

**POORLY CONSERVED AND POTENTIALLY THREATENED
VEGETATION TYPES IN THE WESTERN AUSTRALIAN WHEATBELT.
II. SUB-ASSOCIATIONS**

**Project No: N722 – National Reserves System Program
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TABLE OF CONTENTS

SUMMARY	1
INTRODUCTION	2
METHODS	
The study area	3
The data sets	4
Analyses	5
RESULTS	6
CONCLUSIONS	78
ACKNOWLEDGEMENTS	79
REFERENCES	79
APPENDIX 1	81

TABLES and FIGURES

Table 1. Vegetation associations in the South West Agricultural Region and their present extent	7
---	---

Table 2. Reservation status of vegetation sub associations in the South West Agricultural Region	30
--	----

Table 3. Vegetation sub associations potentially at risk from salinity	58
--	----

Table 4. Summary of analyses showing the vegetation Sub-associations that are relatively restricted in that are relatively restricted in areal extent, poorly conserved and at risk	64
---	----

Figure 1. Map of the study area within the South West Agricultural Region showing the Soil Landscape Zones used to define the area.	3
---	---

Figure 2. Map showing the distribution of Sub-association No 31/257, (Shrublands; <i>Melaleuca thyoides</i> thicket with scattered York gum (<i>Eucalyptus loxophleba</i>) / Zone of Rejuvenated Drainage) a poorly reserved and potentially threatened vegetation type	65
---	----

Figure 3. Map showing the distribution of Sub-association No 325/223, (Succulent steppe; saltbush & samphire / Victoria Plateau Zone), a poorly reserved and potentially threatened vegetation type	66
---	----

Figure 4. Map showing the distribution of Sub-association No 392/271, (Shrublands; <i>Melaleuca thyoides</i> thicket / Irwin River Zone), a poorly reserved and potentially threatened vegetation type	67
--	----

Figure 5. Map showing the distribution of Sub-association No 631/226, (Succulent steppe with woodland and thicket; York gum (<i>Eucalyptus. loxophleba</i>) over <i>Melaleuca thyoides</i> & samphire / Lockier Zone), a poorly reserved and potentially threatened vegetation type	68
---	----

Figure 6. Map showing the distribution of Sub-association No 631/271, (Succulent steppe with woodland and thicket; York gum (<i>Eucalyptus. loxophleba</i>) over <i>Melaleuca thyoides</i> & samphire / Irwin River Zone), a poorly reserved and potentially threatened vegetation type	69
---	----

- Figure 7. Map showing the distribution of Sub-association No 695/257, (Shrublands; *Allocasuarina campestris* scrub / Zone of Rejuvenated Drainage), a poorly reserved and potentially threatened vegetation type 70
- Figure 8. Map showing the distribution of Sub-association No 948/257, (Medium woodland; York gum (*Eucalyptus. loxophleba*) & river gum (*E. rudis* or *E. camaldulensis*) / Zone of Rejuvenated Drainage), a poorly reserved and potentially threatened vegetation type 71
- Figure 9. Map showing the distribution of Sub-association No 966/259, (Succulent steppe with sparse woodland & thicket; salmon gum (*Eucalyptus salmonophloia*) & morrel (*E. longicornis*) over teatree & samphire / Southern Zone of Ancient Drainage), a poorly reserved and potentially threatened vegetation type 72
- Figure 10. Map showing the distribution of Sub-association No 1040/222, (Medium woodland; York gum (*Eucalyptus. loxophleba*) & *Casuarina obesa* / Dandaragan Plateau Zone), a poorly reserved and potentially threatened vegetation type 73
- Figure 11. Map showing the distribution of Sub-association No 1040/257, (Medium woodland; York gum (*Eucalyptus. loxophleba*) & *Casuarina obesa* / Zone of Rejuvenated Drainage), a poorly reserved and potentially threatened vegetation type 74
- Figure 12. Map showing the distribution of Sub-association No 1048/257, (Mosaic: Shrublands; melaleuca patchy scrub / succulent steppe; samphire / Zone of Rejuvenated Drainage), a poorly reserved and potentially threatened vegetation type 75
- Figure 13. Map showing the distribution of Sub-association No 1096/259, (Medium woodland; yate (*Eucalyptus occidentalis*) & salmon gum (*E. salmonophloia*) / Southern Zone of Ancient Drainage), a poorly reserved and potentially threatened vegetation type 76
- Figure 14. Map showing the distribution of Sub-association 3041/259, (Mosaic: Low woodland; *Allocasuarina huegeliana* & jam (*Acacia acuminata*) around granite rocks / Southern Zone of Ancient Drainage), a poorly reserved and potentially threatened vegetation type 77

SUMMARY

This report details the second set of results of a project designed to contribute to the development of an inventory of Threatened Ecological Communities in Western Australia. The project builds on earlier work developing a digital vegetation map database for the State and assessing the levels of representation of each vegetation type in the conservation reserve system. This project focuses on that part of the South West Agricultural Region that is commonly known as the wheatbelt, where the native vegetation has been extensively cleared for agriculture and where, as a consequence of the clearing, there are problems of rising groundwater and the related problem of salinisation. The study area is the 12 major Soil Landscape Zones within the South West Agricultural Region where salinity is considered to be a major problem.

Vegetation associations occurring within the South West Agricultural Region were subdivided into units within each of the 12 Soil Landscape Zones. We refer to these more finely discriminated units as sub-associations. The intersection produced 459 vegetation sub-associations. These sub-associations were then analysed in conjunction with data sets of native vegetation extent, the conservation estate and soils with evidence of salinisation to identify vegetation units that are poorly represented in the present conservation reserve system, restricted in present extent and at risk from rising groundwater.

Data on the 459 vegetation sub-associations are provided. Of these, 181 have less than 10% of their original areal distribution remaining, and a further 174 have <30% remaining. Three hundred and two vegetation sub-associations have <2,000 ha remaining in the South West Agricultural Region. One hundred and seventy-two vegetation sub-associations are completely unrepresented in the conservation estate. These sub-associations are not represented in conservation reserves that fit criteria for IUCN Reserve Categories I-IV, or on other categories of CALM-managed land. An additional 29 sub-associations are unrepresented in reserves that fall into IUCN Reserve Categories I-IV but are represented to a small degree on other CALM-managed lands. A further 194 vegetation sub-associations have <15% of their original areal extent in reserves that fall into IUCN Reserve Categories I-IV. A total of 77 sub-associations are potentially at risk from rising groundwaters and associated salinisation: 17 sub-associations have 100% of their present extent on soils at risk from salinity, a further 40 sub-associations have >70% of their present extent on soils at risk, and an additional 20 sub-associations have >50% of their present extent on soils at risk.

The project identifies 13 vegetation sub-associations that should be given priority for further research, because they are extensively cleared or have limited extent, are associated with saline soils so potentially at risk, and completely unrepresented in the present conservation reserve system. They should be considered for classifying as Threatened Ecological Communities.

INTRODUCTION

In Western Australia, the process of identifying biodiversity entities at the ecosystem scale began in 1994, with a project entitled *Identifying and conserving threatened ecological communities (TECs) in the South West Botanical Province* (English and Blyth 1997, 1999). A major limitation that was encountered during the project was the lack of data of sufficient quality to assess many of the communities possibly threatened against the criteria for defining categories of conservation status. This limitation was particularly acute in the part of the South West Botanical Province commonly known as the wheatbelt. In this region, it is known that there are many special biological values, yet the biota is poorly documented overall. At the same time, there are seriously threatening process in force, including land clearing and fragmentation, and rising groundwater and associated salinisation which are a direct consequence of the clearing of the deep-rooted native vegetation (eg Government of Western Australia 1996). There is an imperative, therefore, to improve substantially the protection and management of the remaining biological values. One means to achieve this is through the threatened ecological communities process.

The recent development of a comprehensive, digital vegetation map database for Western Australia (Hopkins *et al.* 1996) provided an opportunity to address the gaps in knowledge in the wheatbelt and to contribute to the process of identifying threatened ecological communities. This data set is based on the 1:250,000 scale association-level mapping by J.S. Beard for all of the State except the south west corner which was mapped by A.J.M. Hopkins in 1998/99. Mapped vegetation units are a useful surrogate for ecosystems (Hopkins and Morgan 1999).

This project was designed to use the vegetation map database and other relevant digital data in a Geographic Information System (GIS) environment to identify some entities (ecosystems or ecological communities, see Hopkins 2000) that could be surveyed and then considered for listing as threatened ecological communities. These entities are vegetation units that are poorly represented in the present conservation reserve system and at risk.

The study was undertaken in two parts. For the first part which is reported elsewhere, vegetation associations as originally mapped at the 1:250,000 scale were used as the basic environmental unit. For this part of the study, these associations were subdivided into units within each of the 12 Soil Landscape Zones. We refer to these more finely discriminated units as sub-associations.

The objectives of this project entitled *Poorly conserved and potentially threatened vegetation types in the Western Australian wheatbelt* are:

- to identify vegetation types which are currently not represented or poorly represented in the conservation reserve system in the Agricultural Region;
- to identify those at greatest risk from rising water tables; and
- to identify remnant examples for on-ground inspection and possible acquisition, covenanting etc.

Four major outputs were envisaged:

- a list of the vegetation types of the South West Agricultural Region, derived from the 1:250,000 vegetation map database, and more finely discriminated where possible using Vegetation System boundaries and soil landform data;

- an assessment of the present reservation status of each vegetation type, derived by intersecting the vegetation map data with the cadastral data for the CALM estate;
- an assessment of potential threat to each vegetation type posed by rising water tables and salinisation, determined by intersecting the vegetation map with the digital elevation model (DEM) for the Region; and
- maps showing the patches of remnant vegetation within the distribution of each of those vegetation types which is under-represented in the CALM estate.

METHODS

The study area

This project focuses on that part of the South West Agricultural Region that is commonly known as the wheatbelt. In this part of the Region, the native vegetation has been extensively cleared for agriculture and, as a consequence of the clearing, there are problems of rising groundwater and the related problem of salinisation. The study area is the 12 major Soil Landscape Zones within the South West Agricultural Region where dryland salinity is considered to be a major problem. It excludes coastal zones which have maritime saline influences (Figure 1).

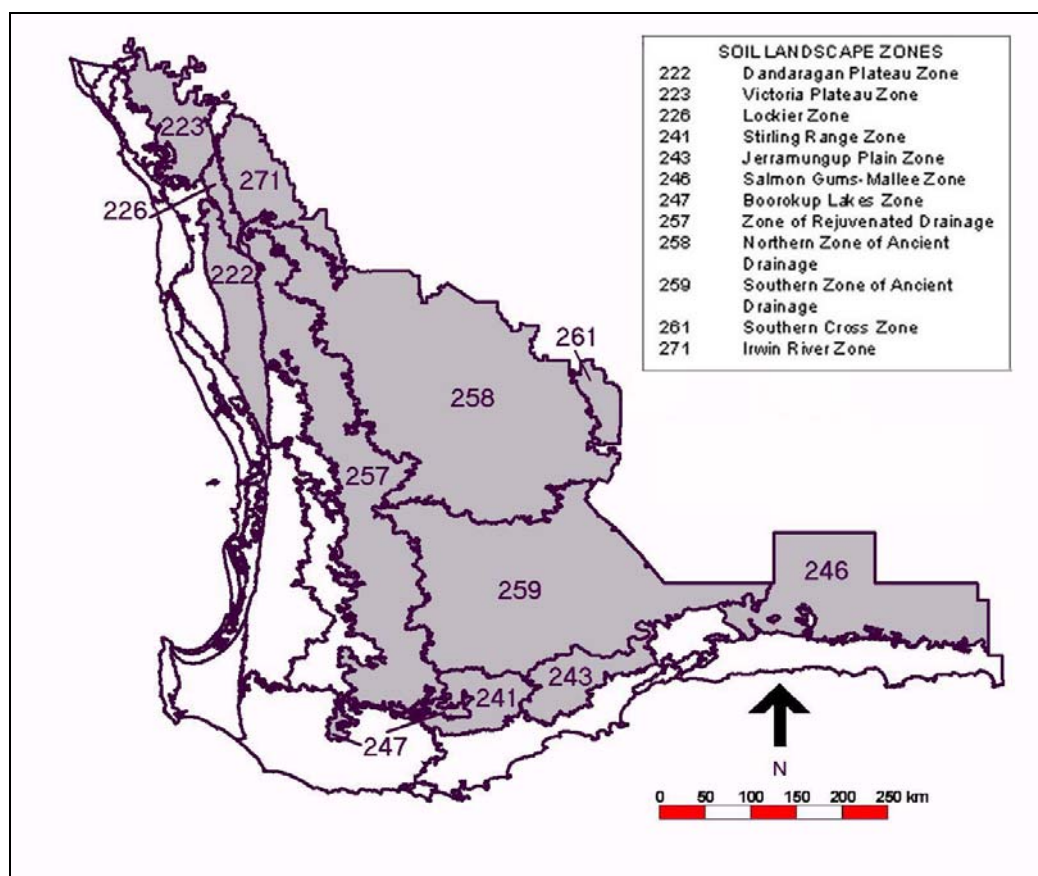


Figure 1. Map of the study area (shaded) within the South West Agricultural Region as defined by Soil Landscape Zones, showing the 12 Zones used to sub-divide the Vegetation Associations.

The data sets

Vegetation type and pre-European extent

The vegetation map database for Western Australia developed over the past 14 years is described in Hopkins *et al.* (1996), Hopkins *et al.* (in press), and Beard *et al.* (in press). In summary, the data set is based on the 1:250,000 scale mapping by J.S. Beard for the State, except the south west corner which was mapped by A.J.M. Hopkins in 1998/99. The primary vegetation units are vegetation associations *sensu* Beard and Webb (1974), but are equivalent to the sub-associations of the National Vegetation Information System (ERIN 1999). The individual polygons of each vegetation association have been captured digitally and attributed with data characterising the vegetation. It is being worked into a seamless coverage for the State. This data set is considered to best reflect pre-European vegetation patterns.

Vegetation sub-associations

The vegetation association data were intersected with the linework defining the 12 Soil Landscape Zones to produce units that we refer to here as sub-associations. The polygons of these sub-associations were then attributed with the details of Zone in addition to the association-level description. For example, the vegetation association e_{5,6}Mi Medium woodland; York gum (*E. loxophleba*) & wandoo (*E. wandoo*) (Vegetation Association Code No 7) fell into three Zones: the Zone of Rejuvenated Drainage (ZRD), the Northern Zone of Ancient Drainage and the Southern Zone of Ancient Drainage. The intersection gave rise to three sub-associations: e_{5,6}Mi/ZRD, e_{5,6}Mi/NZAD and e_{5,6}Mi/SZAD.

Present vegetation extent

Since European settlement, much of the original vegetation of the south west of Western Australia has been cleared for agriculture, resulting in a loss of biodiversity. Within the South West Agricultural Region, most of the native vegetation now exists only as isolated remnants, many of which occur on privately-owned land. A spatial database of present vegetation extent in the Intensive Land-Use Zone (South West Agricultural Region) is currently being developed for National Land and Water Resources Audit project DAW27 (Land-use and vegetation mapping: Western Australia). The data set builds on the work done for the Australian Land Cover Change Project (Barson *et al.* 2000) using the recent aerial photo coverage converted to digital orthophoto coverage (Beeston, Hopkins and Shepherd in preparation). The polygons of remnant vegetation are attributed with vegetation type data derived from the pre-European vegetation map coverage described above.

The area of present extent of each vegetation association for the whole of Western Australia was calculated as the pre European extent in the whole of Western Australia minus pre-European extent in the South West Agricultural Region plus the present extent in South West Agricultural Region.

Soil landscapes

Over south-western Australia, draft soil landscape mapping at the systems level is available (N Schoknecht, Agriculture WA personal communication, June 2000). These soil landscape systems have been proportionally attributed with WA Soil Groups (Schoknecht 1999). From this it was possible to identify those systems in which saline soils (Salt Lake Soils and Saline Wet Soils) are apparently present. For the current purpose, each system was assigned to one of four classes according to the percentage of these saline soils attributed (0%, 0-10%, 10-30% and >30%). Only soil

landscapes with saline components of 10 - 30% and >30% have been use in the anaysis for this project..

The soil landscapes have been grouped into Soil Landscape Zones (Figure 1): these have been used to define the study area, and to generate the sub-associations (see above). Details of the 12 Soil Landscape Zones are included as Appendix I.

Conservation estate

The Department of Conservation and Land Management holds an up-to-date set of cadastral data for all lands and waters managed by the Department in a dedicated database – TENIS, CALM's Tenure Information System (Bowen 1995). A comprehensive database sits behind the cadastra – this contains information on vesting, purpose and classification, and allows each parcel of land to be assigned to an IUCN reserve category (see IUCN 1994). This database was used for the conservation assessments reported here.

Analyses

The vegetation type and extent, soils and CALM-managed lands data are held as vector data, feature coded and attributed in an ORACLE database linked to Integraph's Modular GIS Environment (MGE). The sub-association data set generated through this project was also in this form.

In order to perform analyses, it is necessary to create a topology. This topological file contains the mathematical representations of the spatial relationships that exist between graphical features; it also contains the original pointer to the data linkages from the graphical features to the relational database.

Topology files of the four discrete, spatially co-registered area-themes, pre-European vegetation sub-associations, present vegetation extent, saline soils and cadastral boundaries of the CALM-managed estate, were built and those four themes were overlaid and intersected in pairs, using the Modular GIS Analysis (MGA) module of MGE to produce a further topological file describing the results of the intersection for example, the faces of vegetation units within the CALM-managed estate. The new topologies and the linked tables were used to generate a series of reports. The data from these reports were taken into a spreadsheet program for further sorting and minor computation. The maps presented in this report were prepared using Integraph's Geomedia software. This software was used to display the results of the analyses carried out in MGE, generate thematic maps and produce the mapping products included in this report.

RESULTS

The 236 vegetation associations reported in Part I of this project were subdivided into 459 vegetation sub-associations. These are listed in Table 1 ordered by the Vegetation Association Code No., as codes and as a full description. Further description of the soil zones is given in Appendix 1. Included in the list are a number of sparsely-vegetated units such as bare ground and granite rock that are considered to support unique vegetation but in relatively limited amounts. The sparsely-vegetated units are referred to as vegetation sub-associations for ease of discussion. It also includes some vegetation associations that are extensive outside the Agricultural Zone and only have a small area in the study area.

Also shown in Table 1 are the results of the intersection of pre-European vegetation type and extent with the present vegetation extent. One hundred and eighty-one vegetation sub-associations have <10% of their original extent remaining. Of these 28 have no remaining vegetation in these soil zones. An additional 174 vegetation sub-associations have $\geq 10\%$ but <30% of their original extent remaining. Three hundred and two vegetation sub-associations have less than 2,000 ha remaining in the South West Agricultural Region. These vegetation associations may occur outside the study area but in different soil zones or outside the agricultural clearing line. Many of these sub-associations are greatly reduced in extent. These vegetation sub-associations are coded with the letter a (<10%), b ($\geq 10\%$ but <30%) and/or c (<2000 ha) in the right column of the Table. There were no vegetation sub-association which could be coded with the letter d Code d signifying a unit with a present extent of > 50,000 ha.

Table 1. Pre-European and present extent of Vegetation Sub-associations in the South West Agricultural Region. Codes are a = vegetation sub-association with <10% of their original areal extent remaining, b = vegetation sub-association with <30% of their original areal extent remaining, c = vegetation association with <2,000 ha remaining in the Agricultural area.

