-down from that originally proposed. Members of the Recovery Team will seek a meeting with regard to the future management of the wetlands within the development site.
- **Lot 17 Bakewell Drive.** The Chair of the Recovery Team met on-site with staff from the Bush Forever Office, a local conservation group, and a representative from CALM's Regional Parks group to discuss possible reserve boundaries at Lot 17 Bakewell Drive. It was noted that two of the most significant wetlands at this site had been recently burnt in a hot fire and were suffering massive weed invasion. A local conservation group is interested in undertaking weed control at the site, and LandCorp are supportive of this proposal.
- **Lot 40, Forty Rd, Rockingham.** A small and somewhat degraded area of the community occurs on this proposed development site. The West Australian Planning Commission has approved the development plan for the site, subject to a series of conditions. These include that a wetland management and Threatened Ecological Community Monitoring Plan be prepared and implemented for the Conservation Category Wetland and its associated buffer. This plan will need to be approved by the Department of Environment (DoE) and Local Government prior to commencement of site works.
- **Lark Hill.** Members of the Recovery Team continued to negotiate with regard to the management of the sedgeland community at Lark Hill. Development of the Lark Hill Sporting and Equestrian Centre commenced in 2004, with buffers of at least 50m around each wetland. It is unlikely that the developer's original proposal to pump groundwater from surrounding urbanised areas into the groundwater at this site for use in irrigation will be pursued. The water from surrounding urban areas is likely to be pumped into lined tanks or a lined dam at the site.

Recovery Actions

This section summarises progress on implementing actions in the Interim Recovery Plan during 2004.

3.4 Minimise further clearing of the community

Further clearing or destruction by other means especially of good examples of the older stages of the wetland will be minimised wherever possible by acquisition, negotiation and planning.

Members of the Recovery Team have provided advice and recommendations with regard the possible reservation of areas of the community in IP14, Lot 17 Bakewell Drive, the next stage of the Port Kennedy Golf Course, Lark Hill, and other areas proposed for development. Negotiations are continuing.

3.6 Maintain hydrology and water quality

A strategy will be designed to ensure watertable height and water quality remain appropriate to the natural wetland community, through monitoring and ongoing management. This strategy will be incorporated into the full Recovery Plan if required.

Members of the Recovery Team have sought advice on buffers required to help maintain the hydrology of this community. This advice has been provided to decision making bodies such as DoE.

3.11 Report on success of management strategies for wetlands

Annual reports will be prepared by the Recovery Team.

This report completes this action for 2004.

3.12 Ensure any tourist developments do not impact the swale community

The site of any tourist developments or displays will be designed to minimise impact on the swale community and will provide information on the significance of the wetland areas, the need to conserve them, and how this is being done. This will be done as part of the Rockingham Lakes Regional Park Management Plan.

The next stage of the Port Kennedy Golf Course adjacent to Port Kennedy Scientific Park was referred to the Commonwealth Department of Environment and Heritage in December 2004. This includes development of a carpark immediately south of Port Kennedy Drive. The referral states that the proposal does not impact on the sedgeland community.

3.26 Negotiate for appropriate management of other occurrences in Port Kennedy, outside Port Kennedy Scientific Park

The land tenure of the occurrences of the sedgeland community north of Port Kennedy Drive, and between Bakewell Drive and Ennis Avenue will be identified. Appropriate management actions to conserve the community will then be determined, including negotiations for declaration of areas as conservation reserve if necessary.

As mentioned, members of the Recovery Team have provided advice and recommendations with regard the possible reservation of areas of the community in IP14, Lark Hill, Forty Rd, and Lot 17 Bakewell Drive. Negotiations are continuing.

3.31 *Incorporate management strategies into planning for the Lark Hill Regional Sport and Recreation complex*

Planning for the Lark Hill Regional Sport and Recreation Complex needs to address reservation of wetland areas, and adequate buffers around each wetland site; controlling access through fencing; developing and implementing an appropriate fire regime; monitoring and responding to wetland condition, water levels and quality; and weed and rabbit control.

As mentioned members of the Recovery Team have sought and provided advice and recommendations with regard the buffers and maintaining water levels for wetlands at this site.

3.32 *Negotiate for appropriate management of the community at IP 14*

The land tenure of the sedgeland community at IP14, including the bushland area bounded by the Rockingham rail loop will be identified. Appropriate management actions to conserve the community will then be determined, including negotiations for declaration as conservation reserve if necessary.

As mentioned members of the Recovery Team have continued to negotiate with all stakeholders with regard to appropriate boundaries for a reserve at IP14.

The EPA Service Unit sought advice on the Scoping Document for this site from the Chair of the Team, and this was provided.