

CONSERVATION STATUS OF THE VEGETATION TYPES OF THE SWAN COASTAL PLAIN

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METHODS

The area included in this study was the area covered by the 1:250 000 vegetation maps of Heddle et al. (1980), i.e. from Lancelin southwards on the Swan Coastal Plain. The extent of existing native vegetation in this area was obtained from 1:250 000 scale satellite imagery for 1986. Boundaries of extant stands were traced off the images, overlain with the maps of Heddle et al. (1980) and the area of extant native vegetation in each vegetation unit measured by means of a polar planimeter. Very small areas were measured several times (up to 10) and then averaged to reduce errors. The minimum area of vegetation mapped was about 20 hectares. Large wetlands were excluded.

Next, a map of the estate managed by CALM was overlain with the vegetation map and measurements made of the area of each vegetation type included in the total CALM managed estate and in the conservation reserve system. Measurements were also made of the total area of each vegetation type.

Limitations of the Data

In some cases, the nature of the vegetation was not obvious from the imagery. In such cases, subjective judgements were made on the basis of our previous field experience. A small amount of ground-truthing was undertaken, but most areas were not examined in the field. Some errors may therefore occur in the data, but we consider that such errors are small. In any case, our estimates of clearing are *minimum* estimates.

There are two major limitations on the data presented here. The first is that it is dated - clearing is proceeding at an unknown but rapid rate, particularly near the Metropolitan area, and much has been cleared since 1986. The second limitation is that the figures for the amount of uncleared vegetation include areas in which the tree cover is still extant, but in which the understorey is highly disturbed by such agents as grazing by domestic stock and inappropriate fire regimes. These factors mean that the estimate of the area of uncleared vegetation is probably a serious over-estimate.

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Table 1. The estimated area of vegetation types still extant on the Swan Coastal Plain in 1986 and their representation in the total CALM managed estate and in the conservation reserve system at about that time.

Vegetation Complex*	Original area (ha)	% extant ⁺ in 1986	% in CALM estate	% on reserves
<i>Ridge Hill Shelf</i>				
29 Forrestfield	14 414	3.1		
<i>Fluviatile Deposits</i>				
30 Abba	15 805	2.8		
31 Coonambidgee	5 766	45.8		
32 Guildford	94 349	0.6		
33 Swan	15 684	0.6		
34 Dardanup	9 354	3.0		
35 Serpentine River	20 120	2.0		
36 Beermullah	6 129	1.0		
37 Bootine	3 911	9.8	1.0	1.0
38 Yanga	26 389	9.2		
39 Mungala	5 887	9.2		
40 Cannington	13 870	7.1		
41 Moore	8 184	12.8		
Totals	225 449	4.4		
<i>Aeolian Deposits</i>				
42 Southern River	58 343	8.6		
43 Bassendean-North	78 261	63.0	32.8	11.1
44 Bassendean-Central and South	86 123	14.5	8.8	1.6
45 Bassendean-North Transition	20 845	86.5	44.9	39.3
46 Bassendean-Central & South-Transition	2 137	100.0		
47 Karrakatta-North	43 868	41.0	42.6	0
48 Karrakatta-North Transition	5 282	97.7	10.7	0
49 Karrakatta-Central and South	48 767	19.6		
50 Caladenia	15 644	31.8		
51 Cottesloe-North	43 062	55.6	34.5	4.5
52 Cottesloe-Central and South	45 017	29.7		
53 Herdsman	3 790	17.0		
54 Pinjar	3 609	0.6		
55 Quindalup	50 460	42.2		
Totals	505 209	36.4		
<i>Marine Deposits</i>				
56 Yoongarillup	23 990	32.0		
57 Vasse	10 362	15.4		
Totals	34 352	27.0		
Grand Totals	779 424	26.1		

* as defined and mapped by Heddle et al. (1980).

+ these figures represent very conservative estimates of the amount of habitat destruction on the Swan Coastal Plain. Much of the remaining

vegetation exists only in small patches and in many of these the shrub and herb layers in particular are highly modified by disturbance agents such as grazing.

Table 2: Geographic variation in estimates of the extent of clearing on the Swan Coastal Plain up until 1986.

Soil Group*	1:250 000 map sheet	Original area (ha)	% of vegetation extant
Ridge Hill Shelf	Perth	4 657	0.0
	Pinjarra	13 527	2.7
	Collie	887	9.1
Fluviatile Deposits	Perth	63 726	11.1
	Pinjarra	99 026	1.9
	Collie	62 698	1.4
Aeolian Deposits	Perth	317 722	46.7
	Pinjarra	136 665	16.6
	Collie	51 469	25.2
Marine Deposits	Perth	-	-
	Pinjarra	19 717	37.2
	Collie	14 636	13.1

* broad groups of McArthur and Mulcahy (1980).

REFERENCES

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