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
3/222	e2,3Mc /DP	Medium forest; jarrah (E. marginata)-marri (E. calophylla)/Dandaragan Plateau Zone	3917	1744	44.52	c
3/247	e2,3Mc /B	Medium forest; jarrah (E. marginata)-marri (E. calophylla)/Boorokup Lakes Zone	18559	11124	59.94	
3/257	e2,3Mc /ZRD	Medium forest; jarrah (E. marginata)-marri (E. calophylla)/Zone of Rejuvenated Drainage	24473	7666	31.32	
4/222	e3,5Mi /DP	Medium woodland; marri (E. calophylla) & wandoo (E. wandoo)/Dandaragan Plateau Zone	6765	1554	22.97	b c
4/247	e3,5Mi /B	Medium woodland; marri (E. calophylla) & wandoo (E. wandoo)/Boorokup Lakes Zone	12877	6837	53.09	
4/257	e3,5Mi /ZRD	Medium woodland; marri (E. calophylla) & wandoo (E. wandoo)/Zone of Rejuvenated Drainage	394411	52422	13.29	b
5/257	e5,45Mi/ZRD	Medium woodland; wandoo (E. wandoo) & powderbark (E. accedens)/Zone of Rejuvenated Drainage	40472	22419	55.39	
5/259	e5,45Mi/SZAD	Medium woodland; wandoo (E. wandoo) & powderbark (E. accedens)/Southern Zone of Ancient Drainage	14	3	20.84	b c
7/222	e5,6Mi/DP	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Dandaragan Plateau Zone	17	2	11.94	b c
7/241	e5,6Mi/SR	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Stirling Range Zone	343	143	41.69	c
7/257	e5,6Mi/ZRD	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Zone of Rejuvenated Drainage	188930	20071	10.62	b
7/258	e5,6Mi/NZAD	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Northern Zone of Ancient Drainage	20653	738	3.57	a c
7/259	e5,6Mi/SZAD	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Southern Zone of Ancient Drainage	404	6	1.48	a c
8/243	e8,34Mi/JP	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Jerramungup Plain Zone	459	20	4.35	a c
8/257	e8,34Mi/ZRD	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Zone of Rejuvenated Drainage	41	5	12.31	b c
8/258	e8,34Mi/NZAD	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Northern Zone of Ancient Drainage	411894	25154	6.11	a
8/259	e8,34Mi/SZAD	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Southern Zone of Ancient Drainage	44297	2779	6.27	a
8/261	e8,34Mi/SC	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Southern Cross Zone	39722	1153	2.90	a c
9/246	e12,13Mi/SGM	Medium woodland; coral gum (E. toquata) & goldfields blackbutt (E. le soufii) (also some redwood (E. transcontinentalis) & merri (E. floctoniae))/Salmon Gums-Mallee Zone	38808	382	0.98	a c
10/246	e22Mi/SGM	Medium woodland; red mallee (E. oleosa group) group/Salmon Gums-Mallee Zone	48335	231	0.48	a c
13/257	e5Mr/ZRD	Medium open woodland; wandoo (E. wandoo)/Zone of Rejuvenated Drainage	5061	3720	73.50	

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
25/257	c5e6Li /ZRD	Low woodland; Allocasuarina huegeliana & York gum (E. loxophleba) /Zone of Rejuvenated Drainage	6632	747	11.26	b c
25/259	c5e6Li /SZAD	Low woodland; Allocasuarina huegeliana & York gum (E. loxophleba) /Southern Zone of Ancient Drainage	142	70	49.47	c
27/241	mLi/SR	Low woodland; paperbark (Melaleuca sp.)/Stirling Range Zone	45	35	77.13	c
27/247	mLi/B	Low woodland; paperbark (Melaleuca sp.)/Boorokup Lakes Zone	16772	10116	60.31	
27/257	mLi/ZRD	Low woodland; paperbark (Melaleuca sp.)/Zone of Rejuvenated Drainage	785	173	22.03	b c
31/222	e6Mr m5Sc/DP	Shrublands; Melaleuca thyoides thicket with scattered York gum (E. loxophleba)/Dandaragan Plateau Zone	2382	485	20.36	b c
31/257	e6Mr m5Sc/ZRD	Shrublands; Melaleuca thyoides thicket with scattered York gum (E. loxophleba)/Zone of Rejuvenated Drainage	251	13	5.19	a c
35/223	e6Mr a19Si /VP	Shrublands; jam (A. acuminata) scrub with scattered York gum (E. loxophleba)/Victoria Plateau Zone	19671	2780	14.13	b
36/223	acSc/VP	Shrublands; thicket, acacia-casuarina alliance /Victoria Plateau Zone	30198	1523	5.04	a c
36/258	acSc/NZAD	Shrublands; thicket, acacia-casuarina alliance /Northern Zone of Ancient Drainage	122262	18570	15.19	b
36/271	acSc/IR	Shrublands; thicket, acacia-casuarina alliance /Irwin River Zone	121	16	13.18	b c
37/222	mSc/DP	Shrublands; teatree thicket /Dandaragan Plateau Zone	1785	516	28.90	b c
37/257	mSc/ZRD	Shrublands; teatree thicket /Zone of Rejuvenated Drainage	531	252	47.50	c
37/258	mSc/NZAD	Shrublands; teatree thicket /Northern Zone of Ancient Drainage	319	18	5.65	a c
37/259	mSc/SZAD	Shrublands; teatree thicket /Southern Zone of Ancient Drainage	5943	944	15.89	b c
38/241	xSc/SR	Shrublands; thicket, mixed/Stirling Range Zone	2352	2324	98.80	
40/223	anSi/VP	Shrublands; acacia scrub, various species/Victoria Plateau Zone	1244	64	5.15	a c
40/271	anSi/IR	Shrublands; acacia scrub, various species/Irwin River Zone	1577	614	38.94	c
41/246	mSi/SGM	Shrublands; teatree scrub /Salmon Gums-Mallee Zone	5817	1267	21.78	b c
41/259	mSi/SZAD	Shrublands; teatree scrub /Southern Zone of Ancient Drainage	13895	4356	31.35	
47/241	e26SZc/SR	Shrublands; tallerack (E. tetragona) mallee-heath /Stirling Range Zone	27921	21834	78.20	
47/243	e26SZc/JP	Shrublands; tallerack (E. tetragona) mallee-heath /Jerramungup Plain Zone	100417	24954	24.85	b
47/246	e26SZc/SGM	Shrublands; tallerack (E. tetragona) mallee-heath /Salmon Gums-Mallee Zone	49013	8820	18.00	b
47/247	e26SZc/B	Shrublands; tallerack (E. tetragona) mallee-heath /Boorokup Lakes Zone	1581	270	17.08	b c
47/259	e26SZc/SZAD	Shrublands; tallerack (E. tetragona) mallee-heath /Southern Zone of Ancient Drainage	71456	22500	31.49	
48/226	xSZc/L	Shrublands; scrub-heath /Lockier Zone	1355	24	1.77	a c
48/257	xSZc/ZRD	Shrublands; scrub-heath /Zone of Rejuvenated Drainage	1334	298	22.34	b c
48/259	xSZc/SZAD	Shrublands; scrub-heath /Southern Zone of Ancient Drainage	655	293	44.74	c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
49/222	xZc/DP	Shrublands; mixed heath /Dandaragan Plateau Zone	18270	5994	32.81	
49/223	xZc/VP	Shrublands; mixed heath /Victoria Plateau Zone	2974	412	13.85	b c
49/257	xZc/ZRD	Shrublands; mixed heath /Zone of Rejuvenated Drainage	1317	1047	79.49	c
51/246	xGc/SGM	Sedgeland; reed swamps, occasionally with heath/Salmon Gums-Mallee Zone	822	360	43.82	c
51/257	xGc/ZRD	Sedgeland; reed swamps, occasionally with heath/Zone of Rejuvenated Drainage	72	53	73.82	c
123/258	c2Lr k1,2Ci/NZAD	Succulent steppe with open low woodland; sheoak over saltbush & bluebush /Northern Zone of Ancient Drainage	36	0	0.00	a c
125/222	sl/DP	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Dandaragan Plateau Zone	2168	481	22.19	b c
125/226	sl/L	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Lockier Zone	639	87	13.61	b c
125/246	sl/SGM	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Salmon Gums-Mallee Zone	77137	404	0.52	a c
125/247	sl/B	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Boorokup Lakes Zone	3891	191	4.91	a c
125/257	sl/ZRD	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Zone of Rejuvenated Drainage	7320	472	6.45	a c
125/258	sl/NZAD	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Northern Zone of Ancient Drainage	116248	1717	1.48	a c
125/259	sl/SZAD	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Southern Zone of Ancient Drainage	98576	6393	6.49	a
125/261	sl/SC	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Southern Cross Zone	3745	224	5.98	a c
125/271	sl/IR	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Irwin River Zone	2501	207	8.28	a c
126/241	fl/SR	Bare and poorly vegetated areas; freshwater lakes /Stirling Range Zone	84	66	78.57	c
126/243	fl/JP	Bare and poorly vegetated areas; freshwater lakes /Jerramungup Plain Zone	49	14	28.40	b c
126/247	fl/B	Bare and poorly vegetated areas; freshwater lakes /Boorokup Lakes Zone	6721	1487	22.13	b c
126/257	fl/ZRD	Bare and poorly vegetated areas; freshwater lakes /Zone of Rejuvenated Drainage	38	16	42.05	c
128/243	r/JP	Bare and poorly vegetated areas; rock outcrops/Jerramungup Plain Zone	238	238	100.00	c
128/246	r/SGM	Bare and poorly vegetated areas; rock outcrops/Salmon Gums-Mallee Zone	12048	1383	11.48	b c
128/257	r/ZRD	Bare and poorly vegetated areas; rock outcrops/Zone of Rejuvenated Drainage	5440	1631	29.98	b c
128/258	r/NZAD	Bare and poorly vegetated areas; rock outcrops/Northern Zone of Ancient Drainage	33699	13035	38.68	
128/259	r/SZAD	Bare and poorly vegetated areas; rock outcrops/Southern Zone of Ancient Drainage	25722	7783	30.26	
128/261	r/SC	Bare and poorly vegetated areas; rock outcrops/Southern Cross Zone	283	104	36.77	c
128/271	r/IR	Bare and poorly vegetated areas; rock outcrops/Irwin River Zone	138	13	9.43	a c
131/258	e8,34Mi/e10,27Si/NZAD	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) / Shrublands; mallee scrub, redwood (E. transcontinentalis) & balck marlock (E. redunca)/Northern Zone of Ancient Drainage	37230	1817	4.88	a c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
131/259	e8,34Mi/e10,27Si/SZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & gimlet (<i>E. salubris</i>) / Shrublands; mallee scrub, redwood (<i>E. transcontinentalis</i>) & balck marlock (<i>E. redunca</i>)/Southern Zone of Ancient Drainage	160840	9603	5.97	a
141/258	e6,8,34Mi/NZAD	Medium woodland; York gum (<i>E. loxophleba</i>), salmon gum (<i>E. salmonophloia</i>) & gimlet (<i>E. salubris</i>) /Northern Zone of Ancient Drainage	365797	11243	3.07	a
141/259	e6,8,34Mi/SZAD	Medium woodland; York gum (<i>E. loxophleba</i>), salmon gum (<i>E. salmonophloia</i>) & gimlet (<i>E. salubris</i>) /Southern Zone of Ancient Drainage	184	26	14.10	b c
142/222	e6,8Mi/DP	Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>)/Dandaragan Plateau Zone	2805	763	27.20	b c
142/223	e6,8Mi/VP	Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>)/Victoria Plateau Zone	2238	73	3.26	a c
142/226	e6,8Mi/L	Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>)/Lockier Zone	23425	1936	8.26	a c
142/257	e6,8Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>)/Zone of Rejuvenated Drainage	349171	16535	4.74	a
142/258	e6,8Mi/NZAD	Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>)/Northern Zone of Ancient Drainage	283266	13354	4.71	a
142/259	e6,8Mi/SZAD	Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>)/Southern Zone of Ancient Drainage	13742	901	6.56	a c
142/271	e6,8Mi/IR	Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>)/Irwin River Zone	69612	4155	5.97	a
145/258	e6,8Mi/amcSc/NZAD	Mosaic: Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>) / Shrublands; thicket, acacia-casuarina-melaleuca alliance/Northern Zone of Ancient Drainage	8024	406	5.06	a c
145/271	e6,8Mi/amcSc/IR	Mosaic: Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>) / Shrublands; thicket, acacia-casuarina-melaleuca alliance/Irwin River Zone	107	0	0.00	a c
147/258	aSi k1Ci/NZAD	Succulent steppe with scrub; acacia species over saltbush/Northern Zone of Ancient Drainage	4702	0	0.00	a c
147/261	aSi k1Ci/SC	Succulent steppe with scrub; acacia species over saltbush/Southern Cross Zone	208	0	0.00	a c
221/246	k1Ci/SGM	Succulent steppe; saltbush/Salmon Gums-Mallee Zone	3789	0	0.00	a c
221/258	k1Ci/NZAD	Succulent steppe; saltbush/Northern Zone of Ancient Drainage	557	65	11.66	b c
254/222	e5,45Lr m6Sc/DP	Shrublands; Melaleuca uncinata thicket with scattered wandoo (<i>E. wandoo</i>) and powderbark wandoo (<i>E. astringens</i>) /Dandaragan Plateau Zone	364	152	41.80	c
308/223	a8Sp/k1,2Ci/VP	Mosaic: Shrublands; <i>A. sclerosperma</i> sparse scrub / Succulent steppe; saltbush & bluebush/Victoria Plateau Zone	4335	68	1.57	a c
325/223	k1,3Ci/VP	Succulent steppe; saltbush & samphire/Victoria Plateau Zone	4395	519	11.81	b c
325/226	k1,3Ci/L	Succulent steppe; saltbush & samphire/Lockier Zone	73	0	0.00	a c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
325/258	k1,3Ci/NZAD	Succulent steppe; saltbush & samphire/Northern Zone of Ancient Drainage	3031	341	11.25	b c
351/223	e6,22Mr eaSi/VP	Shrublands; mallee & acacia scrub with scattered York gum (E. loxophleba) & red mallee (E. oleosa group)/Victoria Plateau Zone	8487	374	4.41	a c
352/222	e6Mi/DP	Medium woodland; York gum (E. loxophleba)/Dandaragan Plateau Zone	2498	727	29.10	b c
352/223	e6Mi/VP	Medium woodland; York gum (E. loxophleba)/Victoria Plateau Zone	7749	632	8.16	a c
352/226	e6Mi/L	Medium woodland; York gum (E. loxophleba)/Lockier Zone	2433	685	28.16	b c
352/241	e6Mi/SR	Medium woodland; York gum (E. loxophleba)/Stirling Range Zone	1190	265	22.26	b c
352/243	e6Mi/JP	Medium woodland; York gum (E. loxophleba)/Jerramungup Plain Zone	246	83	33.69	c
352/257	e6Mi/ZRD	Medium woodland; York gum (E. loxophleba)/Zone of Rejuvenated Drainage	383351	22194	5.79	a
352/258	e6Mi/NZAD	Medium woodland; York gum (E. loxophleba)/Northern Zone of Ancient Drainage	149791	7238	4.83	a
352/259	e6Mi/SZAD	Medium woodland; York gum (E. loxophleba)/Southern Zone of Ancient Drainage	2228	303	13.60	b c
352/271	e6Mi/IR	Medium woodland; York gum (E. loxophleba)/Irwin River Zone	141714	11209	7.91	a
353/223	e6Mr eaSi/VP	Shrublands; mallee & acacia scrub with scattered York gum (E. loxophleba)/Victoria Plateau Zone	71471	3444	4.82	a
353/226	e6Mr eaSi/L	Shrublands; mallee & acacia scrub with scattered York gum (E. loxophleba)/Lockier Zone	5471	133	2.43	a c
353/271	e6Mr eaSi/IR	Shrublands; mallee & acacia scrub with scattered York gum (E. loxophleba)/Irwin River Zone	1138	98	8.61	a c
354/222	e6Mr a19,23Si/DP	Shrublands; jam (A. acuminata) and A. rostellifera scrub with scattered York gum (E. loxophleba)/Dandaragan Plateau Zone	455	97	21.30	b c
354/223	e6Mr a19,23Si/VP	Shrublands; jam (A. acuminata) and A. rostellifera scrub with scattered York gum (E. loxophleba)/Victoria Plateau Zone	759	30	3.95	a c
354/226	e6Mr a19,23Si/L	Shrublands; jam (A. acuminata) and A. rostellifera scrub with scattered York gum (E. loxophleba)/Lockier Zone	78462	3819	4.87	a
354/271	e6Mr a19,23Si/IR	Shrublands; jam (A. acuminata) and A. rostellifera scrub with scattered York gum (E. loxophleba)/Irwin River Zone	3104	671	21.61	b c
355/271	e6,22Lr a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub with scattered York gum (E. loxophleba) & red mallee (E. oleosa group)/Irwin River Zone	2674	151	5.65	a c
356/258	eMr k1Ci/NZAD	Succulent steppe with open woodland; eucalypts over saltbush/Northern Zone of Ancient Drainage	3332	67	2.01	a c
358/271	a9,14Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & A. quadrimarginea on stony ridges/Irwin River Zone	272	179	65.81	c
364/223	ceLr a9Si/VP	Shrublands; bowgada (A. ramulosa-A.linophylla) scrub with scattered eucalypts & cypress pine (Callitris columellaris)/Victoria Plateau Zone	2659	0	0.00	a c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
365/271	e6,22Mr a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub with scattered York gum (E. loxophleba) & red mallee (E. oleosa group)/Irwin River Zone	3379	1098	32.49	c
372/223	x3SZc/acSc/VP	Mosaic: Shrublands; scrub-heath on deep sandy flats / Shrublands; thicket, acacia-casuarina alliance /Victoria Plateau Zone	60703	5741	9.46	a
374/271	e6Lr a9Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) scrub with scattered York gum (E. loxophleba) /Irwin River Zone	1989	173	8.70	a c
379/222	x4SZc/DP	Shrublands; scrub-heath on lateritic sandplain in the central Geraldton Sandplain Region/Dandaragan Plateau Zone	186739	11066	5.93	a
379/223	x4SZc/VP	Shrublands; scrub-heath on lateritic sandplain in the central Geraldton Sandplain Region/Victoria Plateau Zone	90328	8293	9.18	a
380/223	x3SZc/VP	Shrublands; scrub-heath on sandplain/Victoria Plateau Zone	174460	5166	2.96	a
380/226	x3SZc/L	Shrublands; scrub-heath on sandplain/Lockier Zone	18647	2169	11.63	b
380/243	x3SZc/JP	Shrublands; scrub-heath on sandplain/Jerramungup Plain Zone	1499	470	31.36	c
380/259	x3SZc/SZAD	Shrublands; scrub-heath on sandplain/Southern Zone of Ancient Drainage	31842	13844	43.48	
380/271	x3SZc/IR	Shrublands; scrub-heath on sandplain/Irwin River Zone	10325	543	5.26	a c
385/271	e6Mr a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub with scattered York gum (E. loxophleba)/Irwin River Zone	1281	20	1.56	a c
391/222	m6Sc/DP	Shrublands; Melaleuca uncinata thicket /Dandaragan Plateau Zone	2490	1389	55.79	c
392/222	m5Sc/DP	Shrublands; Melaleuca thyioides thicket /Dandaragan Plateau Zone	832	560	67.30	c
392/257	m5Sc/ZRD	Shrublands; Melaleuca thyioides thicket /Zone of Rejuvenated Drainage	455	169	37.11	c
392/258	m5Sc/NZAD	Shrublands; Melaleuca thyioides thicket /Northern Zone of Ancient Drainage	615	143	23.25	b c
392/271	m5Sc/IR	Shrublands; Melaleuca thyioides thicket /Irwin River Zone	330	3	0.91	a c
404/223	a9,20Si/VP	Shrublands; bowgada (A. ramulosa-A.linophylla) & A. murrayana scrub/Victoria Plateau Zone	3400	348	10.23	b c
407/257	c5Li a19Si/ZRD	Low woodland over scrub; Allocasuarina heugeliana overjam (A. acuminata) scrub/Zone of Rejuvenated Drainage	240	18	7.51	a c
408/223	x2SZc/VP	Shrublands; scrub-heath on coastal association, yellow sandplain/Victoria Plateau Zone	96973	3984	4.11	a
408/223	x2SZc/VP	Shrublands; scrub-heath on coastal association, yellow sandplain/Victoria Plateau Zone	96973	3984	4.11	a
412/223	mSi k3Ci/VP	Succulent steppe with scrub; teatree (Melaleuca thyioides?) over samphire /Victoria Plateau Zone	4076	374	9.18	a c
412/271	mSi k3Ci/IR	Succulent steppe with scrub; teatree (Melaleuca thyioides?) over samphire /Irwin River Zone	305	16	5.25	a c
413/223	a33Sc/VP	Shrublands; A. neurophylla & A. species thicket/Victoria Plateau Zone	4771	268	5.62	a c
413/246	a33Sc/SGM	Shrublands; A. neurophylla & A. species thicket/Salmon Gums-Mallee Zone	1110	0	0.00	a c
413/258	a33Sc/NZAD	Shrublands; A. neurophylla & A. species thicket/Northern Zone of Ancient Drainage	711	79	11.10	b c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
419/271	a9,19m6Sc/IR	Shrublands; bowgada (A. ramulosa-A.linophylla),jam (A. acuminata) and Melaleuca uncinata thicket /Irwin River Zone	20495	2883	14.07	b
420/222	a9,19Si/DP	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub/Dandaragan Plateau Zone	50	0	0.00	a c
420/223	a9,19Si/VP	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub/Victoria Plateau Zone	1430	1120	78.32	c
420/226	a9,19Si/L	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub/Lockier Zone	2552	867	33.98	c
420/271	a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub/Irwin River Zone	32404	4146	12.79	b
435/257	a33,34,35Sc/ZRD	Shrublands; A. neurophylla, A. beauverdiana & A. resinomarginea thicket/Zone of Rejuvenated Drainage	604	85	14.08	b c
435/258	a33,34,35Sc/NZAD	Shrublands; A. neurophylla, A. beauverdiana & A. resinomarginea thicket/Northern Zone of Ancient Drainage	229931	14103	6.13	a
435/261	a33,34,35Sc/SC	Shrublands; A. neurophylla, A. beauverdiana & A. resinomarginea thicket/Southern Cross Zone	14430	2471	17.12	b
435/271	a33,34,35Sc/IR	Shrublands; A. neurophylla, A. beauverdiana & A. resinomarginea thicket/Irwin River Zone	73173	94	0.13	a c
437/258	anSc/NZAD	Shrublands; Mixed acacia thicket on sandplain/Northern Zone of Ancient Drainage	30959	4541	14.67	b
437/271	anSc/IR	Shrublands; Mixed acacia thicket on sandplain/Irwin River Zone	13034	2202	16.89	b
482/246	e11,22Mi/SGM	Medium woodland; merrit (E. floctoniae) & red mallee (E. oleosa group)/Salmon Gums-Mallee Zone	139317	11295	8.11	a
486/246	e8,22Mi/e15Si/SGM	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & red mallee (E. oleosa group) / Shrublands; mallee scrub E. eremophila /Salmon Gums-Mallee Zone	276598	27182	9.83	a
511/241	e8,9Mi/SR	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Stirling Range Zone	2493	456	18.29	b c
511/257	e8,9Mi/ZRD	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Zone of Rejuvenated Drainage	375	21	5.60	a c
511/258	e8,9Mi/NZAD	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Northern Zone of Ancient Drainage	71913	5023	6.98	a
511/259	e8,9Mi/SZAD	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Southern Zone of Ancient Drainage	114259	22246	19.47	b
511/261	e8,9Mi/SC	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Southern Cross Zone	2312	267	11.55	b c
512/246	e15,32Si/SGM	Shrublands; mallee scrub, E. eremophila & Forrest's marlock (E. forrestiana)/Salmon Gums-Mallee Zone	213327	34500	16.17	b
516/241	e27Si/SR	Shrublands; mallee scrub, balck marlock (E. redunca)/Stirling Range Zone	56017	3055	5.45	a
516/243	e27Si/JP	Shrublands; mallee scrub, balck marlock (E. redunca)/Jerramungup Plain Zone	59652	40450	67.81	

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
516/246	e27Si/SGM	Shrublands; mallee scrub, balck marlock (E. redunca)/Salmon Gums-Mallee Zone	163600	26257	16.05	b
516/247	e27Si/B	Shrublands; mallee scrub, balck marlock (E. redunca)/Boorokup Lakes Zone	12516	1371	10.95	b c
516/257	e27Si/ZRD	Shrublands; mallee scrub, balck marlock (E. redunca)/Zone of Rejuvenated Drainage	960	52	5.42	a c
516/258	e27Si/NZAD	Shrublands; mallee scrub, balck marlock (E. redunca)/Northern Zone of Ancient Drainage	50280	6029	11.99	b
516/259	e27Si/SZAD	Shrublands; mallee scrub, balck marlock (E. redunca)/Southern Zone of Ancient Drainage	488754	80248	16.42	b
518/246	e11,12Mi/e15Si/SGM	Mosaic: Medium woodland; merri (E. floetoniae) & coral gum (E. toquata) / Shrublands; mallee scrub E. eremophila /Salmon Gums-Mallee Zone	24739	0	0.00	a c
519/241	e15Si/SR	Shrublands; mallee scrub, E. eremophila/Stirling Range Zone	11374	481	4.23	a c
519/243	e15Si/JP	Shrublands; mallee scrub, E. eremophila/Jerramungup Plain Zone	131074	26163	19.96	b
519/246	e15Si/SGM	Shrublands; mallee scrub, E. eremophila/Salmon Gums-Mallee Zone	428589	25373	5.92	a
519/258	e15Si/NZAD	Shrublands; mallee scrub, E. eremophila/Northern Zone of Ancient Drainage	4673	528	11.30	b c
519/259	e15Si/SZAD	Shrublands; mallee scrub, E. eremophila/Southern Zone of Ancient Drainage	779240	200969	25.79	b
520/261	a14Sc/SC	Shrublands; A. quadrimarginea thicket/Southern Cross Zone	135	0	0.00	a c
521/246	e8,22Mi/SGM	Medium woodland; salmon gum (E. salmonophloia) & red mallee (E. oleosa group)/Salmon Gums-Mallee Zone	6514	0	0.00	a c
522/246	e10,11Mi/SGM	Medium woodland; redwood (E. transcontinentalis) & merri (E. floetoniae)/Salmon Gums-Mallee Zone	35319	0	0.00	a c
524/246	e14,22Mi/SGM	Medium woodland; Dundas blackbutt (E. dundasii) & red mallee (E. oleosa group)/Salmon Gums-Mallee Zone	2186	0	0.00	a c
536/258	e9,35Mi/NZAD	Medium woodland; morrell (E. longicornis) & rough fruited mallee (E. corrugata)/Northern Zone of Ancient Drainage	11470	3986	34.75	
536/261	e9,35Mi/SC	Medium woodland; morrell (E. longicornis) & rough fruited mallee (E. corrugata)/Southern Cross Zone	2308	0	0.00	a c
537/261	e9Mi/SC	Medium woodland; morrell (E. longicornis) (E. longicornis)/Southern Cross Zone	60	0	0.00	a c
538/258	a15Si/NZAD	Shrublands; A. brachystachya scrub/Northern Zone of Ancient Drainage	6586	0	0.00	a c
538/261	a15Si/SC	Shrublands; A. brachystachya scrub/Southern Cross Zone	22	0	0.00	a c
551/226	c3Sc/L	Shrublands; Allocasuarina campestris thicket /Lockier Zone	402	71	17.65	b c
551/246	c3Sc/SGM	Shrublands; Allocasuarina campestris thicket /Salmon Gums-Mallee Zone	5138	0	0.00	a c
551/257	c3Sc/ZRD	Shrublands; Allocasuarina campestris thicket /Zone of Rejuvenated Drainage	57250	7599	13.27	b
551/258	c3Sc/NZAD	Shrublands; Allocasuarina campestris thicket /Northern Zone of Ancient Drainage	181850	28564	15.71	b
551/259	c3Sc/SZAD	Shrublands; Allocasuarina campestris thicket /Southern Zone of Ancient Drainage	1170	297	25.39	b c
551/271	c3Sc/IR	Shrublands; Allocasuarina campestris thicket /Irwin River Zone	34892	3505	10.05	b

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
552/246	c4Sc/SGM	Shrublands; Casuarina acutivalvus & calothamnus (also melaleuca) thicket on greenstone hills/Salmon Gums-Mallee Zone	2424	1086	44.81	c
552/258	c4Sc/NZAD	Shrublands; Casuarina acutivalvus & calothamnus (also melaleuca) thicket on greenstone hills/Northern Zone of Ancient Drainage	171	121	70.64	c
552/259	c4Sc/SZAD	Shrublands; Casuarina acutivalvus & calothamnus (also melaleuca) thicket on greenstone hills/Southern Zone of Ancient Drainage	575	83	14.44	b c
631/222	e6Mi m5Sc k3Ci/DP	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Dandaragan Plateau Zone	1832	958	52.31	c
631/226	e6Mi m5Sc k3Ci/L	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Lockier Zone	1310	102	7.78	a c
631/257	e6Mi m5Sc k3Ci/ZRD	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Zone of Rejuvenated Drainage	13271	397	2.99	a c
631/258	e6Mi m5Sc k3Ci/NZAD	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Northern Zone of Ancient Drainage	45646	4321	9.47	a
631/271	e6Mi m5Sc k3Ci/IR	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Irwin River Zone	27258	1635	6.00	a c
675/223	mhSc/VP	Shrublands; mixed thicket (melaleuca & hakea?)/Victoria Plateau Zone	759	304	40.04	c
676/258	k3Ci/NZAD	Succulent steppe; samphire/Northern Zone of Ancient Drainage	12103	180	1.49	a c
676/259	k3Ci/SZAD	Succulent steppe; samphire/Southern Zone of Ancient Drainage	2140	42	1.96	a c
676/271	k3Ci/IR	Succulent steppe; samphire/Irwin River Zone	2280	249	10.92	b c
684/226	e6Mr a19Si/c3Sc/L	Mosaic: Shrublands; Shrublands;jam (A. acuminata) scrub with scattered York gum (E. loxophleba) in the valleys / Allocasuarina campestris thicket /Lockier Zone	1192	500	41.95	c
684/271	e6Mr a19Si/c3Sc/IR	Mosaic: Shrublands; Shrublands;jam (A. acuminata) scrub with scattered York gum (E. loxophleba) in the valleys / Allocasuarina campestris thicket /Irwin River Zone	125990	29089	23.09	b
686/271	e6,22Mi/IR	Medium woodland; York gum (E. loxophleba) & red mallee (E. oleosa group)/Irwin River Zone	5890	953	16.18	b c
687/223	e6c5Mr a9,19Si/VP	Shrublands; bowgada (A. ramulosa-A.linophylla) &jam (A. acuminata) scrub with scattered Allocasuarina heugelliana & York gum (E. loxophleba)/Victoria Plateau Zone	16584	2322	14.00	b
687/271	e6c5Mr a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) &jam (A. acuminata) scrub with scattered Allocasuarina heugelliana & York gum (E. loxophleba)/Irwin River Zone	554	48	8.67	a c
691/222	edSc/DP	Shrublands; Dryandra quercifolia & Eucalyptus spp. thicket /Dandaragan Plateau Zone	2670	66	2.47	a c
691/226	edSc/L	Shrublands; Dryandra quercifolia & Eucalyptus spp. thicket /Lockier Zone	7430	720	9.69	a c
692/271	cmSc/IR	Shrublands; casuarina & melaleuca thicket/Irwin River Zone	2918	1948	66.75	c
693/271	c5Li eaSi/c3Sc/IR	Mosaic: Low woodland: Allocasuarina heugelliana over mallee and acacia scrub / Allocasuarina campestris thicket /Irwin River Zone	4377	3106	70.96	

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
694/222	x8SZc/DP	Shrublands; scrub-heath on yellow sandplain banksia-xyloelum alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Dandaragan Plateau Zone	56957	42688	74.95	
694/226	x8SZc/L	Shrublands; scrub-heath on yellow sandplain banksia-xyloelum alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Lockier Zone	1404	33	2.35	a c
694/257	x8SZc/ZRD	Shrublands; scrub-heath on yellow sandplain banksia-xyloelum alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Zone of Rejuvenated Drainage	204250	10083	4.94	a
694/258	x8SZc/NZAD	Shrublands; scrub-heath on yellow sandplain banksia-xyloelum alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Northern Zone of Ancient Drainage	86278	11679	13.54	b
695/257	c3Si /ZRD	Shrublands; Allocasuarina campestris scrub /Zone of Rejuvenated Drainage	636	62	9.74	a c
695/258	c3Si /NZAD	Shrublands; Allocasuarina campestris scrub /Northern Zone of Ancient Drainage	31	0	0.00	a c
696/222	e5,45Li cdSc/DP	Shrublands; casuarina & dryandra thicket with wandoo (E. wandoo) and powderbark wandoo (E. astringens) /Dandaragan Plateau Zone	394	253	64.20	c
696/226	e5,45Li cdSc/L	Shrublands; casuarina & dryandra thicket with wandoo (E. wandoo) and powderbark wandoo (E. astringens) /Lockier Zone	2695	968	35.92	c
697/222	x7SZc/DP	Shrublands; scrub-heath on lateritic sandplain in the southern Geraldton Sandplain Region/Dandaragan Plateau Zone	47976	6914	14.41	b
697/257	x7SZc/ZRD	Shrublands; scrub-heath on lateritic sandplain in the southern Geraldton Sandplain Region/Zone of Rejuvenated Drainage	23791	5023	21.11	b
698/222	x9SZc/e5,45Lp/DP	Mosaic: Shrublands; scrub-heath Dryandra-Calothamnus assoc. with B. prionotes on limestone in the northern Swan Region / Sparse low woodland; wandoo (E. wandoo) & powderbark wandoo (E. accedens)/Dandaragan Plateau Zone	3516	702	19.96	b c
698/226	x9SZc/e5,45Lp/L	Mosaic: Shrublands; scrub-heath Dryandra-Calothamnus assoc. with B. prionotes on limestone in the northern Swan Region / Sparse low woodland; wandoo (E. wandoo) & powderbark wandoo (E. accedens)/Lockier Zone	7955	884	11.11	b c
924/246	e15,22Si/SGM	Shrublands; mallee scrub, E. eremophila & red mallee (E. oleosa group)/Salmon Gums-Mallee Zone	81464	15097	18.53	b
925/246	e22Si/SGM	Shrublands; mallee scrub, red mallee (E. oleosa group)/Salmon Gums-Mallee Zone	5159	3499	67.82	
929/246	e33Lc/SGM	Low forest; moort (E. platypus)/Salmon Gums-Mallee Zone	852	330	38.74	c
929/259	e33Lc/SZAD	Low forest; moort (E. platypus)/Southern Zone of Ancient Drainage	841	297	35.32	c
931/241	e7Mi/SR	Medium woodland; yate (E. occidentalis)/Stirling Range Zone	6490	1912	29.46	b c
931/243	e7Mi/JP	Medium woodland; yate (E. occidentalis)/Jerramungup Plain Zone	7907	3709	46.91	
931/246	e7Mi/SGM	Medium woodland; yate (E. occidentalis)/Salmon Gums-Mallee Zone	604	378	62.54	c
931/247	e7Mi/B	Medium woodland; yate (E. occidentalis)/Boorokup Lakes Zone	733	259	35.34	c
931/257	e7Mi/ZRD	Medium woodland; yate (E. occidentalis)/Zone of Rejuvenated Drainage	1542	499	32.37	c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
931/259	e7Mi/SZAD	Medium woodland; yate (<i>E. occidentalis</i>)/Southern Zone of Ancient Drainage	3488	1021	29.27	b c
934/241	e28Si/SR	Shrublands; mallee scrub <i>E. nutans</i> /Stirling Range Zone	1022	324	31.70	c
934/246	e28Si/SGM	Shrublands; mallee scrub <i>E. nutans</i> /Salmon Gums-Mallee Zone	159	108	67.74	c
934/259	e28Si/SZAD	Shrublands; mallee scrub <i>E. nutans</i> /Southern Zone of Ancient Drainage	274	125	45.58	c
936/246	e8Mi/SGM	Medium woodland; salmon gum (<i>E. salmonophloia</i>) /Salmon Gums-Mallee Zone	38047	120	0.32	a c
936/257	e8Mi/ZRD	Medium woodland; salmon gum (<i>E. salmonophloia</i>) /Zone of Rejuvenated Drainage	1394	260	18.66	b c
936/258	e8Mi/NZAD	Medium woodland; salmon gum (<i>E. salmonophloia</i>) /Northern Zone of Ancient Drainage	1753	137	7.82	a c
936/259	e8Mi/SZAD	Medium woodland; salmon gum (<i>E. salmonophloia</i>) /Southern Zone of Ancient Drainage	34862	9627	27.61	b
938/241	e6,7Mi/SR	Medium woodland; York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Stirling Range Zone	68834	12727	18.49	b
938/257	e6,7Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Zone of Rejuvenated Drainage	1132	381	33.65	c
938/259	e6,7Mi/SZAD	Medium woodland; York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Southern Zone of Ancient Drainage	95	45	47.58	c
939/259	e6Mi mSp k3Ci/SZAD	Succulent steppe with woodland; yorkgum, sparse teatree scrub & samphire/Southern Zone of Ancient Drainage	116	10	8.63	a c
940/241	e27Si/e26SZc/SR	Mosaic: Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>) / Shrublands; tallerack (<i>E. tetragona</i>) mallee-heath /Stirling Range Zone	27778	4539	16.34	b
940/243	e27Si/e26SZc/JP	Mosaic: Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>) / Shrublands; tallerack (<i>E. tetragona</i>) mallee-heath /Jerramungup Plain Zone	202668	77995	38.48	
940/259	e27Si/e26SZc/SZAD	Mosaic: Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>) / Shrublands; tallerack (<i>E. tetragona</i>) mallee-heath /Southern Zone of Ancient Drainage	2856	204	7.14	a c
941/259	e8,9Mi/e10Si/SZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Shrublands; mallee scrub, redwood (<i>E. transcontinentalis</i>) /Southern Zone of Ancient Drainage	23560	4005	17.00	b
942/243	e7Mi/e27Si/JP	Mosaic: Medium woodland; yate (<i>E. occidentalis</i>) / Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>)/Jerramungup Plain Zone	33483	8455	25.25	b
942/259	e7Mi/e27Si/SZAD	Mosaic: Medium woodland; yate (<i>E. occidentalis</i>) / Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>)/Southern Zone of Ancient Drainage	62	0	0.00	a c
945/258	e8Mi/e10,27Si/NZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) / Shrublands; mallee scrub, redwood (<i>E. transcontinentalis</i>) & black marlock (<i>E. redunca</i>) /Northern Zone of Ancient Drainage	51538	1631	3.16	a c
945/259	e8Mi/e10,27Si/SZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) / Shrublands; mallee scrub, redwood (<i>E. transcontinentalis</i>) & black marlock (<i>E. redunca</i>) /Southern Zone of Ancient Drainage	124671	10565	8.47	a
946/222	e5Mi/DP	Medium woodland; wandoo (<i>E. wandoo</i>)/Dandaragan Plateau Zone	136	59	43.31	c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
946/257	e5Mi/ZRD	Medium woodland; wandoo (E. wandoo)/Zone of Rejuvenated Drainage	61960	9830	15.87	b
946/258	e5Mi/NZAD	Medium woodland; wandoo (E. wandoo)/Northern Zone of Ancient Drainage	5864	1274	21.73	b c
946/259	e5Mi/SZAD	Medium woodland; wandoo (E. wandoo)/Southern Zone of Ancient Drainage	5942	356	5.99	a c
947/241	e64,45Mi/SR	Medium woodland; powderbark (E. accedens) & mallet (E. astringens)/Stirling Range Zone	86	0	0.00	a c
947/257	e64,45Mi/ZRD	Medium woodland; powderbark (E. accedens) & mallet (E. astringens)/Zone of Rejuvenated Drainage	30626	11103	36.25	
947/259	e64,45Mi/SZAD	Medium woodland; powderbark (E. accedens) & mallet (E. astringens)/Southern Zone of Ancient Drainage	1115	310	27.80	b c
948/257	e6,18Mr/ZRD	Medium woodland; York gum (E. loxophleba) & river gum (E. rudis or E. camaldulensis) /Zone of Rejuvenated Drainage	657	107	16.29	b c
948/259	e6,18Mr/SZAD	Medium woodland; York gum (E. loxophleba) & river gum (E. rudis or E. camaldulensis) /Southern Zone of Ancient Drainage	793	37	4.67	a c
949/222	bLi/DP	Low woodland; banksia/Dandaragan Plateau Zone	34334	17000	49.51	
949/257	bLi/ZRD	Low woodland; banksia/Zone of Rejuvenated Drainage	4798	836	17.42	b c
949/258	bLi/NZAD	Low woodland; banksia/Northern Zone of Ancient Drainage	81	13	15.97	b c
949/259	bLi/SZAD	Low woodland; banksia/Southern Zone of Ancient Drainage	1035	95	9.18	a c
950/257	c6Mi/ZRD	Medium woodland; Casuarina obesa /Zone of Rejuvenated Drainage	373	160	42.85	c
950/258	c6Mi/NZAD	Medium woodland; Casuarina obesa /Northern Zone of Ancient Drainage	132	3	2.27	a c
951/257	e6,66Mp mSc k3Ci/ZRD	Succulent steppe with sparse woodland & thicket; York gum (E. loxophleba) & Kondinin blackbutt over teatree thicket & samphire/Zone of Rejuvenated Drainage	34	1	2.93	a c
951/258	e6,66Mp mSc k3Ci/NZAD	Succulent steppe with sparse woodland & thicket; York gum (E. loxophleba) & Kondinin blackbutt over teatree thicket & samphire/Northern Zone of Ancient Drainage	27284	1726	6.33	a c
951/259	e6,66Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; York gum (E. loxophleba) & Kondinin blackbutt over teatree thicket & samphire/Southern Zone of Ancient Drainage	257	0	0.00	a c
952/222	dZc /DP	Shrublands; dryandra heath/Dandaragan Plateau Zone	39659	3878	9.78	a
952/257	dZc /ZRD	Shrublands; dryandra heath/Zone of Rejuvenated Drainage	4425	1989	44.95	c
952/259	dZc /SZAD	Shrublands; dryandra heath/Southern Zone of Ancient Drainage	15282	3894	25.48	b
953/257	mSc k3Ci/ZRD	Succulent steppe with thicket; teatree over samphire /Zone of Rejuvenated Drainage	103	17	16.47	b c
953/259	mSc k3Ci/SZAD	Succulent steppe with thicket; teatree over samphire /Southern Zone of Ancient Drainage	9916	901	9.09	a c
954/257	a19c5Si/ZRD	Shrublands; thicket, jam (A. acuminata) & Allocasuarina huegeliana/Zone of Rejuvenated Drainage	386	22	5.70	a c
954/258	a19c5Si/NZAD	Shrublands; thicket,jam (A. acuminata) & Allocasuarina huegeliana/Northern Zone of Ancient Drainage	5445	1137	20.88	b c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
955/258	x10SZc/c3Sc/NZAD	Mosaic: Shrublands; scrub-heath (SE Avon)/ Shrublands; Allocasuarina campestris thicket /Northern Zone of Ancient Drainage	84354	4966	5.89	a
955/259	x10SZc/c3Sc/SZAD	Mosaic: Shrublands; scrub-heath (SE Avon)/ Shrublands; Allocasuarina campestris thicket /Southern Zone of Ancient Drainage	53892	5468	10.15	b
956/258	e5Mr c3Sc/NZAD	Shrublands; Allocasuarina campestris thicket with scattered wandoo (E. wandoo)/Northern Zone of Ancient Drainage	25293	2715	10.73	b
956/259	e5Mr c3Sc/SZAD	Shrublands; Allocasuarina campestris thicket with scattered wandoo (E. wandoo)/Southern Zone of Ancient Drainage	14	0	0.00	a c
959/258	e36,66Mp mSc k3Ci/NZAD	Succulent steppe with sparse woodland & thicket; yorrell (E.gracilis) & Kondinin blackbutt over teatree & samphire/Northern Zone of Ancient Drainage	6155	1015	16.49	b c
959/259	e36,66Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; yorrell (E.gracilis) & Kondinin blackbutt over teatree & samphire/Southern Zone of Ancient Drainage	7054	626	8.87	a c
960/258	e10,27Si/NZAD	Shrublands; mallee scrub, redwood (E. transcontinentalis) & balck marlock (E. redunca)/Northern Zone of Ancient Drainage	51550	5194	10.08	b
960/259	e10,27Si/SZAD	Shrublands; mallee scrub, redwood (E. transcontinentalis) & balck marlock (E. redunca)/Southern Zone of Ancient Drainage	107615	9183	8.53	a
961/258	x10SZc/c4Sc/NZAD	Mosaic: Shrublands; scrub-heath (SE Avon)/ Shrublands; Allocasuarina acutivalvis thicket /Northern Zone of Ancient Drainage	11748	1844	15.70	b c
961/259	x10SZc/c4Sc/SZAD	Mosaic: Shrublands; scrub-heath (SE Avon)/ Shrublands; Allocasuarina acutivalvis thicket /Southern Zone of Ancient Drainage	13254	2471	18.64	b
962/257	e64Mi/ZRD	Medium woodland; mallet (E. astringens)/Zone of Rejuvenated Drainage	1219	232	19.04	b c
963/259	e7mMi/SZAD	Medium woodland; yate (E. occidentalis) & paperbark (Melaleuca spp)/Southern Zone of Ancient Drainage	4086	1257	30.76	c
965/222	e2,3Mi/DP	Medium woodland; jarrah (E. marginata) & marri (E. calophylla)/Dandaragan Plateau Zone	380	116	30.53	c
965/241	e2,3Mi/SR	Medium woodland; jarrah (E. marginata) & marri (E. calophylla)/Stirling Range Zone	2412	1315	54.51	c
966/259	e8,9Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; salmon gum (E. salmonophloia) & morrel (E. longicornis) over teatree & samphire/Southern Zone of Ancient Drainage	3231	84	2.60	a c
967/241	e5,7Mi/SR	Medium woodland; wandoo (E. wandoo) & yate (E. occidentalis)/Stirling Range Zone	38859	5708	14.69	b
967/247	e5,7Mi/B	Medium woodland; wandoo (E. wandoo) & yate (E. occidentalis)/Boorokup Lakes Zone	23298	3978	17.07	b
967/257	e5,7Mi/ZRD	Medium woodland; wandoo (E. wandoo) & yate (E. occidentalis)/Zone of Rejuvenated Drainage	120000	18057	15.05	b
967/259	e5,7Mi/SZAD	Medium woodland; wandoo (E. wandoo) & yate (E. occidentalis)/Southern Zone of Ancient Drainage	6329	1052	16.62	b c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
968/241	e2,3,5Mi/SR	Medium woodland; jarrah (<i>E. marginata</i>), marri (<i>E. calophylla</i>) & wandoo (<i>E. wandoo</i>)/Stirling Range Zone	23117	11318	48.96	
968/247	e2,3,5Mi/B	Medium woodland; jarrah (<i>E. marginata</i>), marri (<i>E. calophylla</i>) & wandoo (<i>E. wandoo</i>)/Boorokup Lakes Zone	53	51	95.60	c
968/257	e2,3,5Mi/ZRD	Medium woodland; jarrah (<i>E. marginata</i>), marri (<i>E. calophylla</i>) & wandoo (<i>E. wandoo</i>)/Zone of Rejuvenated Drainage	8128	2059	25.33	b
970/241	e2,67Lc/SR	Low forest; jarrah (<i>E. marginata</i>) & <i>E. decipiens</i> /Stirling Range Zone	1393	1383	99.31	c
974/241	e6,8,9Mi/SR	Medium woodland; York gum (<i>E. loxophleba</i>), salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>)/Stirling Range Zone	7267	698	9.60	a c
975/241	e2Li/SR	Low woodland; jarrah (<i>E. marginata</i>)/Stirling Range Zone	9795	9300	94.94	
975/247	e2Li/B	Low woodland; jarrah (<i>E. marginata</i>)/Boorokup Lakes Zone	63	9	14.28	b c
976/247	mLi k3Ci/B	Succulent steppe with low woodland; myoporum over samphire/Boorokup Lakes Zone	825	260	31.53	c
976/257	mLi k3Ci/ZRD	Succulent steppe with low woodland; myoporum over samphire/Zone of Rejuvenated Drainage	1348	326	24.19	b c
980/241	e2SZc/SR	Shrublands; jarrah (<i>E. marginata</i>) mallee-heath /Stirling Range Zone	39749	39547	99.49	
981/241	e5,6,7Mi/SR	Medium woodland; wandoo (<i>E. wandoo</i>),York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Stirling Range Zone	7564	802	10.60	b c
981/247	e5,6,7Mi/B	Medium woodland; wandoo (<i>E. wandoo</i>),York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Boorokup Lakes Zone	3021	372	12.31	b c
982/241	e67Li/SR	Low woodland; <i>E. decipiens</i> /Stirling Range Zone	895	620	69.24	c
986/241	enSZc/SR	Shrublands; mallee-heath (Stirling Ra.)/Stirling Range Zone	14587	9774	67.01	
986/247	enSZc/B	Shrublands; mallee-heath (Stirling Ra.)/Boorokup Lakes Zone	13782	3579	25.97	b
987/222	e2,5Mi/DP	Medium woodland; jarrah (<i>E. marginata</i>) & wandoo (<i>E. wandoo</i>)/Dandaragan Plateau Zone	43	18	42.05	c
987/241	e2,5Mi/SR	Medium woodland; jarrah (<i>E. marginata</i>) & wandoo (<i>E. wandoo</i>)/Stirling Range Zone	752	746	99.24	c
988/222	m5Sc k3Ci/DP	Succulent steppe with thicket; Melaleuca thyoides over samphire/Dandaragan Plateau Zone	4351	1634	37.55	c
988/226	m5Sc k3Ci/L	Succulent steppe with thicket; Melaleuca thyoides over samphire/Lockier Zone	570	10	1.75	a c
988/257	m5Sc k3Ci/ZRD	Succulent steppe with thicket; Melaleuca thyoides over samphire/Zone of Rejuvenated Drainage	40372	2116	5.24	a
988/258	m5Sc k3Ci/NZAD	Succulent steppe with thicket; Melaleuca thyoides over samphire/Northern Zone of Ancient Drainage	48911	1275	2.61	a c
988/271	m5Sc k3Ci/IR	Succulent steppe with thicket; Melaleuca thyoides over samphire/Irwin River Zone	3225	121	3.75	a c
991/241	e5Mi/SR	Medium woodland; wandoo (<i>E. wandoo</i>)/Stirling Range Zone	591	555	93.91	c
992/241	e2,5Mc/SR	Medium forest; jarrah (<i>E. marginata</i>) & wandoo (<i>E. wandoo</i>) (<i>E. wandoo</i> (<i>E. wandoo</i>))/Stirling Range Zone	680	677	99.49	c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
993/241	c5e6Mi/SR	Medium woodland; York gum (E. loxophleba) & Allocasuarina huegeliana /Stirling Range Zone	2109	717	34.00	c
999/222	e3Mi/DP	Medium woodland; marri (E. calophylla)/Dandaragan Plateau Zone	98201	11695	11.91	b
1003/257	e2,3,5Mc/ZRD	Medium forest; jarrah (E. marginata), marri (E. calophylla) & wandoo (E. wandoo)/Zone of Rejuvenated Drainage	11439	7268	63.54	
1004/247	e5Mr/xZc/B	Mosaic: Medium open woodland; wandoo (E. wandoo) / Shrublands; mixed heath /Boorokup Lakes Zone	2302	1047	45.47	c
1004/257	e5Mr/xZc/ZRD	Mosaic: Medium open woodland; wandoo (E. wandoo) / Shrublands; mixed heath /Zone of Rejuvenated Drainage	6940	2388	34.41	
1005/259	c5Li/SZAD	Low woodland; Allocasuarina huegeliana/Southern Zone of Ancient Drainage	530	75	14.15	b c
1006/257	e2,5,45Mi/ZRD	Medium woodland; jarrah (E. marginata), wandoo (E. wandoo) & powderbark /Zone of Rejuvenated Drainage	1368	593	43.34	c
1008/222	e3Mr/DP	Medium open woodland; marri (E. calophylla)/Dandaragan Plateau Zone	1389	55	3.96	a c
1014/222	bLi/mSc/DP	Mosaic: Low woodland; banksia / Shrublands; teatree thicket /Dandaragan Plateau Zone	177	7	3.95	a c
1015/222	x14SZc/dZc/DP	Mosaic: Shrublands; scrub-heath on the Swan Coastal Plain / Shrublands; dryandra heath/Dandaragan Plateau Zone	19328	6339	32.80	
1017/222	e2,3Mr bLi/DP	Medium open woodland; jarrah (E. marginata) & marri (E. calophylla), with low woodland; banksia/Dandaragan Plateau Zone	5799	2063	35.58	
1018/222	e2,3Mi/bLi/mLc/c6Li /DP	Mosaic: Medium forest; jarrah (E. marginata), marri (E. calophylla) / Low woodland; banksia / Low forest; teatree / Low woodland; Casuarina obesa/Dandaragan Plateau Zone	51	24	46.77	c
1019/222	e2,3Mp/DP	Medium sparse woodland; jarrah (E. marginata) & marri (E. calophylla) /Dandaragan Plateau Zone	673	319	47.39	c
1020/222	e2,3Mc/e3,5Mi/DP	Mosaic: Medium forest; jarrah (E. marginata), marri (E. calophylla) / Medium woodland; marri (E. calophylla)-wandoo (E. wandoo)/Dandaragan Plateau Zone	5009	1732	34.58	c
1021/257	e5Mr/dZc/ZRD	Mosaic: Medium open woodland; wandoo (E. wandoo) / Shrublands; dryandra heath/Zone of Rejuvenated Drainage	16	6	36.99	c
1022/257	c6Mi k3Ci/ZRD	Succulent steppe with woodland; Casuarina obesa & samphire /Zone of Rejuvenated Drainage	460	33	7.17	a c
1023/222	e5,6,8Mi/DP	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Dandaragan Plateau Zone	1380	162	11.74	b c
1023/241	e5,6,8Mi/SR	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Stirling Range Zone	7478	626	8.37	a c
1023/257	e5,6,8Mi/ZRD	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Zone of Rejuvenated Drainage	562448	56416	10.03	b
1023/258	e5,6,8Mi/NZAD	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Northern Zone of Ancient Drainage	207631	9275	4.47	a

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
1023/259	e5,6,8Mi/SZAD	Medium woodland; York gum (<i>E. loxophleba</i>), wandoo (<i>E. wandoo</i>) & salmon gum (<i>E. salmonophloia</i>) /Southern Zone of Ancient Drainage	572072	30161	5.27	a
1024/257	ecSc/ZRD	Shrublands; mallee & casuarina thicket/Zone of Rejuvenated Drainage	69521	5439	7.82	a
1024/258	ecSc/NZAD	Shrublands; mallee & casuarina thicket/Northern Zone of Ancient Drainage	648967	46973	7.24	a
1025/257	e6,8,9Mi/k1,3Ci/ZRD	Mosaic: Medium woodland; York gum (<i>E. loxophleba</i>), salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Succulent steppe; saltbush & samphire/Zone of Rejuvenated Drainage	246	10	4.07	a c
1025/258	e6,8,9Mi/k1,3Ci/NZAD	Mosaic: Medium woodland; York gum (<i>E. loxophleba</i>), salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Succulent steppe; saltbush & samphire/Northern Zone of Ancient Drainage	1697	30	1.77	a c
1027/222	e2,3Mr bLi/e2,3,Mp/DP	Mosaic: Medium open woodland; jarrah (<i>E. marginata</i>) & marri (<i>E. calophylla</i>), with low woodland; banksia / Medium sparse woodland; jarrah (<i>E. marginata</i>) & marri (<i>E. calophylla</i>) /Dandaragan Plateau Zone	39599	21871	55.23	
1028/222	e18Mi/DP	Medium woodland; river gum (<i>E. rudis</i>)/Dandaragan Plateau Zone	73	67	91.48	c
1030/222	b1,2Li/DP	Low woodland; Banksia attenuata & B. menziesii/Dandaragan Plateau Zone	21654	6593	30.45	
1031/222	hSZc/dZc/DP	Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath/Dandaragan Plateau Zone	67600	30308	44.83	
1031/257	hSZc/dZc/ZRD	Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath/Zone of Rejuvenated Drainage	413	96	23.24	b c
1035/222	e3Mr/dZc/DP	Mosaic: Medium open woodland; marri (<i>E. calophylla</i>) / Shrublands; dryandra heath/Dandaragan Plateau Zone	4187	503	12.01	b c
1036/222	b3Li/DP	Low woodland; Banksia prionotes/Dandaragan Plateau Zone	85841	31849	37.10	
1036/257	b3Li/ZRD	Low woodland; Banksia prionotes/Zone of Rejuvenated Drainage	1415	126	8.90	a c
1037/222	e6,18Mi/DP	Medium woodland; York gum (<i>E. loxophleba</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>) /Dandaragan Plateau Zone	1782	1592	89.33	c
1037/257	e6,18Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>) /Zone of Rejuvenated Drainage	617	585	94.84	c
1038/222	eMr b1,2Li/DP	Medium open woodland; eucalypts, with low woodland; Banksia attenuata & B. menziesii/Dandaragan Plateau Zone	1729	304	17.58	b c
1039/222	e6Mr eSi/DP	Shrublands; mallee with scattered York gum (<i>E. loxophleba</i>) /Dandaragan Plateau Zone	1757	1044	59.41	c
1039/257	e6Mr eSi/ZRD	Shrublands; mallee with scattered York gum (<i>E. loxophleba</i>) /Zone of Rejuvenated Drainage	302	134	44.42	c
1040/222	c6e6Mi/DP	Medium woodland; York gum (<i>E. loxophleba</i>) & Casuarina obesa/Dandaragan Plateau Zone	2122	440	20.73	b c
1040/257	c6e6Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & Casuarina obesa/Zone of Rejuvenated Drainage	733	86	11.74	b c
1041/257	c5a19Li/ZRD	Low woodland; Allocasuarina huegeliana & jam (<i>A. acuminata</i>)/Zone of Rejuvenated Drainage	2556	578	22.61	b c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
1041/258	c5a19Li/NZAD	Low woodland; Allocasuarina huegeliana & jam (A. acuminata)/Northern Zone of Ancient Drainage	2253	642	28.50	b c
1042/257	cLi k3Ci/ZRD	Succulent steppe with low woodland; sheoak over samphire/Zone of Rejuvenated Drainage	272	12	4.41	a c
1043/257	e5,45Mr/dZc/ZRD	Mosaic: Medium open woodland; wandoo (E. wandoo) & powderbark wandoo (E. astringens) / Shrublands; dryandra heath/Zone of Rejuvenated Drainage	22	10	45.79	c
1044/257	e6,8Mi/m5Sc/ZRD	Mosaic: Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia) / Shrublands; Melaleuca thyioides thicket/Zone of Rejuvenated Drainage	1457	125	8.58	a c
1046/257	e6Mi k3Ci/ZRD	Succulent steppe with woodland; York gum (E. loxophleba) & samphire/Zone of Rejuvenated Drainage	787	64	8.13	a c
1047/246	e29SZc/SGM	Shrublands; E. incrassata mallee-heath /Salmon Gums-Mallee Zone	16671	2639	15.83	b
1048/257	mSp/k3Ci/ZRD	Mosaic: Shrublands; melaleuca patchy scrub / Succulent steppe; samphire/Zone of Rejuvenated Drainage	346	8	2.31	a c
1048/258	mSp/k3Ci/NZAD	Mosaic: Shrublands; melaleuca patchy scrub / Succulent steppe; samphire/Northern Zone of Ancient Drainage	11102	246	2.22	a c
1049/257	e5,6,8,9,34Mi/ZRD	Medium woodland; wandoo (E. wandoo), York gum (E. loxophleba), salmon gum (E. salmonophloia), morrel (E. longicornis) & gimlet (E. salubris)/Zone of Rejuvenated Drainage	115016	3996	3.47	a
1049/258	e5,6,8,9,34Mi/NZAD	Medium woodland; wandoo (E. wandoo), York gum (E. loxophleba), salmon gum (E. salmonophloia), morrel (E. longicornis) & gimlet (E. salubris)/Northern Zone of Ancient Drainage	534783	16635	3.11	a
1051/257	e5,7Mr mSc/ZRD	Shrublands; teatree thicket with scattered wandoo (E. wandoo) & yate (E. occidentalis)/Zone of Rejuvenated Drainage	11567	3946	34.12	
1051/258	e5,7Mr mSc/NZAD	Shrublands; teatree thicket with scattered wandoo (E. wandoo) & yate (E. occidentalis)/Northern Zone of Ancient Drainage	756	226	29.91	b c
1053/257	e6Mr m6Sc/ZRD	Shrublands; Melaleuca uncinata thicket with scattered York gum (E. loxophleba)/Zone of Rejuvenated Drainage	106	8	7.55	a c
1053/258	e6Mr m6Sc/NZAD	Shrublands; Melaleuca uncinata thicket with scattered York gum (E. loxophleba)/Northern Zone of Ancient Drainage	10680	610	5.71	a c
1053/259	e6Mr m6Sc/SZAD	Shrublands; Melaleuca uncinata thicket with scattered York gum (E. loxophleba)/Southern Zone of Ancient Drainage	3117	550	17.64	b c
1055/258	e6,39Si/NZAD	Shrublands; York gum (E. loxophleba) & E. sheathiana mallee scrub/Northern Zone of Ancient Drainage	126392	13193	10.44	b
1055/261	e6,39Si/SC	Shrublands; York gum (E. loxophleba) & E. sheathiana mallee scrub/Southern Cross Zone	303	62	20.47	b c
1056/258	ac3Sc/NZAD	Shrublands; thicket, acacia & Allocasuarina campestris /Northern Zone of Ancient Drainage	20951	3113	14.86	b

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
1057/258	e8,34Mi/e6,39Si /NZAD	Mosaic: Shrublands; Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) / York gum (E. loxophleba) & E. sheathiana mallee scrub (some wandoo (E. wandoo) may occur with gimlet (E. salubris))/Northern Zone of Ancient Drainage	162674	9812	6.03	a
1057/259	e8,34Mi/e6,39Si /SZAD	Mosaic: Shrublands; Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) / York gum (E. loxophleba) & E. sheathiana mallee scrub (some wandoo (E. wandoo) may occur with gimlet (E. salubris))/Southern Zone of Ancient Drainage	279	7	2.51	a c
1058/258	e6,19Si /NZAD	Shrublands; York gum (E. loxophleba) & E. gonglocarpa mallee scrub/Northern Zone of Ancient Drainage	9385	262	2.79	a c
1059/258	e8,34Mi/e9,39Si/NZAD	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Shrublands; mallee E. longicornis & E. sheathiana scrub /Northern Zone of Ancient Drainage	2265	21	0.93	a c
1061/258	e8,36Mp/k1,3Ci /NZAD	Mosaic: Medium sparse woodland; salmon gum (E. salmonophloia) & yorrell (E.gracilis) / Succulent steppe; saltbush & samphire/Northern Zone of Ancient Drainage	42869	5694	13.28	b
1062/258	e6Mr m5Sc k3Ci /NZAD	Succulent steppe with open woodland & thicket; York gum (E. loxophleba) over Melaleuca thyiodes & samphire /Northern Zone of Ancient Drainage	22598	2409	10.66	b
1063/258	e6pMLi /NZAD	Medium-Low woodland; York gum (E. loxophleba) & cypress pine (Callitris columellaris)/Northern Zone of Ancient Drainage	12028	1547	12.86	b c
1067/258	e8,9,34,35Mi /NZAD	Medium woodland; salmon gum (E. salmonophloia), morrel (E. longicornis), gimlet (E. salubris) & rough fruited mallee (E. corrugata)/Northern Zone of Ancient Drainage	5947	3859	64.89	
1068/258	e8,9,34,39Mi/NZAD	Medium woodland; salmon gum (E. salmonophloia), morrel (E. longicornis), gimlet (E. salubris) & E. sheathiana/Northern Zone of Ancient Drainage	26777	4015	14.99	b
1068/261	e8,9,34,39Mi/SC	Medium woodland; salmon gum (E. salmonophloia), morrel (E. longicornis), gimlet (E. salubris) & E. sheathiana/Southern Cross Zone	133072	22062	16.58	b
1071/261	aSi k1,2Ci /SC	Succulent steppe with scrub; acacia species over saltbush & bluebush/Southern Cross Zone	67	0	0.00	a c
1073/257	e5,64Mi/ZRD	Medium woodland; wandoo (E. wandoo) & mallet/Zone of Rejuvenated Drainage	16627	6586	39.61	
1073/259	e5,64Mi/SZAD	Medium woodland; wandoo (E. wandoo) & mallet/Southern Zone of Ancient Drainage	378	36	9.52	a c
1074/257	e5c6Mr mSc k3Ci/ZRD	Succulent steppe with open woodland & thicket; wandoo (E. wandoo) & Allocasuarina obesa over teatree & samphire /Zone of Rejuvenated Drainage	4626	1463	31.63	c
1075/241	e15,27Si/SR	Shrublands; mallee scrub, E. eremophila & black marlock (E.redunca)/Stirling Range Zone	73051	4816	6.59	a
1075/243	e15,27Si/JP	Shrublands; mallee scrub, E. eremophila & black marlock (E.redunca)/Jerramungup Plain Zone	2034	493	24.23	b c
1075/259	e15,27Si/SZAD	Shrublands; mallee scrub, E. eremophila & black marlock (E.redunca)/Southern Zone of Ancient Drainage	262533	24405	9.30	a
1076/259	e8,9Mi/e15,24Si/SZAD	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis) / Shrublands; mallee scrub E. eremophila & sp /Southern Zone of Ancient Drainage	11	11	100.00	c
1077/247	e2,18Mi/B	Medium woodland; jarrah (E. marginata) & river gum (E. rudis) /Boorokup Lakes Zone	2030	1131	55.72	c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
1077/257	e2,18Mi/ZRD	Medium woodland; jarrah (<i>E. marginata</i>) & river gum (<i>E. rudis</i>) /Zone of Rejuvenated Drainage	86	63	73.45	c
1079/259	e8,9Mr/k1Ci/SZAD	Mosaic: Medium open woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Succulent steppe; saltbush /Southern Zone of Ancient Drainage	6547	4432	67.69	
1080/257	eSr m6Sc (k3Ci)/ZRD	Succulent steppe with malle & thickets; Mallee and Melaleuca uncinata thickets on salt flats/Zone of Rejuvenated Drainage	3449	68	1.97	a c
1080/258	eSr m6Sc (k3Ci)/NZAD	Succulent steppe with malle & thickets; Mallee and Melaleuca uncinata thickets on salt flats/Northern Zone of Ancient Drainage	459	23	5.01	a c
1083/257	e5,8c6Mr mSi k3Ci /ZRD	Succulent steppe with open woodland & scrub; wandoo (<i>E. wandoo</i>), salmon gum (<i>E. salmonophloia</i>) & Allocasuarina obesa over teatree & samphire /Zone of Rejuvenated Drainage	8716	2331	26.74	b
1083/259	e5,8c6Mr mSi k3Ci /SZAD	Succulent steppe with open woodland & scrub; wandoo (<i>E. wandoo</i>), salmon gum (<i>E. salmonophloia</i>) & Allocasuarina obesa over teatree & samphire /Southern Zone of Ancient Drainage	2023	139	6.87	a c
1085/241	e5,69Mi /SR	Medium woodland; wandoo (<i>E. wandoo</i>) & blue mallet (<i>E. gardneri</i>)/Stirling Range Zone	824	91	11.04	b c
1085/257	e5,69Mi /ZRD	Medium woodland; wandoo (<i>E. wandoo</i>) & blue mallet (<i>E. gardneri</i>)/Zone of Rejuvenated Drainage	28469	3419	12.01	b
1085/259	e5,69Mi /SZAD	Medium woodland; wandoo (<i>E. wandoo</i>) & blue mallet (<i>E. gardneri</i>)/Southern Zone of Ancient Drainage	22833	1861	8.15	a c
1087/257	e5,9,69Mi/ZRD	Medium woodland; wandoo (<i>E. wandoo</i>), morrel (<i>E. longicornis</i>) & blue mallet/Zone of Rejuvenated Drainage	149	42	28.12	b c
1087/259	e5,9,69Mi/SZAD	Medium woodland; wandoo (<i>E. wandoo</i>), morrel (<i>E. longicornis</i>) & blue mallet/Southern Zone of Ancient Drainage	601	219	36.44	c
1088/257	e64,69 Mi/ZRD	Medium woodland; mallet & blue mallet/Zone of Rejuvenated Drainage	400	150	37.50	c
1091/259	b3c5Li/SZAD	Low woodland; Banksia prionotes & Allocasuarina huegelianna/Southern Zone of Ancient Drainage	723	266	36.81	c
1092/259	e5,6,9 Mi/SZAD	Medium woodland; wandoo (<i>E. wandoo</i>), York gum (<i>E. loxophleba</i>) & morrel (<i>E. longicornis</i>)/Southern Zone of Ancient Drainage	78484	5674	7.23	a
1093/259	ec6Mr mSc k3Ci /SZAD	Succulent steppe with open woodland & thicket; eucalypts & Allocasuarina obesa over teatree & samphire /Southern Zone of Ancient Drainage	8299	742	8.94	a c
1094/259	e6,8Mi/e15,27Si /SZAD	Mosaic: Medium woodland; York gum (<i>E. loxophleba</i>) & salmon gum (<i>E. salmonophloia</i>) / Shrublands; mallee scrub <i>E. eremophila</i> & balck marlock (<i>E. redunca</i>) /Southern Zone of Ancient Drainage	73111	4479	6.13	a
1095/241	e6,7,8Mi/SR	Medium woodland; York gum (<i>E. loxophleba</i>), yate (<i>E. occidentalis</i>) & salmon gum (<i>E. salmonophloia</i>)/Stirling Range Zone	1227	322	26.24	b c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
1096/259	e7,8Mi/SZAD	Medium woodland; yate (<i>E. occidentalis</i>) & salmon gum (<i>E. salmonophloia</i>)/Southern Zone of Ancient Drainage	354	180	50.89	c
1098/259	e8,9Mp/k3Ci /SZAD	Mosaic: Medium sparse woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Succulent steppe; samphire/Southern Zone of Ancient Drainage	18236	1953	10.71	b c
1143/257	c3Sc xZi/ZRD	Shrublands; <i>Allocasuarina campestris</i> thicket with patches of heath /Zone of Rejuvenated Drainage	10023	143	1.43	a c
1143/258	c3Sc xZi/NZAD	Shrublands; <i>Allocasuarina campestris</i> thicket with patches of heath /Northern Zone of Ancient Drainage	56208	1813	3.23	a c
1147/257	x10SZc/ZRD	Shrublands; scrub-heath in the south-east Avon-Wheatbelt Region/Zone of Rejuvenated Drainage	369	9	2.44	a c
1147/258	x10SZc/NZAD	Shrublands; scrub-heath in the south-east Avon-Wheatbelt Region/Northern Zone of Ancient Drainage	7797	381	4.89	a c
1147/259	x10SZc/SZAD	Shrublands; scrub-heath in the south-east Avon-Wheatbelt Region/Southern Zone of Ancient Drainage	35434	1854	5.23	a c
1148/246	x12SZc/SGM	Shrublands; scrub-heath in the Coolgardie Region/Salmon Gums-Mallee Zone	3443	0	0.00	a c
1148/261	x12SZc/SC	Shrublands; scrub-heath in the Coolgardie Region/Southern Cross Zone	4054	1903	46.94	c
1149/257	x19SZc/ZRD	Shrublands; scrub-heath A.- <i>Ecdeiocolia</i> association in the south-east Geraldton Sandplain Region /Zone of Rejuvenated Drainage	7466	362	4.85	a c
1149/258	x19SZc/NZAD	Shrublands; scrub-heath A.- <i>Ecdeiocolia</i> association in the south-east Geraldton Sandplain Region /Northern Zone of Ancient Drainage	110	3	2.73	a c
1154/257	anSc xZi/ZRD	Shrublands; A. thicket with patches of heath /Zone of Rejuvenated Drainage	119	39	32.67	c
1154/258	anSc xZi/NZAD	Shrublands; A. thicket with patches of heath /Northern Zone of Ancient Drainage	26094	2637	10.11	b
1154/271	anSc xZi/IR	Shrublands; A. thicket with patches of heath /Irwin River Zone	13265	609	4.59	a c
1155/271	e6Mi/c3Sc/IR	Mosaic: Medium woodland; York gum (<i>E. loxophleba</i>) / Shrublands; <i>Allocasuarina campestris</i> thicket /Irwin River Zone	7871	3035	38.56	
1156/257	a19c5Lr cSc/ZRD	Shrublands; <i>Allocasuarina campestris</i> thickets with scattered jam (<i>A. acuminata</i>) & <i>casuarina</i> /Zone of Rejuvenated Drainage	1561	206	13.20	b c
1156/258	a19c5Lr cSc/NZAD	Shrublands; <i>Allocasuarina campestris</i> thickets with scattered jam (<i>A. acuminata</i>) & <i>casuarina</i> /Northern Zone of Ancient Drainage	188	7	3.73	a c
1164/257	x8SZc/c3Sc/ZRD	Mosaic: Shrublands; scrub-heath on sandplain (<i>banksia</i> - <i>xylomelum</i> alliance) in the Geraldton Sandplain & Avon-Wheatbelt Regions / Shrublands; <i>Allocasuarina campestris</i> thicket /Zone of Rejuvenated Drainage	2024	20	0.99	a c
1198/271	m5Si k3Ci/a9Sr/IR	Mosaic: Succulent steppe with thicket; <i>Melaleuca thiododes</i> over samphire / Shrublands; bowgada (<i>A. ramulosa</i> - <i>A. linophylla</i>) open scrub /Irwin River Zone	1454	125	8.60	a c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
1200/241	e8,9Mi/e15,27Si/SR	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Shrublands; mallee scrub <i>E. eremophila</i> & black marlock (<i>E. redunca</i>)/Stirling Range Zone	40340	2821	6.99	a
1200/243	e8,9Mi/e15,27Si/JP	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Shrublands; mallee scrub <i>E. eremophila</i> & black marlock (<i>E. redunca</i>)/Jerramungup Plain Zone	349	0	0.00	a c
1200/259	e8,9Mi/e15,27Si/SZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Shrublands; mallee scrub <i>E. eremophila</i> & black marlock (<i>E. redunca</i>)/Southern Zone of Ancient Drainage	84335	7392	8.77	a
1413/226	acmSc/L	Shrublands; acacia, casuarina & melaleuca thicket/Lockier Zone	15	13	87.62	c
1413/246	acmSc/SGM	Shrublands; acacia, casuarina & melaleuca thicket/Salmon Gums-Mallee Zone	48588	821	1.69	a c
1413/258	acmSc/NZAD	Shrublands; acacia, casuarina & melaleuca thicket/Northern Zone of Ancient Drainage	586505	108162	18.44	b
1413/259	acmSc/SZAD	Shrublands; acacia, casuarina & melaleuca thicket/Southern Zone of Ancient Drainage	23039	3162	13.72	b
1413/261	acmSc/SC	Shrublands; acacia, casuarina & melaleuca thicket/Southern Cross Zone	39347	12254	31.14	
1413/271	acmSc/IR	Shrublands; acacia, casuarina & melaleuca thicket/Irwin River Zone	133742	14255	10.66	b
1516/246	e27,32Si/SGM	Shrublands; mallee scrub, black marlock (<i>E. redunca</i>) & Forrest's marlock (<i>E. forrestiana</i>)/Salmon Gums-Mallee Zone	110427	13502	12.23	b
1519/246	e15,bSi/SGM	Shrublands; mallee scrub, <i>E. eremophila</i> & <i>banksia</i> /Salmon Gums-Mallee Zone	3297	0	0.00	a c
1967/241	e5,7,18Mi/SR	Medium woodland; wandoo (<i>E. wandoo</i>), yate (<i>E. occidentalis</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>)/Stirling Range Zone	2670	418	15.66	b c
1967/247	e5,7,18Mi/B	Medium woodland; wandoo (<i>E. wandoo</i>), yate (<i>E. occidentalis</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>)/Boorokup Lakes Zone	21671	5261	24.28	b
1967/257	e5,7,18Mi/ZRD	Medium woodland; wandoo (<i>E. wandoo</i>), yate (<i>E. occidentalis</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>)/Zone of Rejuvenated Drainage	1299	133	10.24	b c
2047/257	c3dSc/ZRD	Shrublands; tamma & dryandra thicket/Zone of Rejuvenated Drainage	1454	996	68.51	c
2048/246	x13SZc/SGM	Shrublands; scrub-heath in the Mallee Region/Salmon Gums-Mallee Zone	66	52	79.25	c
2048/258	x13SZc/NZAD	Shrublands; scrub-heath in the Mallee Region/Northern Zone of Ancient Drainage	23151	1677	7.24	a c
2048/259	x13SZc/SZAD	Shrublands; scrub-heath in the Mallee Region/Southern Zone of Ancient Drainage	192590	36562	18.98	b
2081/271	a9Si/IR	Shrublands; bowgada (<i>A. ramulosa</i> - <i>A. linophylla</i>) and associated spp. scrub/Irwin River Zone	860	315	36.64	c
2093/259	e7Mi mSi k3Ci/SZAD	Succulent steppe with open woodland & scrub; yate (<i>E. occidentalis</i>) over teatree & samphire /Southern Zone of Ancient Drainage	9296	2946	31.69	
3041/257	a19c5Li/rock/ZRD	Mosaic: Low woodland; <i>Allocasuarina huegeliana</i> & jam (<i>A. acuminata</i>) around granite rocks/Zone of Rejuvenated Drainage	5026	1235	24.57	b c
3041/258	a19c5Li/rock/NZAD	Mosaic: Low woodland; <i>Allocasuarina huegeliana</i> & jam (<i>A. acuminata</i>) around granite rocks/Northern Zone of Ancient Drainage	983	239	24.32	b c

Table 1 continued

Sub_Assoc	Sub_Assoc code	Sub_Association Description	Area PreEuropean Sub_Assoc	Present Extent of Sub_Assoc	%existing veg	code*
3041/259	a19c5Li/rock/SZAD	Mosaic: Low woodland; Allocasuarina huegeliana & jam (A. acuminata) around granite rocks/Southern Zone of Ancient Drainage	47	13	27.42	b c
4048/246	x15SZc/SGM	Shrublands; scrub-heath in the Esperence Plains incl. Mt Ragged scrub-heath/Salmon Gums-Mallee Zone	3793	503	13.26	b c
5048/246	b1SZc/SGM	Shrublands; banksia and lambertia scrub-heath in the Esperence Plains Region/Salmon Gums-Mallee Zone	5095	630	12.37	b c
6048/246	bSZc/SGM	Shrublands; banksia scrub-heath on sandplain in the Esperence Plains Region/Salmon Gums-Mallee Zone	2692	437	16.23	b c

*codes are a = vegetation sub-association with <10% of their original areal extent remaining, b = vegetation sub-association with <30% of their original areal extent remaining, c = vegetation association with <2,000 ha remaining in the Agricultural area.

Table 2 shows the results of conservation assessment. One hundred and seventy two vegetation sub-associations are completely unrepresented in the conservation estate, which includes reserves that accord with IUCN Reserve Categories I - IV ie National Parks, Nature Reserves, Marine Parks, Marine Nature Reserves, Conservation Parks, and other categories of land managed for conservation by the Department of Conservation and Land Management (CALM). Twenty nine more associations have a minor representation on other lands managed by CALM. An additional 194 vegetation sub-associations have <15% of their original, pre-European extent in reserves that fall into IUCN Reserve Categories I – IV. The total number of sub-associations (out of 460 analysed) that are poorly conserved is 396. Vegetation sub-associations that are inadequately reserved are identified with the letters e (no representation), f (0 representation in reserves in IUCN categories I-IV and <15% in other CALM-managed lands) or g (<15% in reserves in IUCN categories I-IV).

Table 2. Reservation status of vegetation sub-associations in the South West Agricultural Region of Western Australia (as at March 2000)

Codes are e = vegetation sub-association completely unrepresented in reserves in IUCN categories I-IV or in other CALM managed land, f = vegetation sub-association unrepresented in reserves in IUCN categories I-IV reserves but with < 15% of their original extent in other CALM managed lands, g = vegetation sub-association inadequately represented in the conservation reserve system with <15% of their original extent in reserves in IUCN categories I-IV.

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
3/222	e2,3Mc /DP	Medium forest; jarrah (E. marginata)-marri (E. calophylla)/Dandaragan Plateau Zone	3917	0.00	0.00	0.00	0.00	e
3/247	e2,3Mc /B	Medium forest; jarrah (E. marginata)-marri (E. calophylla)/Boorokup Lakes Zone	18559	2565.84	13.83	2839.45	15.30	g
3/257	e2,3Mc /ZRD	Medium forest; jarrah (E. marginata)-marri (E. calophylla)/Zone of Rejuvenated Drainage	24473	413.88	1.69	447.07	1.83	g
4/222	e3,5Mi /DP	Medium woodland; marri (E. calophylla) & wandoo (E. wandoo)/Dandaragan Plateau Zone	6765	375.44	5.55	545.24	8.06	g
4/247	e3,5Mi /B	Medium woodland; marri (E. calophylla) & wandoo (E. wandoo)/Boorokup Lakes Zone	12877	1209.70	9.39	1310.46	10.18	g
4/257	e3,5Mi /ZRD	Medium woodland; marri (E. calophylla) & wandoo (E. wandoo)/Zone of Rejuvenated Drainage	394411	1353.14	0.34	1393.99	0.35	g
5/257	e5,45Mi/ZRD	Medium woodland; wandoo (E. wandoo) & powderbark (E. accedens)/Zone of Rejuvenated Drainage	40472	17537.55	43.33	17537.55	43.33	
5/259	e5,45Mi/SZAD	Medium woodland; wandoo (E. wandoo) & powderbark (E. accedens)/Southern Zone of Ancient Drainage	14	0.00	0.00	0.00	0.00	e
7/222	e5,6Mi/DP	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Dandaragan Plateau Zone	17	0.00	0.00	0.00	0.00	e
7/241	e5,6Mi/SR	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Stirling Range Zone	343	0.00	0.00	0.00	0.00	e
7/257	e5,6Mi/ZRD	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Zone of Rejuvenated Drainage	188930	103.99	0.06	262.66	0.14	g
7/258	e5,6Mi/NZAD	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Northern Zone of Ancient Drainage	20653	48.76	0.24	48.76	0.24	g
7/259	e5,6Mi/SZAD	Medium woodland; York gum (E. loxophleba) & wandoo (E. wandoo) /Southern Zone of Ancient Drainage	404	0.00	0.00	0.00	0.00	e
8/243	e8,34Mi/JP	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Jerramungup Plain Zone	459	0.00	0.00	0.00	0.00	e
8/257	e8,34Mi/ZRD	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Zone of Rejuvenated Drainage	41	34.11	83.96	34.11	83.96	

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
8/258	e8,34Mi/NZAD	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Northern Zone of Ancient Drainage	411894	4914.60	1.19	4914.60	1.19	g
8/259	e8,34Mi/SZAD	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Southern Zone of Ancient Drainage	44297	868.08	1.96	868.08	1.96	g
8/261	e8,34Mi/SC	Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) /Southern Cross Zone	39722	184.94	0.47	184.94	0.47	g
9/246	e12,13Mi/SGM	Medium woodland; coral gum (E. toquata) & goldfields blackbutt (E. le soufii) (also some redwood (E. transcontinentalis) & merri (E. floctoniae))/Salmon Gums-Mallee Zone	38808	0.00	0.00	0.00	0.00	e
10/246	e22Mi/SGM	Medium woodland; red mallee (E. oleosa group) group/Salmon Gums-Mallee Zone	48335	0.00	0.00	0.00	0.00	e
13/257	e5Mr/ZRD	Medium open woodland; wandoo (E. wandoo)/Zone of Rejuvenated Drainage	5061	0.00	0.00	0.00	0.00	e
25/257	c5e6Li /ZRD	Low woodland; Allocasuarina huegeliana & York gum (E. loxophleba) /Zone of Rejuvenated Drainage	6632	37.12	0.56	37.12	0.56	g
25/259	c5e6Li /SZAD	Low woodland; Allocasuarina huegeliana & York gum (E. loxophleba) /Southern Zone of Ancient Drainage	142	0.00	0.00	0.00	0.00	e
27/241	mLi/SR	Low woodland; paperbark (Melaleuca sp.)/Stirling Range Zone	45	28.78	63.44	28.78	63.44	
27/247	mLi/B	Low woodland; paperbark (Melaleuca sp.)/Boorokup Lakes Zone	16772	2554.56	15.23	3298.07	19.66	
27/257	mLi/ZRD	Low woodland; paperbark (Melaleuca sp.)/Zone of Rejuvenated Drainage	785	0.00	0.00	0.00	0.00	e
31/222	e6Mr m5Sc/DP	Shrublands; Melaleuca thyoides thicket with scattered York gum (E. loxophleba)/Dandaragan Plateau Zone	2382	174.01	7.30	177.10	7.43	g
31/257	e6Mr m5Sc/ZRD	Shrublands; Melaleuca thyoides thicket with scattered York gum (E. loxophleba)/Zone of Rejuvenated Drainage	251	0.00	0.00	0.00	0.00	e
35/223	e6Mr a19Si /VP	Shrublands; jam (A. acuminata) scrub with scattered York gum (E. loxophleba)/Victoria Plateau Zone	19671	88.11	0.45	299.06	1.52	g
36/223	acSc/VP	Shrublands; thicket, acacia-casuarina alliance /Victoria Plateau Zone	30198	266.23	0.88	302.37	1.00	g
36/258	acSc/NZAD	Shrublands; thicket, acacia-casuarina alliance /Northern Zone of Ancient Drainage	122262	2369.75	1.94	2369.75	1.94	g
36/271	acSc/IR	Shrublands; thicket, acacia-casuarina alliance /Irwin River Zone	121	0.00	0.00	0.00	0.00	e
37/222	mSc/DP	Shrublands; teatree thicket /Dandaragan Plateau Zone	1785	4.03	0.23	4.03	0.23	g
37/257	mSc/ZRD	Shrublands; teatree thicket /Zone of Rejuvenated Drainage	531	0.00	0.00	0.00	0.00	e
37/258	mSc/NZAD	Shrublands; teatree thicket /Northern Zone of Ancient Drainage	319	0.00	0.00	0.00	0.00	e

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
37/259	mSc/SZAD	Shrublands; teatree thicket /Southern Zone of Ancient Drainage	5943	1000.97	16.84	1000.97	16.84	e e g
38/241	xSc/SR	Shrublands; thicket, mixed/Stirling Range Zone	2352	2330.63	99.08	2330.63	99.08	
40/223	anSi/VP	Shrublands; acacia scrub, various species/Victoria Plateau Zone	1244	0.00	0.00	0.00	0.00	
40/271	anSi/IR	Shrublands; acacia scrub, various species/Irwin River Zone	1577	0.00	0.00	0.00	0.00	
41/246	mSi/SGM	Shrublands; teatree scrub /Salmon Gums-Mallee Zone	5817	228.60	3.93	2293.68	39.43	g g g g
41/259	mSi/SZAD	Shrublands; teatree scrub /Southern Zone of Ancient Drainage	13895	6314.64	45.45	6314.64	45.45	
47/241	e26SZc/SR	Shrublands; tallerack (E. tetragona) mallee-heath /Stirling Range Zone	27921	19728.86	70.66	19828.64	71.02	
47/243	e26SZc/JP	Shrublands; tallerack (E. tetragona) mallee-heath /Jerramungup Plain Zone	100417	14141.72	14.08	14141.72	14.08	
47/246	e26SZc/SGM	Shrublands; tallerack (E. tetragona) mallee-heath /Salmon Gums-Mallee Zone	49013	1167.61	2.38	1365.79	2.79	g g g g
47/247	e26SZc/B	Shrublands; tallerack (E. tetragona) mallee-heath /Boorokup Lakes Zone	1581	74.31	4.70	89.19	5.64	
47/259	e26SZc/SZAD	Shrublands; tallerack (E. tetragona) mallee-heath /Southern Zone of Ancient Drainage	71456	6851.76	9.59	9530.27	13.34	
48/226	xSZc/L	Shrublands; scrub-heath /Lockier Zone	1355	0.00	0.00	0.00	0.00	
48/257	xSZc/ZRD	Shrublands; scrub-heath /Zone of Rejuvenated Drainage	1334	211.19	15.83	211.19	15.83	e g e e
48/259	xSZc/SZAD	Shrublands; scrub-heath /Southern Zone of Ancient Drainage	655	280.41	42.82	280.41	42.82	
49/222	xZc/DP	Shrublands; mixed heath /Dandaragan Plateau Zone	18270	1086.90	5.95	1086.90	5.95	
49/223	xZc/VP	Shrublands; mixed heath /Victoria Plateau Zone	2974	0.00	0.00	0.00	0.00	
49/257	xZc/ZRD	Shrublands; mixed heath /Zone of Rejuvenated Drainage	1317	0.00	0.00	0.00	0.00	e e e e
51/246	xGc/SGM	Sedgeland; reed swamps, occasionally with heath/Salmon Gums-Mallee Zone	822	0.00	0.00	0.00	0.00	
51/257	xGc/ZRD	Sedgeland; reed swamps, occasionally with heath/Zone of Rejuvenated Drainage	72	0.00	0.00	0.00	0.00	
123/258	c2Lr k1,2Ci/NZAD	Succulent steppe with open low woodland; sheoak over saltbush & bluebush /Northern Zone of Ancient Drainage	36	0.00	0.00	0.00	0.00	
125/222	sl/DP	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Dandaragan Plateau Zone	2168	1546.46	71.35	1546.46	71.35	g g g g
125/226	sl/L	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Lockier Zone	639	80.34	12.57	80.34	12.57	
125/246	sl/SGM	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Salmon Gums-Mallee Zone	77137	395.08	0.51	682.83	0.89	
125/247	sl/B	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Boorokup Lakes Zone	3891	866.30	22.27	970.81	24.95	

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
125/257	sl/ZRD	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Zone of Rejuvenated Drainage	7320	2206.43	30.14	2206.43	30.14	g
125/258	sl/NZAD	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Northern Zone of Ancient Drainage	116248	11959.87	10.29	11959.87	10.29	
125/259	sl/SZAD	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Southern Zone of Ancient Drainage	98576	47392.94	48.08	47406.51	48.09	
125/261	sl/SC	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Southern Cross Zone	3745	162.72	4.34	162.72	4.34	g
125/271	sl/IR	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Irwin River Zone	2501	0.00	0.00	0.00	0.00	e
126/241	fl/SR	Bare and poorly vegetated areas; freshwater lakes /Stirling Range Zone	84	64.99	77.37	64.99	77.37	e
126/243	fl/JP	Bare and poorly vegetated areas; freshwater lakes /Jerramungup Plain Zone	49	0.00	0.00	0.00	0.00	
126/247	fl/B	Bare and poorly vegetated areas; freshwater lakes /Boorokup Lakes Zone	6721	5959.81	88.68	6182.10	91.98	e
126/257	fl/ZRD	Bare and poorly vegetated areas; freshwater lakes /Zone of Rejuvenated Drainage	38	0.00	0.00	0.00	0.00	
128/243	r/JP	Bare and poorly vegetated areas; rock outcrops/Jerramungup Plain Zone	238	0.00	0.00	0.00	0.00	e
128/246	r/SGM	Bare and poorly vegetated areas; rock outcrops/Salmon Gums-Mallee Zone	12048	68.71	0.57	240.65	2.00	g
128/257	r/ZRD	Bare and poorly vegetated areas; rock outcrops/Zone of Rejuvenated Drainage	5440	268.80	4.94	268.80	4.94	g
128/258	r/NZAD	Bare and poorly vegetated areas; rock outcrops/Northern Zone of Ancient Drainage	33699	2165.46	6.43	2165.46	6.43	g
128/259	r/SZAD	Bare and poorly vegetated areas; rock outcrops/Southern Zone of Ancient Drainage	25722	4467.28	17.37	4467.28	17.37	e
128/261	r/SC	Bare and poorly vegetated areas; rock outcrops/Southern Cross Zone	283	68.67	24.28	68.67	24.28	
128/271	r/IR	Bare and poorly vegetated areas; rock outcrops/Irwin River Zone	138	0.00	0.00	0.00	0.00	
131/258	e8,34Mi/e10,27Si/NZAD	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) / Shrublands; mallee scrub, redwood (E. transcontinentalis) & balck marlock (E. redunca)/Northern Zone of Ancient Drainage	37230	118.22	0.32	118.22	0.32	g
131/259	e8,34Mi/e10,27Si/SZAD	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & gimlet (E. salubris) / Shrublands; mallee scrub, redwood (E. transcontinentalis) & balck marlock (E. redunca)/Southern Zone of Ancient Drainage	160840	1559.37	0.97	1559.37	0.97	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
141/258	e6,8,34Mi/NZAD	Medium woodland; York gum (E. loxophleba), salmon gum (E. salmonophloia) & gimlet (E. salubris) /Northern Zone of Ancient Drainage	365797	2400.03	0.66	2400.03	0.66	g
141/259	e6,8,34Mi/SZAD	Medium woodland; York gum (E. loxophleba), salmon gum (E. salmonophloia) & gimlet (E. salubris) /Southern Zone of Ancient Drainage	184	0.00	0.00	0.00	0.00	e
142/222	e6,8Mi/DP	Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia)/Dandaragan Plateau Zone	2805	368.52	13.14	368.52	13.14	g
142/223	e6,8Mi/VP	Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia)/Victoria Plateau Zone	2238	0.00	0.00	0.00	0.00	e
142/226	e6,8Mi/L	Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia)/Lockier Zone	23425	50.77	0.22	50.77	0.22	g
142/257	e6,8Mi/ZRD	Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia)/Zone of Rejuvenated Drainage	349171	533.17	0.15	705.57	0.20	g
142/258	e6,8Mi/NZAD	Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia)/Northern Zone of Ancient Drainage	283266	1535.17	0.54	1535.17	0.54	g
142/259	e6,8Mi/SZAD	Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia)/Southern Zone of Ancient Drainage	13742	187.38	1.36	187.38	1.36	g
142/271	e6,8Mi/IR	Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia)/Irwin River Zone	69612	61.55	0.09	150.46	0.22	g
145/258	e6,8Mi/amcSc/NZAD	Mosaic: Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia) / Shrublands; thicket, acacia-casuarina-melaleuca alliance/Northern Zone of Ancient Drainage	8024	0.00	0.00	0.00	0.00	e
145/271	e6,8Mi/amcSc/IR	Mosaic: Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia) / Shrublands; thicket, acacia-casuarina-melaleuca alliance/Irwin River Zone	107	0.00	0.00	0.00	0.00	e
147/258	aSi k1Ci/NZAD	Succulent steppe with scrub; acacia species over saltbush/Northern Zone of Ancient Drainage	4702	51.56	1.10	51.56	1.10	g
147/261	aSi k1Ci/SC	Succulent steppe with scrub; acacia species over saltbush/Southern Cross Zone	208	0.00	0.00	0.00	0.00	e
221/246	k1Ci/SGM	Succulent steppe; saltbush/Salmon Gums-Mallee Zone	3789	0.00	0.00	0.00	0.00	e
221/258	k1Ci/NZAD	Succulent steppe; saltbush/Northern Zone of Ancient Drainage	557	14.43	2.59	14.43	2.59	g
254/222	e5,45Lr m6Sc/DP	Shrublands; Melaleuca uncinata thicket with scattered wandoo (E. wandoo) and powderbark wandoo (E. astringens) /Dandaragan Plateau Zone	364	0.00	0.00	0.00	0.00	e

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
308/223	a8Sp/k1,2Ci/VP	Mosaic: Shrublands; A. sclerosperma sparse scrub / Succulent steppe; saltbush & bluebush/Victoria Plateau Zone	4335	0.00	0.00	1.00	0.02	f
325/223	k1,3Ci/VP	Succulent steppe; saltbush & samphire/Victoria Plateau Zone	4395	0.00	0.00	0.00	0.00	e
325/226	k1,3Ci/L	Succulent steppe; saltbush & samphire/Lockier Zone	73	0.00	0.00	0.00	0.00	e
325/258	k1,3Ci/NZAD	Succulent steppe; saltbush & samphire/Northern Zone of Ancient Drainage	3031	0.00	0.00	0.00	0.00	e
351/223	e6,22Mr eaSi/VP	Shrublands; mallee & acacia scrub with scattered York gum (E. loxophleba) & red mallee (E. oleosa group)/Victoria Plateau Zone	8487	0.00	0.00	0.00	0.00	e
352/222	e6Mi/DP	Medium woodland; York gum (E. loxophleba)/Dandaragan Plateau Zone	2498	207.61	8.31	207.61	8.31	g
352/223	e6Mi/VP	Medium woodland; York gum (E. loxophleba)/Victoria Plateau Zone	7749	36.47	0.47	221.21	2.85	g
352/226	e6Mi/L	Medium woodland; York gum (E. loxophleba)/Lockier Zone	2433	0.00	0.00	0.00	0.00	e
352/241	e6Mi/SR	Medium woodland; York gum (E. loxophleba)/Stirling Range Zone	1190	0.00	0.00	0.00	0.00	e
352/243	e6Mi/JP	Medium woodland; York gum (E. loxophleba)/Jerramungup Plain Zone	246	0.00	0.00	0.00	0.00	e
352/257	e6Mi/ZRD	Medium woodland; York gum (E. loxophleba)/Zone of Rejuvenated Drainage	383351	1191.87	0.31	1261.62	0.33	g
352/258	e6Mi/NZAD	Medium woodland; York gum (E. loxophleba)/Northern Zone of Ancient Drainage	149791	801.10	0.53	801.10	0.53	g
352/259	e6Mi/SZAD	Medium woodland; York gum (E. loxophleba)/Southern Zone of Ancient Drainage	2228	0.00	0.00	0.00	0.00	e
352/271	e6Mi/IR	Medium woodland; York gum (E. loxophleba)/Irwin River Zone	141714	41.35	0.03	95.81	0.07	g
353/223	e6Mr eaSi/VP	Shrublands; mallee & acacia scrub with scattered York gum (E. loxophleba)/Victoria Plateau Zone	71471	58.88	0.08	647.25	0.91	g
353/226	e6Mr eaSi/L	Shrublands; mallee & acacia scrub with scattered York gum (E. loxophleba)/Lockier Zone	5471	0.00	0.00	0.00	0.00	e
353/271	e6Mr eaSi/IR	Shrublands; mallee & acacia scrub with scattered York gum (E. loxophleba)/Irwin River Zone	1138	0.00	0.00	6.20	0.55	f
354/222	e6Mr a19,23Si/DP	Shrublands; jam (A. acuminata) and A. rostellifera scrub with scattered York gum (E. loxophleba)/Dandaragan Plateau Zone	455	0.00	0.00	0.00	0.00	e
354/223	e6Mr a19,23Si/VP	Shrublands; jam (A. acuminata) and A. rostellifera scrub with scattered York gum (E. loxophleba)/Victoria Plateau Zone	759	0.00	0.00	52.85	6.97	f
354/226	e6Mr a19,23Si/L	Shrublands; jam (A. acuminata) and A. rostellifera scrub with scattered York gum (E. loxophleba)/Lockier Zone	78462	494.78	0.63	494.78	0.63	g
354/271	e6Mr a19,23Si/IR	Shrublands; jam (A. acuminata) and A. rostellifera scrub with scattered York gum (E. loxophleba)/Irwin River Zone	3104	0.00	0.00	0.00	0.00	e

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
355/271	e6,22Lr a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub with scattered York gum (E. loxophleba) & red mallee (E. oleosa group)/Irwin River Zone	2674	0.00	0.00	0.00	0.00	e
356/258	eMr k1Ci/NZAD	Succulent steppe with open woodland; eucalypts over saltbush/Northern Zone of Ancient Drainage	3332	135.26	4.06	135.26	4.06	g
358/271	a9,14Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & A. quadrimarginea on stony ridges/Irwin River Zone	272	0.00	0.00	0.00	0.00	e
364/223	ceLr a9Si/VP	Shrublands; bowgada (A. ramulosa-A.linophylla) scrub with scattered eucalypts & cypress pine (Callitris columellaris)/Victoria Plateau Zone	2659	0.00	0.00	0.00	0.00	e
365/271	e6,22Mr a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub with scattered York gum (E. loxophleba) & red mallee (E. oleosa group)/Irwin River Zone	3379	0.00	0.00	0.00	0.00	e
372/223	x3SZc/acSc/VP	Mosaic: Shrublands; scrub-heath on deep sandy flats / Shrublands; thicket, acacia-casuarina alliance /Victoria Plateau Zone	60703	1583.19	2.61	2625.23	4.32	g
374/271	e6Lr a9Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) scrub with scattered York gum (E. loxophleba) /Irwin River Zone	1989	0.00	0.00	1.63	0.08	f
379/222	x4SZc/DP	Shrublands; scrub-heath on lateritic sandplain in the central Geraldton Sandplain Region/Dandaragan Plateau Zone	186739	11822.21	6.33	11822.21	6.33	g
379/223	x4SZc/VP	Shrublands; scrub-heath on lateritic sandplain in the central Geraldton Sandplain Region/Victoria Plateau Zone	90328	6901.16	7.64	6968.39	7.71	g
380/223	x3SZc/VP	Shrublands; scrub-heath on sandplain/Victoria Plateau Zone	174460	12.79	0.01	2770.62	1.59	g
380/226	x3SZc/L	Shrublands; scrub-heath on sandplain/Lockier Zone	18647	259.71	1.39	259.77	1.39	g
380/243	x3SZc/JP	Shrublands; scrub-heath on sandplain/Jerramungup Plain Zone	1499	0.00	0.00	351.44	23.45	g
380/259	x3SZc/SZAD	Shrublands; scrub-heath on sandplain/Southern Zone of Ancient Drainage	31842	10941.46	34.36	10941.46	34.36	
380/271	x3SZc/IR	Shrublands; scrub-heath on sandplain/Irwin River Zone	10325	0.00	0.00	0.00	0.00	e
385/271	e6Mr a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub with scattered York gum (E. loxophleba)/Irwin River Zone	1281	0.00	0.00	0.00	0.00	e
391/222	m6Sc/DP	Shrublands; Melaleuca uncinata thicket /Dandaragan Plateau Zone	2490	415.21	16.68	415.21	16.68	
392/222	m5Sc/DP	Shrublands; Melaleuca thyioides thicket /Dandaragan Plateau Zone	832	112.50	13.52	112.50	13.52	g
392/257	m5Sc/ZRD	Shrublands; Melaleuca thyioides thicket /Zone of Rejuvenated Drainage	455	0.00	0.00	0.00	0.00	e
392/258	m5Sc/NZAD	Shrublands; Melaleuca thyioides thicket /Northern Zone of Ancient Drainage	615	0.00	0.00	0.00	0.00	e
392/271	m5Sc/IR	Shrublands; Melaleuca thyioides thicket /Irwin River Zone	330	0.00	0.00	0.00	0.00	e

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
404/223	a9,20Si/VP	Shrublands; bowgada (A. ramulosa-A.linophylla) & A. murrayana scrub/Victoria Plateau Zone	3400	0.00	0.00	0.00	0.00	e
407/257	c5Li a19Si/ZRD	Low woodland over scrub; Allocasuarina heugeliana overjam (A. acuminata) scrub/Zone of Rejuvenated Drainage	240	0.00	0.00	0.00	0.00	e
408/223	x2SZc/VP	Shrublands; scrub-heath on coastal association, yellow sandplain/Victoria Plateau Zone	96973	0.00	0.00	38.52	0.04	f
408/223	x2SZc/VP	Shrublands; scrub-heath on coastal association, yellow sandplain/Victoria Plateau Zone	96973	0.00	0.00	38.52	0.04	f
412/223	mSi k3Ci/VP	Succulent steppe with scrub; teatree (Melaleuca thyioides?) over samphire /Victoria Plateau Zone	4076	0.00	0.00	0.00	0.00	e
412/271	mSi k3Ci/IR	Succulent steppe with scrub; teatree (Melaleuca thyioides?) over samphire /Irwin River Zone	305	0.00	0.00	0.00	0.00	e
413/223	a33Sc/VP	Shrublands; A. neurophylla & A. species thicket/Victoria Plateau Zone	4771	0.00	0.00	0.00	0.00	e
413/246	a33Sc/SGM	Shrublands; A. neurophylla & A. species thicket/Salmon Gums-Mallee Zone	1110	0.00	0.00	0.00	0.00	e
413/258	a33Sc/NZAD	Shrublands; A. neurophylla & A. species thicket/Northern Zone of Ancient Drainage	711	16.72	2.35	16.72	2.35	g
419/271	a9,19m6Sc/IR	Shrublands; bowgada (A. ramulosa-A.linophylla),jam (A. acuminata) and Melaleuca uncinata thicket /Irwin River Zone	20495	0.00	0.00	0.00	0.00	e
420/222	a9,19Si/DP	Shrublands; bowgada (A. ramulosa-A.linophylla) &jam (A. acuminata) scrub/Dandaragan Plateau Zone	50	0.00	0.00	0.00	0.00	e
420/223	a9,19Si/VP	Shrublands; bowgada (A. ramulosa-A.linophylla) & jam (A. acuminata) scrub/Victoria Plateau Zone	1430	351.82	24.60	351.82	24.60	
420/226	a9,19Si/L	Shrublands; bowgada (A. ramulosa-A.linophylla) &jam (A. acuminata) scrub/Lockier Zone	2552	0.00	0.00	0.00	0.00	e
420/271	a9,19Si/IR	Shrublands; bowgada (A. ramulosa-A.linophylla) &jam (A. acuminata) scrub/Irwin River Zone	32404	0.00	0.00	0.00	0.00	e
435/257	a33,34,35Sc/ZRD	Shrublands; A. neurophylla, A. beauverdiana & A. resinomarginea thicket/Zone of Rejuvenated Drainage	604	0.00	0.00	0.00	0.00	e
435/258	a33,34,35Sc/NZAD	Shrublands; A. neurophylla, A. beauverdiana & A. resinomarginea thicket/Northern Zone of Ancient Drainage	229931	7502.45	3.26	7576.67	3.30	g
435/261	a33,34,35Sc/SC	Shrublands; A. neurophylla, A. beauverdiana & A. resinomarginea thicket/Southern Cross Zone	14430	0.00	0.00	0.00	0.00	e

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
435/271	a33,34,35Sc/IR	Shrublands; A. neurophylla, A. beauverdiana & A. resinomarginea thicket/Irwin River Zone	73173	0.00	0.00	12.27	0.02	f
437/258	anSc/NZAD	Shrublands; Mixed acacia thicket on sandplain/Northern Zone of Ancient Drainage	30959	1231.19	3.98	1231.19	3.98	g
437/271	anSc/IR	Shrublands; Mixed acacia thicket on sandplain/Irwin River Zone	13034	0.00	0.00	0.93	0.01	f
482/246	e11,22Mi/SGM	Medium woodland; merrit (E. floctoniae) & red mallee (E. oleosa group)/Salmon Gums-Mallee Zone	139317	0.00	0.00	0.00	0.00	e
486/246	e8,22Mi/e15Si/SGM	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & red mallee (E. oleosa group) / Shrublands; mallee scrub E. eremophila /Salmon Gums-Mallee Zone	276598	80.94	0.03	1039.51	0.38	g
511/241	e8,9Mi/SR	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Stirling Range Zone	2493	52.07	2.09	52.07	2.09	g
511/257	e8,9Mi/ZRD	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Zone of Rejuvenated Drainage	375	0.00	0.00	0.00	0.00	e
511/258	e8,9Mi/NZAD	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Northern Zone of Ancient Drainage	71913	1482.46	2.06	1482.46	2.06	g
511/259	e8,9Mi/SZAD	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Southern Zone of Ancient Drainage	114259	14753.42	12.91	14753.42	12.91	g
511/261	e8,9Mi/SC	Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis)/Southern Cross Zone	2312	0.00	0.00	0.00	0.00	e
512/246	e15,32Si/SGM	Shrublands; mallee scrub, E. eremophila & Forrest's marlock (E. forrestiana)/Salmon Gums-Mallee Zone	213327	881.44	0.41	4110.43	1.93	g
516/241	e27Si/SR	Shrublands; mallee scrub, balck marlock (E. redunca)/Stirling Range Zone	56017	87.25	0.16	87.25	0.16	g
516/243	e27Si/JP	Shrublands; mallee scrub, balck marlock (E. redunca)/Jerramungup Plain Zone	59652	25032.61	41.96	25032.61	41.96	
516/246	e27Si/SGM	Shrublands; mallee scrub, balck marlock (E. redunca)/Salmon Gums-Mallee Zone	163600	1924.90	1.18	6050.73	3.70	g
516/247	e27Si/B	Shrublands; mallee scrub, balck marlock (E. redunca)/Boorokup Lakes Zone	12516	405.69	3.24	405.69	3.24	g
516/257	e27Si/ZRD	Shrublands; mallee scrub, balck marlock (E. redunca)/Zone of Rejuvenated Drainage	960	0.00	0.00	0.00	0.00	e
516/258	e27Si/NZAD	Shrublands; mallee scrub, balck marlock (E. redunca)/Northern Zone of Ancient Drainage	50280	2939.46	5.85	2939.46	5.85	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
516/259	e27Si/SZAD	Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>)/Southern Zone of Ancient Drainage	488754	45114.68	9.23	45114.68	9.23	g
518/246	e11,12Mi/e15Si/SGM	Mosaic: Medium woodland; merriit (<i>E. floctoniae</i>) & coral gum (<i>E. toquata</i>) / Shrublands; mallee scrub <i>E. eremophila</i> /Salmon Gums-Mallee Zone	24739	0.00	0.00	0.00	0.00	e
519/241	e15Si/SR	Shrublands; mallee scrub, <i>E. eremophila</i> /Stirling Range Zone	11374	0.00	0.00	68.02	0.60	f
519/243	e15Si/JP	Shrublands; mallee scrub, <i>E. eremophila</i> /Jerramungup Plain Zone	131074	11652.77	8.89	12607.66	9.62	g
519/246	e15Si/SGM	Shrublands; mallee scrub, <i>E. eremophila</i> /Salmon Gums-Mallee Zone	428589	653.94	0.15	653.94	0.15	g
519/258	e15Si/NZAD	Shrublands; mallee scrub, <i>E. eremophila</i> /Northern Zone of Ancient Drainage	4673	0.00	0.00	0.00	0.00	e
519/259	e15Si/SZAD	Shrublands; mallee scrub, <i>E. eremophila</i> /Southern Zone of Ancient Drainage	779240	112611.25	14.45	112755.88	14.47	g
520/261	a14Sc/SC	Shrublands; <i>A. quadrimarginea</i> thicket/Southern Cross Zone	135	0.00	0.00	0.00	0.00	e
521/246	e8,22Mi/SGM	Medium woodland; salmon gum (<i>E. salmonophloia</i>) & red mallee (<i>E. oleosa</i> group)/Salmon Gums-Mallee Zone	6514	0.00	0.00	0.00	0.00	e
522/246	e10,11Mi/SGM	Medium woodland; redwood (<i>E. transcontinentalis</i>) & merriit (<i>E. floctoniae</i>)/Salmon Gums-Mallee Zone	35319	0.00	0.00	0.00	0.00	e
524/246	e14,22Mi/SGM	Medium woodland; Dundas blackbutt (<i>E. dundasii</i>) & red mallee (<i>E. oleosa</i> group)/Salmon Gums-Mallee Zone	2186	0.00	0.00	0.00	0.00	e
536/258	e9,35Mi/NZAD	Medium woodland; morrel (<i>E. longicornis</i>) & rough fruited mallee (<i>E. corrugata</i>)/Northern Zone of Ancient Drainage	11470	1373.73	11.98	1373.73	11.98	g
536/261	e9,35Mi/SC	Medium woodland; morrel (<i>E. longicornis</i>) & rough fruited mallee (<i>E. corrugata</i>)/Southern Cross Zone	2308	0.00	0.00	0.00	0.00	e
537/261	e9Mi/SC	Medium woodland; morrel (<i>E. longicornis</i>) (<i>E. longicornis</i>)/Southern Cross Zone	60	0.00	0.00	0.00	0.00	e
538/258	a15Si/NZAD	Shrublands; <i>A. brachystachya</i> scrub/Northern Zone of Ancient Drainage	6586	8.63	0.13	8.63	0.13	g
538/261	a15Si/SC	Shrublands; <i>A. brachystachya</i> scrub/Southern Cross Zone	22	0.00	0.00	0.00	0.00	e
551/226	c3Sc/L	Shrublands; <i>Allocasuarina campestris</i> thicket /Lockier Zone	402	0.00	0.00	0.00	0.00	e
551/246	c3Sc/SGM	Shrublands; <i>Allocasuarina campestris</i> thicket /Salmon Gums-Mallee Zone	5138	0.00	0.00	0.00	0.00	e
551/257	c3Sc/ZRD	Shrublands; <i>Allocasuarina campestris</i> thicket /Zone of Rejuvenated Drainage	57250	98.91	0.17	318.72	0.56	g
551/258	c3Sc/NZAD	Shrublands; <i>Allocasuarina campestris</i> thicket /Northern Zone of Ancient Drainage	181850	2641.88	1.45	2641.88	1.45	g
551/259	c3Sc/SZAD	Shrublands; <i>Allocasuarina campestris</i> thicket /Southern Zone of Ancient Drainage	1170	0.00	0.00	0.00	0.00	e
551/271	c3Sc/IR	Shrublands; <i>Allocasuarina campestris</i> thicket /Irwin River Zone	34892	52.25	0.15	151.61	0.43	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
552/246	c4Sc/SGM	Shrublands; Casuarina acutivalvus & calothamnus (also melaleuca) thicket on greenstone hills/Salmon Gums-Mallee Zone	2424	0.00	0.00	211.83	8.74	f
552/258	c4Sc/NZAD	Shrublands; Casuarina acutivalvus & calothamnus (also melaleuca) thicket on greenstone hills/Northern Zone of Ancient Drainage	171	0.00	0.00	0.00	0.00	e
552/259	c4Sc/SZAD	Shrublands; Casuarina acutivalvus & calothamnus (also melaleuca) thicket on greenstone hills/Southern Zone of Ancient Drainage	575	0.00	0.00	0.00	0.00	e
631/222	e6Mi m5Sc k3Ci/DP	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Dandaragan Plateau Zone	1832	1781.16	97.25	1781.16	97.25	
631/226	e6Mi m5Sc k3Ci/L	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Lockier Zone	1310	0.00	0.00	0.00	0.00	e
631/257	e6Mi m5Sc k3Ci/ZRD	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Zone of Rejuvenated Drainage	13271	0.00	0.00	117.44	0.88	f
631/258	e6Mi m5Sc k3Ci/NZAD	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Northern Zone of Ancient Drainage	45646	467.55	1.02	467.55	1.02	g
631/271	e6Mi m5Sc k3Ci/IR	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Irwin River Zone	27258	0.00	0.00	0.08	0.00	f
675/223	mhSc/VP	Shrublands; mixed thicket (melaleuca & hakea?)/Victoria Plateau Zone	759	0.00	0.00	0.00	0.00	e
676/258	k3Ci/NZAD	Succulent steppe; samphire/Northern Zone of Ancient Drainage	12103	39.35	0.33	39.35	0.33	g
676/259	k3Ci/SZAD	Succulent steppe; samphire/Southern Zone of Ancient Drainage	2140	451.27	21.08	451.27	21.08	
676/271	k3Ci/IR	Succulent steppe; samphire/Irwin River Zone	2280	2.65	0.12	2.65	0.12	g
684/226	e6Mr a19Si/c3Sc/L	Mosaic: Shrublands; Shrublands;jam (A. acuminata) scrub with scattered York gum (E. loxophleba) in the valleys / Allocasuarina campestris thicket /Lockier Zone	1192	0.00	0.00	0.00	0.00	e
684/271	e6Mr a19Si/c3Sc/IR	Mosaic: Shrublands; Shrublands;jam (A. acuminata) scrub with scattered York gum (E. loxophleba) in the valleys / Allocasuarina campestris thicket /Irwin River Zone	125990	249.94	0.20	320.61	0.25	g
686/271	e6,22Mi/IR	Medium woodland; York gum (E. loxophleba) & red mallee (E. oleosa group)/Irwin River Zone	5890	567.09	9.63	567.09	9.63	g
687/223	e6c5Mr a9,19Si/VP	Shrublands; bowgada (A. ramulosa-A.linophylla) &jam (A. acuminata) scrub with scattered Allocasuarina heugelliana & York gum (E. loxophleba)/Victoria Plateau Zone	16584	0.00	0.00	0.00	0.00	e

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
687/271	e6c5Mr a9,19Si/IR	Shrublands; bowgada (<i>A. ramulosa</i> - <i>A. linophylla</i>) & jam (<i>A. acuminata</i>) scrub with scattered <i>Allocasuarina heugelliana</i> & York gum (<i>E. loxophleba</i>)/Irwin River Zone	554	0.00	0.00	0.00	0.00	e
691/222	edSc/DP	Shrublands; <i>Dryandra quercifolia</i> & <i>Eucalyptus</i> spp. thicket /Dandaragan Plateau Zone	2670	0.00	0.00	0.00	0.00	e
691/226	edSc/L	Shrublands; <i>Dryandra quercifolia</i> & <i>Eucalyptus</i> spp. thicket /Lockier Zone	7430	0.00	0.00	0.00	0.00	e
692/271	cmSc/IR	Shrublands; casuarina & melaleuca thicket/Irwin River Zone	2918	0.00	0.00	63.42	2.17	f
693/271	c5Li eaSi/c3Sc/IR	Mosaic: Low woodland: <i>Allocasuarina heugelliana</i> over mallee and acacia scrub / <i>Allocasuarina campestris</i> thicket /Irwin River Zone	4377	0.00	0.00	0.00	0.00	e
694/222	x8SZc/DP	Shrublands; scrub-heath on yellow sandplain banksia-xylocarp alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Dandaragan Plateau Zone	56957	29211.92	51.29	29216.09	51.30	
694/226	x8SZc/L	Shrublands; scrub-heath on yellow sandplain banksia-xylocarp alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Lockier Zone	1404	0.00	0.00	0.00	0.00	e
694/257	x8SZc/ZRD	Shrublands; scrub-heath on yellow sandplain banksia-xylocarp alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Zone of Rejuvenated Drainage	204250	2651.68	1.30	2923.59	1.43	g
694/258	x8SZc/NZAD	Shrublands; scrub-heath on yellow sandplain banksia-xylocarp alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Northern Zone of Ancient Drainage	86278	706.17	0.82	706.17	0.82	g
695/257	c3Si /ZRD	Shrublands; <i>Allocasuarina campestris</i> scrub /Zone of Rejuvenated Drainage	636	0.00	0.00	0.00	0.00	e
695/258	c3Si /NZAD	Shrublands; <i>Allocasuarina campestris</i> scrub /Northern Zone of Ancient Drainage	31	0.00	0.00	0.00	0.00	e
696/222	e5,45Li cdSc/DP	Shrublands; casuarina & dryandra thicket with wandoo (<i>E. wandoo</i>) and powderbark wandoo (<i>E. astringens</i>) /Dandaragan Plateau Zone	394	227.28	57.67	227.28	57.67	
696/226	e5,45Li cdSc/L	Shrublands; casuarina & dryandra thicket with wandoo (<i>E. wandoo</i>) and powderbark wandoo (<i>E. astringens</i>) /Lockier Zone	2695	27.04	1.00	89.98	3.34	g
697/222	x7SZc/DP	Shrublands; scrub-heath on lateritic sandplain in the southern Geraldton Sandplain Region/Dandaragan Plateau Zone	47976	10501.71	21.89	10501.71	21.89	
697/257	x7SZc/ZRD	Shrublands; scrub-heath on lateritic sandplain in the southern Geraldton Sandplain Region/Zone of Rejuvenated Drainage	23791	2584.62	10.86	2584.62	10.86	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
698/222	x9SZc/e5,45Lp/DP	Mosaic: Shrublands; scrub-heath Dryandra-Calothamnus assoc. with B. prionotes on limestone in the northern Swan Region / Sparse low woodland; wandoo (E. wandoo) & powderbark wandoo (E. accedens)/Dandaragan Plateau Zone	3516	72.03	2.05	72.03	2.05	g
698/226	x9SZc/e5,45Lp/L	Mosaic: Shrublands; scrub-heath Dryandra-Calothamnus assoc. with B. prionotes on limestone in the northern Swan Region / Sparse low woodland; wandoo (E. wandoo) & powderbark wandoo (E. accedens)/Lockier Zone	7955	0.00	0.00	0.00	0.00	e
924/246	e15,22Si/SGM	Shrublands; mallee scrub, E. eremophila & red mallee (E. oleosa group)/Salmon Gums-Mallee Zone	81464	1008.90	1.24	1008.90	1.24	g
925/246	e22Si/SGM	Shrublands; mallee scrub, red mallee (E. oleosa group)/Salmon Gums-Mallee Zone	5159	0.00	0.00	0.00	0.00	e
929/246	e33Lc/SGM	Low forest; moort (E. platypus)/Salmon Gums-Mallee Zone	852	0.00	0.00	130.11	15.28	g
929/259	e33Lc/SZAD	Low forest; moort (E. platypus)/Southern Zone of Ancient Drainage	841	3.83	0.46	3.83	0.46	g
931/241	e7Mi/SR	Medium woodland; yate (E. occidentalis)/Stirling Range Zone	6490	134.95	2.08	134.95	2.08	g
931/243	e7Mi/JP	Medium woodland; yate (E. occidentalis)/Jerramungup Plain Zone	7907	510.32	6.45	510.32	6.45	g
931/246	e7Mi/SGM	Medium woodland; yate (E. occidentalis)/Salmon Gums-Mallee Zone	604	0.00	0.00	48.12	7.96	f
931/247	e7Mi/B	Medium woodland; yate (E. occidentalis)/Boorokup Lakes Zone	733	122.72	16.74	122.72	16.74	
931/257	e7Mi/ZRD	Medium woodland; yate (E. occidentalis)/Zone of Rejuvenated Drainage	1542	36.38	2.36	36.38	2.36	g
931/259	e7Mi/SZAD	Medium woodland; yate (E. occidentalis)/Southern Zone of Ancient Drainage	3488	331.01	9.49	458.16	13.14	g
934/241	e28Si/SR	Shrublands; mallee scrub E. nutans/Stirling Range Zone	1022	68.26	6.68	68.26	6.68	g
934/246	e28Si/SGM	Shrublands; mallee scrub E. nutans/Salmon Gums-Mallee Zone	159	0.00	0.00	101.92	63.92	g
934/259	e28Si/SZAD	Shrublands; mallee scrub E. nutans/Southern Zone of Ancient Drainage	274	0.00	0.00	0.00	0.00	e
936/246	e8Mi/SGM	Medium woodland; salmon gum (E. salmonophloia) /Salmon Gums-Mallee Zone	38047	0.00	0.00	0.00	0.00	e
936/257	e8Mi/ZRD	Medium woodland; salmon gum (E. salmonophloia) /Zone of Rejuvenated Drainage	1394	0.00	0.00	23.59	1.69	f
936/258	e8Mi/NZAD	Medium woodland; salmon gum (E. salmonophloia) /Northern Zone of Ancient Drainage	1753	0.00	0.00	0.00	0.00	e
936/259	e8Mi/SZAD	Medium woodland; salmon gum (E. salmonophloia) /Southern Zone of Ancient Drainage	34862	4826.61	13.84	4826.61	13.84	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
938/241	e6,7Mi/SR	Medium woodland; York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Stirling Range Zone	68834	1003.88	1.46	1052.59	1.53	g
938/257	e6,7Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Zone of Rejuvenated Drainage	1132	0.00	0.00	0.00	0.00	e
938/259	e6,7Mi/SZAD	Medium woodland; York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Southern Zone of Ancient Drainage	95	32.26	34.11	32.26	34.11	
939/259	e6Mi mSp k3Ci/SZAD	Succulent steppe with woodland; yorkgum, sparse teatree scrub & samphire/Southern Zone of Ancient Drainage	116	0.00	0.00	0.00	0.00	e
940/241	e27Si/e26SZc/SR	Mosaic: Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>) / Shrublands; tallerack (<i>E. tetragona</i>) mallee-heath /Stirling Range Zone	27778	0.00	0.00	11.41	0.04	f
940/243	e27Si/e26SZc/JP	Mosaic: Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>) / Shrublands; tallerack (<i>E. tetragona</i>) mallee-heath /Jerramungup Plain Zone	202668	49832.57	24.59	50086.74	24.71	
940/259	e27Si/e26SZc/SZAD	Mosaic: Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>) / Shrublands; tallerack (<i>E. tetragona</i>) mallee-heath /Southern Zone of Ancient Drainage	2856	0.00	0.00	0.00	0.00	e
941/259	e8,9Mi/e10Si/SZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Shrublands; mallee scrub, redwood (<i>E. transcontinentalis</i>) /Southern Zone of Ancient Drainage	23560	3392.19	14.40	3392.19	14.40	g
942/243	e7Mi/e27Si/JP	Mosaic: Medium woodland; yate (<i>E. occidentalis</i>) / Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>)/Jerramungup Plain Zone	33483	152.45	0.46	261.36	0.78	g
942/259	e7Mi/e27Si/SZAD	Mosaic: Medium woodland; yate (<i>E. occidentalis</i>) / Shrublands; mallee scrub, balck marlock (<i>E. redunca</i>)/Southern Zone of Ancient Drainage	62	0.00	0.00	0.00	0.00	e
945/258	e8Mi/e10,27Si/NZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) / Shrublands; mallee scrub, redwood (<i>E. transcontinentalis</i>) & black marlock (<i>E. redunca</i>) /Northern Zone of Ancient Drainage	51538	180.77	0.35	180.77	0.35	g
945/259	e8Mi/e10,27Si/SZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) / Shrublands; mallee scrub, redwood (<i>E. transcontinentalis</i>) & black marlock (<i>E. redunca</i>) /Southern Zone of Ancient Drainage	124671	3688.38	2.96	3688.38	2.96	g
946/222	e5Mi/DP	Medium woodland; wandoo (<i>E. wandoo</i>)/Dandaragan Plateau Zone	136	0.00	0.00	0.00	0.00	e
946/257	e5Mi/ZRD	Medium woodland; wandoo (<i>E. wandoo</i>)/Zone of Rejuvenated Drainage	61960	3545.15	5.72	3545.15	5.72	g
946/258	e5Mi/NZAD	Medium woodland; wandoo (<i>E. wandoo</i>)/Northern Zone of Ancient Drainage	5864	63.95	1.09	63.95	1.09	g
946/259	e5Mi/SZAD	Medium woodland; wandoo (<i>E. wandoo</i>)/Southern Zone of Ancient Drainage	5942	30.96	0.52	30.96	0.52	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
947/241	e64,45Mi/SR	Medium woodland; powderbark (E.accedens) & mallet (E.astringens)/Stirling Range Zone	86	0.00	0.00	0.00	0.00	e
947/257	e64,45Mi/ZRD	Medium woodland; powderbark (E.accedens) & mallet (E.astringens)/Zone of Rejuvenated Drainage	30626	5341.07	17.44	5341.07	17.44	
947/259	e64,45Mi/SZAD	Medium woodland; powderbark (E.accedens) & mallet (E.astringens)/Southern Zone of Ancient Drainage	1115	0.00	0.00	0.00	0.00	e
948/257	e6,18Mr/ZRD	Medium woodland; York gum (E. loxophleba) & river gum (E. rudis or E. camaldulensis) /Zone of Rejuvenated Drainage	657	0.00	0.00	0.00	0.00	e
948/259	e6,18Mr/SZAD	Medium woodland; York gum (E. loxophleba) & river gum (E. rudis or E. camaldulensis) /Southern Zone of Ancient Drainage	793	0.11	0.01	0.11	0.01	g
949/222	bLi/DP	Low woodland; banksia/Dandaragan Plateau Zone	34334	188.89	0.55	2760.02	8.04	g
949/257	bLi/ZRD	Low woodland; banksia/Zone of Rejuvenated Drainage	4798	98.02	2.04	98.02	2.04	g
949/258	bLi/NZAD	Low woodland; banksia/Northern Zone of Ancient Drainage	81	0.00	0.00	0.00	0.00	e
949/259	bLi/SZAD	Low woodland; banksia/Southern Zone of Ancient Drainage	1035	0.00	0.00	0.00	0.00	e
950/257	c6Mi/ZRD	Medium woodland; Casuarina obesa /Zone of Rejuvenated Drainage	373	0.07	0.02	0.07	0.02	g
950/258	c6Mi/NZAD	Medium woodland; Casuarina obesa /Northern Zone of Ancient Drainage	132	107.74	81.46	107.74	81.46	
951/257	e6,66Mp mSc k3Ci/ZRD	Succulent steppe with sparse woodland & thicket; York gum (E. loxophleba) & Kondinin blackbutt over teatree thicket & samphire/Zone of Rejuvenated Drainage	34	0.22	0.66	0.22	0.66	g
951/258	e6,66Mp mSc k3Ci/NZAD	Succulent steppe with sparse woodland & thicket; York gum (E. loxophleba) & Kondinin blackbutt over teatree thicket & samphire/Northern Zone of Ancient Drainage	27284	4465.57	16.37	4465.57	16.37	
951/259	e6,66Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; York gum (E. loxophleba) & Kondinin blackbutt over teatree thicket & samphire/Southern Zone of Ancient Drainage	257	9.35	3.64	9.35	3.64	g
952/222	dZc /DP	Shrublands; dryandra heath/Dandaragan Plateau Zone	39659	13.35	0.03	13.35	0.03	g
952/257	dZc /ZRD	Shrublands; dryandra heath/Zone of Rejuvenated Drainage	4425	1013.99	22.92	1013.99	22.92	
952/259	dZc /SZAD	Shrublands; dryandra heath/Southern Zone of Ancient Drainage	15282	2816.58	18.43	2816.58	18.43	
953/257	mSc k3Ci/ZRD	Succulent steppe with thicket; teatree over samphire /Zone of Rejuvenated Drainage	103	29.75	28.82	29.75	28.82	
953/259	mSc k3Ci/SZAD	Succulent steppe with thicket; teatree over samphire /Southern Zone of Ancient Drainage	9916	651.96	6.58	651.96	6.58	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
954/257	a19c5Si/ZRD	Shrublands; thicket, jam (A. acuminata) & Allocasuarina huegeliana/Zone of Rejuvenated Drainage	386	0.00	0.00	0.00	0.00	e
954/258	a19c5Si/NZAD	Shrublands; thicket,jam (A. acuminata) & Allocasuarina huegeliana/Northern Zone of Ancient Drainage	5445	323.75	5.95	323.75	5.95	g
955/258	x10SZc/c3Sc/NZAD	Mosaic: Shrublands; scrub-heath (SE Avon)/ Shrublands; Allocasuarina campestris thicket /Northern Zone of Ancient Drainage	84354	685.52	0.81	685.52	0.81	g
955/259	x10SZc/c3Sc/SZAD	Mosaic: Shrublands; scrub-heath (SE Avon)/ Shrublands; Allocasuarina campestris thicket /Southern Zone of Ancient Drainage	53892	375.71	0.70	375.71	0.70	g
956/258	e5Mr c3Sc/NZAD	Shrublands; Allocasuarina campestris thicket with scattered wandoo (E. wandoo)/Northern Zone of Ancient Drainage	25293	876.63	3.47	876.63	3.47	g
956/259	e5Mr c3Sc/SZAD	Shrublands; Allocasuarina campestris thicket with scattered wandoo (E. wandoo)/Southern Zone of Ancient Drainage	14	0.00	0.00	0.00	0.00	e
959/258	e36,66Mp mSc k3Ci/NZAD	Succulent steppe with sparse woodland & thicket; yorrell (E.gracilis) & Kondinin blackbutt over teatree & samphire/Northern Zone of Ancient Drainage	6155	1086.04	17.65	1086.04	17.65	
959/259	e36,66Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; yorrell (E.gracilis) & Kondinin blackbutt over teatree & samphire/Southern Zone of Ancient Drainage	7054	1675.33	23.75	1675.33	23.75	
960/258	e10,27Si/NZAD	Shrublands; mallee scrub, redwood (E. transcontinentalis) & balck marlock (E. redunca)/Northern Zone of Ancient Drainage	51550	950.73	1.84	950.73	1.84	g
960/259	e10,27Si/SZAD	Shrublands; mallee scrub, redwood (E. transcontinentalis) & balck marlock (E. redunca)/Southern Zone of Ancient Drainage	107615	3374.42	3.14	3374.42	3.14	g
961/258	x10SZc/c4Sc/NZAD	Mosaic: Shrublands; scrub-heath (SE Avon)/ Shrublands; Allocasuarina acutivalvis thicket /Northern Zone of Ancient Drainage	11748	612.09	5.21	612.09	5.21	g
961/259	x10SZc/c4Sc/SZAD	Mosaic: Shrublands; scrub-heath (SE Avon)/ Shrublands; Allocasuarina acutivalvis thicket /Southern Zone of Ancient Drainage	13254	1638.97	12.37	1638.97	12.37	g
962/257	e64Mi/ZRD	Medium woodland; mallet (E. astringens)/Zone of Rejuvenated Drainage	1219	0.00	0.00	0.00	0.00	e
963/259	e7mMi/SZAD	Medium woodland; yate (E. occidentalis) & paperbark (Melaleuca spp)/Southern Zone of Ancient Drainage	4086	430.85	10.54	430.85	10.54	g
965/222	e2,3Mi/DP	Medium woodland; jarrah (E. marginata) & marri (E. calophylla)/Dandaragan Plateau Zone	380	0.00	0.00	2.40	0.63	f
965/241	e2,3Mi/SR	Medium woodland; jarrah (E. marginata) & marri (E. calophylla)/Stirling Range Zone	2412	1026.16	42.54	1026.16	42.54	

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
966/259	e8,9Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) over teatree & samphire/Southern Zone of Ancient Drainage	3231	0.00	0.00	0.00	0.00	e
967/241	e5,7Mi/SR	Medium woodland; wandoo (<i>E. wandoo</i>) & yate (<i>E. occidentalis</i>)/Stirling Range Zone	38859	326.64	0.84	326.64	0.84	g
967/247	e5,7Mi/B	Medium woodland; wandoo (<i>E. wandoo</i>) & yate (<i>E. occidentalis</i>)/Boorokup Lakes Zone	23298	131.45	0.56	131.45	0.56	g
967/257	e5,7Mi/ZRD	Medium woodland; wandoo (<i>E. wandoo</i>) & yate (<i>E. occidentalis</i>)/Zone of Rejuvenated Drainage	120000	275.00	0.23	275.00	0.23	g
967/259	e5,7Mi/SZAD	Medium woodland; wandoo (<i>E. wandoo</i>) & yate (<i>E. occidentalis</i>)/Southern Zone of Ancient Drainage	6329	84.35	1.33	84.35	1.33	g
968/241	e2,3,5Mi/SR	Medium woodland; jarrah (<i>E. marginata</i>), marri (<i>E. calophylla</i>) & wandoo (<i>E. wandoo</i>)/Stirling Range Zone	23117	8468.77	36.63	8468.77	36.63	
968/247	e2,3,5Mi/B	Medium woodland; jarrah (<i>E. marginata</i>), marri (<i>E. calophylla</i>) & wandoo (<i>E. wandoo</i>)/Boorokup Lakes Zone	53	0.80	1.50	0.80	1.50	g
968/257	e2,3,5Mi/ZRD	Medium woodland; jarrah (<i>E. marginata</i>), marri (<i>E. calophylla</i>) & wandoo (<i>E. wandoo</i>)/Zone of Rejuvenated Drainage	8128	0.00	0.00	0.00	0.00	e
970/241	e2,67Lc/SR	Low forest; jarrah (<i>E. marginata</i>) & <i>E. decipiens</i> /Stirling Range Zone	1393	1385.31	99.47	1385.31	99.47	
974/241	e6,8,9Mi/SR	Medium woodland; York gum (<i>E. loxophleba</i>), salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>)/Stirling Range Zone	7267	0.00	0.00	0.00	0.00	e
975/241	e2Li/SR	Low woodland; jarrah (<i>E. marginata</i>)/Stirling Range Zone	9795	8837.66	90.22	8837.66	90.22	
975/247	e2Li/B	Low woodland; jarrah (<i>E. marginata</i>)/Boorokup Lakes Zone	63	0.06	0.10	51.17	81.20	g
976/247	mLi k3Ci/B	Succulent steppe with low woodland; myoporum over samphire/Boorokup Lakes Zone	825	448.00	54.33	448.00	54.33	
976/257	mLi k3Ci/ZRD	Succulent steppe with low woodland; myoporum over samphire/Zone of Rejuvenated Drainage	1348	6.55	0.49	6.55	0.49	g
980/241	e2SZc/SR	Shrublands; jarrah (<i>E. marginata</i>) mallee-heath /Stirling Range Zone	39749	39419.02	99.17	39419.02	99.17	
981/241	e5,6,7Mi/SR	Medium woodland; wandoo (<i>E. wandoo</i>), York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Stirling Range Zone	7564	0.00	0.00	0.00	0.00	e
981/247	e5,6,7Mi/B	Medium woodland; wandoo (<i>E. wandoo</i>), York gum (<i>E. loxophleba</i>) & yate (<i>E. occidentalis</i>)/Boorokup Lakes Zone	3021	0.00	0.00	0.00	0.00	e
982/241	e67Li/SR	Low woodland; <i>E. decipiens</i> /Stirling Range Zone	895	559.23	62.45	559.23	62.45	
986/241	enSZc/SR	Shrublands; mallee-heath (Stirling Ra.)/Stirling Range Zone	14587	9192.58	63.02	9192.58	63.02	

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
986/247	enSZc/B	Shrublands; mallee-heath (Stirling Ra.)/Boorokup Lakes Zone	13782	2331.45	16.92	2976.48	21.60	e
987/222	e2,5Mi/DP	Medium woodland; jarrah (E. marginata) & wandoo (E. wandoo)/Dandaragan Plateau Zone	43	0.00	0.00	0.00	0.00	
987/241	e2,5Mi/SR	Medium woodland; jarrah (E. marginata) & wandoo (E. wandoo)/Stirling Range Zone	752	722.05	96.06	722.05	96.06	
988/222	m5Sc k3Ci/DP	Succulent steppe with thicket; Melaleuca thyoides over samphire/Dandaragan Plateau Zone	4351	1204.40	27.68	1204.40	27.68	e
988/226	m5Sc k3Ci/L	Succulent steppe with thicket; Melaleuca thyoides over samphire/Lockier Zone	570	0.00	0.00	0.00	0.00	
988/257	m5Sc k3Ci/ZRD	Succulent steppe with thicket; Melaleuca thyoides over samphire/Zone of Rejuvenated Drainage	40372	691.33	1.71	691.33	1.71	
988/258	m5Sc k3Ci/NZAD	Succulent steppe with thicket; Melaleuca thyoides over samphire/Northern Zone of Ancient Drainage	48911	347.48	0.71	347.48	0.71	g
988/271	m5Sc k3Ci/IR	Succulent steppe with thicket; Melaleuca thyoides over samphire/Irwin River Zone	3225	0.00	0.00	0.00	0.00	e
991/241	e5Mi/SR	Medium woodland; wandoo (E. wandoo)/Stirling Range Zone	591	509.00	86.13	509.00	86.13	e
992/241	e2,5Mc/SR	Medium forest; jarrah (E. marginata) & wandoo (E. wandoo) (E. wandoo (E. wandoo))/Stirling Range Zone	680	677.13	99.51	677.13	99.51	
993/241	c5e6Mi/SR	Medium woodland; York gum (E. loxophleba) & Allocasuarina huegeliana /Stirling Range Zone	2109	0.00	0.00	0.00	0.00	
999/222	e3Mi/DP	Medium woodland; marri (E. calophylla)/Dandaragan Plateau Zone	98201	0.00	0.00	85.98	0.09	f
1003/257	e2,3,5Mc/ZRD	Medium forest; jarrah (E. marginata), marri (E. calophylla) & wandoo (E. wandoo)/Zone of Rejuvenated Drainage	11439	543.61	4.75	543.61	4.75	g
1004/247	e5Mr/xZc/B	Mosaic: Medium open woodland; wandoo (E. wandoo) / Shrublands; mixed heath /Boorokup Lakes Zone	2302	3.59	0.16	3.59	0.16	g
1004/257	e5Mr/xZc/ZRD	Mosaic: Medium open woodland; wandoo (E. wandoo) / Shrublands; mixed heath /Zone of Rejuvenated Drainage	6940	3.65	0.05	3.65	0.05	g
1005/259	c5Li/SZAD	Low woodland; Allocasuarina huegeliana/Southern Zone of Ancient Drainage	530	0.00	0.00	0.00	0.00	e
1006/257	e2,5,45Mi/ZRD	Medium woodland; jarrah (E. marginata), wandoo (E. wandoo) & powderbark /Zone of Rejuvenated Drainage	1368	353.70	25.85	353.70	25.85	e
1008/222	e3Mr/DP	Medium open woodland; marri (E. calophylla)/Dandaragan Plateau Zone	1389	0.00	0.00	0.00	0.00	

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
1014/222	bLi/mSc/DP	Mosaic: Low woodland; banksia / Shrublands; teatree thicket /Dandaragan Plateau Zone	177	0.00	0.00	0.00	0.00	e
1015/222	x14SZc/dZc/DP	Mosaic: Shrublands; scrub-heath on the Swan Coastal Plain / Shrublands; dryandra heath/Dandaragan Plateau Zone	19328	0.00	0.00	159.77	0.83	f
1017/222	e2,3Mr bLi/DP	Medium open woodland; jarrah (E. marginata) & marri (E. calophylla), with low woodland; banksia/Dandaragan Plateau Zone	5799	3.19	0.06	3.19	0.06	g
1018/222	e2,3Mi/bLi/mLc/c6Li /DP	Mosaic: Medium forest; jarrah (E. marginata), marri (E. calophylla) / Low woodland; banksia / Low forest; teatree / Low woodland; Casuarina obesa/Dandaragan Plateau Zone	51	0.00	0.00	0.00	0.00	e
1019/222	e2,3Mp/DP	Medium sparse woodland; jarrah (E. marginata) & marri (E. calophylla) /Dandaragan Plateau Zone	673	0.00	0.00	0.00	0.00	e
1020/222	e2,3Mc/e3,5Mi/DP	Mosaic: Medium forest; jarrah (E. marginata), marri (E. calophylla) / Medium woodland; marri (E. calophylla)-wandoo (E. wandoo)/Dandaragan Plateau Zone	5009	17.45	0.35	96.06	1.92	g
1021/257	e5Mr/dZc/ZRD	Mosaic: Medium open woodland; wandoo (E. wandoo) / Shrublands; dryandra heath/Zone of Rejuvenated Drainage	16	0.00	0.00	0.00	0.00	e
1022/257	c6Mi k3Ci/ZRD	Succulent steppe with woodland; Casuarina obesa & samphire /Zone of Rejuvenated Drainage	460	0.00	0.00	0.00	0.00	e
1023/222	e5,6,8Mi/DP	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Dandaragan Plateau Zone	1380	0.00	0.00	57.07	4.13	f
1023/241	e5,6,8Mi/SR	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Stirling Range Zone	7478	17.61	0.24	17.61	0.24	g
1023/257	e5,6,8Mi/ZRD	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Zone of Rejuvenated Drainage	562448	9648.89	1.72	9678.91	1.72	g
1023/258	e5,6,8Mi/NZAD	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Northern Zone of Ancient Drainage	207631	1341.05	0.65	1341.05	0.65	g
1023/259	e5,6,8Mi/SZAD	Medium woodland; York gum (E. loxophleba), wandoo (E. wandoo) & salmon gum (E. salmonophloia) /Southern Zone of Ancient Drainage	572072	3791.60	0.66	3791.60	0.66	g
1024/257	ecSc/ZRD	Shrublands; mallee & casuarina thicket/Zone of Rejuvenated Drainage	69521	518.61	0.75	518.61	0.75	g
1024/258	ecSc/NZAD	Shrublands; mallee & casuarina thicket/Northern Zone of Ancient Drainage	648967	3772.44	0.58	3772.44	0.58	g
1025/257	e6,8,9Mi/k1,3Ci/ZRD	Mosaic: Medium woodland; York gum (E. loxophleba), salmon gum (E. salmonophloia) & morrel (E. longicornis) / Succulent steppe; saltbush & samphire/Zone of Rejuvenated Drainage	246	0.00	0.00	0.00	0.00	e

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
1025/258	e6,8,9Mi/k1,3Ci/NZA D	Mosaic: Medium woodland; York gum (<i>E. loxophleba</i>), salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Succulent steppe; saltbush & samphire/Northern Zone of Ancient Drainage	1697	0.00	0.00	0.00	0.00	e
1027/222	e2,3Mr bLi/e2,3,Mp/DP	Mosaic: Medium open woodland; jarrah (<i>E. marginata</i>) & marri (<i>E. calophylla</i>), with low woodland; banksia / Medium sparse woodland; jarrah (<i>E. marginata</i>) & marri (<i>E. calophylla</i>) /Dandaragan Plateau Zone	39599	0.19	0.00	6833.93	17.26	g
1028/222	e18Mi/DP	Medium woodland; river gum (<i>E. rudis</i>)/Dandaragan Plateau Zone	73	0.00	0.00	0.00	0.00	e
1030/222	b1,2Li/DP	Low woodland; Banksia attenuata & B. menziesii/Dandaragan Plateau Zone	21654	0.01	0.00	95.89	0.44	g
1031/222	hSZc/dZc/DP	Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath/Dandaragan Plateau Zone	67600	5137.61	7.60	5137.61	7.60	g
1031/257	hSZc/dZc/ZRD	Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath/Zone of Rejuvenated Drainage	413	0.00	0.00	0.00	0.00	e
1035/222	e3Mr/dZc/DP	Mosaic: Medium open woodland; marri (<i>E. calophylla</i>) / Shrublands; dryandra heath/Dandaragan Plateau Zone	4187	0.00	0.00	0.43	0.01	f
1036/222	b3Li/DP	Low woodland; Banksia prionotes/Dandaragan Plateau Zone	85841	13964.64	16.27	14322.24	16.68	g
1036/257	b3Li/ZRD	Low woodland; Banksia prionotes/Zone of Rejuvenated Drainage	1415	6.05	0.43	6.05	0.43	
1037/222	e6,18Mi/DP	Medium woodland; York gum (<i>E. loxophleba</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>) /Dandaragan Plateau Zone	1782	1734.01	97.30	1734.01	97.30	e
1037/257	e6,18Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>) /Zone of Rejuvenated Drainage	617	550.19	89.19	550.19	89.19	
1038/222	eMr b1,2Li/DP	Medium open woodland; eucalypts, with low woodland; Banksia attenuata & B. menziesii/Dandaragan Plateau Zone	1729	0.00	0.00	0.00	0.00	e
1039/222	e6Mr eSi/DP	Shrublands; mallee with scattered York gum (<i>E. loxophleba</i>) /Dandaragan Plateau Zone	1757	1074.09	61.12	1074.09	61.12	g
1039/257	e6Mr eSi/ZRD	Shrublands; mallee with scattered York gum (<i>E. loxophleba</i>) /Zone of Rejuvenated Drainage	302	9.28	3.08	9.28	3.08	
1040/222	c6e6Mi/DP	Medium woodland; York gum (<i>E. loxophleba</i>) & Casuarina obesa/Dandaragan Plateau Zone	2122	0.00	0.00	10.29	0.48	f
1040/257	c6e6Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & Casuarina obesa/Zone of Rejuvenated Drainage	733	0.00	0.00	0.00	0.00	e
1041/257	c5a19Li/ZRD	Low woodland; Allocasuarina huegeliana & jam (<i>A. acuminata</i>)/Zone of Rejuvenated Drainage	2556	26.50	1.04	26.50	1.04	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
1041/258	c5a19Li/NZAD	Low woodland; Allocasuarina huegeliana & jam (A. acuminata)/Northern Zone of Ancient Drainage	2253	226.61	10.06	226.61	10.06	g
1042/257	cLi k3Ci/ZRD	Succulent steppe with low woodland; sheoak over samphire/Zone of Rejuvenated Drainage	272	0.00	0.00	0.00	0.00	e
1043/257	e5,45Mr/dZc/ZRD	Mosaic: Medium open woodland; wandoo (E. wandoo) & powderbark wandoo (E. astringens) / Shrublands; dryandra heath/Zone of Rejuvenated Drainage	22	0.00	0.00	0.00	0.00	e
1044/257	e6,8Mi/m5Sc/ZRD	Mosaic: Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia) / Shrublands; Melaleuca thyioides thicket/Zone of Rejuvenated Drainage	1457	0.00	0.00	11.36	0.78	f
1046/257	e6Mi k3Ci/ZRD	Succulent steppe with woodland; York gum (E. loxophleba) & samphire/Zone of Rejuvenated Drainage	787	0.00	0.00	0.00	0.00	e
1047/246	e29SZc/SGM	Shrublands; E. incrassata mallee-heath /Salmon Gums-Mallee Zone	16671	0.51	0.00	3.01	0.02	g
1048/257	mSp/k3Ci/ZRD	Mosaic: Shrublands; melaleuca patchy scrub / Succulent steppe; samphire/Zone of Rejuvenated Drainage	346	0.00	0.00	0.00	0.00	e
1048/258	mSp/k3Ci/NZAD	Mosaic: Shrublands; melaleuca patchy scrub / Succulent steppe; samphire/Northern Zone of Ancient Drainage	11102	36.85	0.33	36.85	0.33	g
1049/257	e5,6,8,9,34Mi/ZRD	Medium woodland; wandoo (E. wandoo), York gum (E. loxophleba), salmon gum (E. salmonophloia), morrel (E. longicornis) & gimlet (E. salubris)/Zone of Rejuvenated Drainage	115016	62.79	0.05	62.79	0.05	g
1049/258	e5,6,8,9,34Mi/NZAD	Medium woodland; wandoo (E. wandoo), York gum (E. loxophleba), salmon gum (E. salmonophloia), morrel (E. longicornis) & gimlet (E. salubris)/Northern Zone of Ancient Drainage	534783	2975.27	0.56	2975.27	0.56	g
1051/257	e5,7Mr mSc/ZRD	Shrublands; teatree thicket with scattered wandoo (E. wandoo) & yate (E. occidentalis)/Zone of Rejuvenated Drainage	11567	111.60	0.96	111.60	0.96	g
1051/258	e5,7Mr mSc/NZAD	Shrublands; teatree thicket with scattered wandoo (E. wandoo) & yate (E. occidentalis)/Northern Zone of Ancient Drainage	756	203.02	26.87	203.02	26.87	
1053/257	e6Mr m6Sc/ZRD	Shrublands; Melaleuca uncinata thicket with scattered York gum (E. loxophleba)/Zone of Rejuvenated Drainage	106	3.75	3.54	3.75	3.54	g
1053/258	e6Mr m6Sc/NZAD	Shrublands; Melaleuca uncinata thicket with scattered York gum (E. loxophleba)/Northern Zone of Ancient Drainage	10680	432.31	4.05	432.31	4.05	g
1053/259	e6Mr m6Sc/SZAD	Shrublands; Melaleuca uncinata thicket with scattered York gum (E. loxophleba)/Southern Zone of Ancient Drainage	3117	562.45	18.04	562.45	18.04	

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
1055/258	e6,39Si/NZAD	Shrublands; York gum (<i>E. loxophleba</i>) & <i>E. sheathiana</i> mallee scrub/Northern Zone of Ancient Drainage	126392	1023.91	0.81	1023.91	0.81	g
1055/261	e6,39Si/SC	Shrublands; York gum (<i>E. loxophleba</i>) & <i>E. sheathiana</i> mallee scrub/Southern Cross Zone	303	65.57	21.65	65.57	21.65	
1056/258	ac3Sc/NZAD	Shrublands; thicket, acacia & <i>Allocasuarina campestris</i> /Northern Zone of Ancient Drainage	20951	690.80	3.30	690.80	3.30	g
1057/258	e8,34Mi/e6,39Si/NZAD	Mosaic: Shrublands; Medium woodland; salmon gum (<i>E. salmonophloia</i>) & gimlet (<i>E. salubris</i>) / York gum (<i>E. loxophleba</i>) & <i>E. sheathiana</i> mallee scrub (some wandoo (<i>E. wandoo</i>) may occur with gimlet (<i>E. salubris</i>))/Northern Zone of Ancient Drainage	162674	3272.02	2.01	3272.02	2.01	g
1057/259	e8,34Mi/e6,39Si/SZAD	Mosaic: Shrublands; Medium woodland; salmon gum (<i>E. salmonophloia</i>) & gimlet (<i>E. salubris</i>) / York gum (<i>E. loxophleba</i>) & <i>E. sheathiana</i> mallee scrub (some wandoo (<i>E. wandoo</i>) may occur with gimlet (<i>E. salubris</i>))/Southern Zone of Ancient Drainage	279	1.00	0.36	1.00	0.36	g
1058/258	e6,19Si /NZAD	Shrublands; York gum (<i>E. loxophleba</i>) & <i>E. gonglocarpa</i> mallee scrub/Northern Zone of Ancient Drainage	9385	0.00	0.00	0.00	0.00	e
1059/258	e8,34Mi/e9,39Si/NZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & gimlet (<i>E. salubris</i>) /Shrublands; mallee <i>E. longicornis</i> & <i>E. sheathiana</i> scrub /Northern Zone of Ancient Drainage	2265	0.00	0.00	0.00	0.00	e
1061/258	e8,36Mp/k1,3Ci/NZAD	Mosaic: Medium sparse woodland; salmon gum (<i>E. salmonophloia</i>) & yorrell (<i>E. gracilis</i>) / Succulent steppe; saltbush & samphire/Northern Zone of Ancient Drainage	42869	5832.83	13.61	5832.83	13.61	g
1062/258	e6Mr m5Sc k3Ci/NZAD	Succulent steppe with open woodland & thicket; York gum (<i>E. loxophleba</i>) over <i>Melaleuca thyiodes</i> & samphire /Northern Zone of Ancient Drainage	22598	2411.42	10.67	2411.42	10.67	g
1063/258	e6pMLi /NZAD	Medium-Low woodland; York gum (<i>E. loxophleba</i>) & cypress pine (<i>Callitris columellaris</i>)/Northern Zone of Ancient Drainage	12028	0.00	0.00	0.00	0.00	e
1067/258	e8,9,34,35Mi/NZAD	Medium woodland; salmon gum (<i>E. salmonophloia</i>), morrel (<i>E. longicornis</i>), gimlet (<i>E. salubris</i>) & rough fruited mallee (<i>E. corrugata</i>)/Northern Zone of Ancient Drainage	5947	0.00	0.00	0.00	0.00	e
1068/258	e8,9,34,39Mi/NZAD	Medium woodland; salmon gum (<i>E. salmonophloia</i>), morrel (<i>E. longicornis</i>), gimlet (<i>E. salubris</i>) & <i>E. sheathiana</i> /Northern Zone of Ancient Drainage	26777	155.97	0.58	155.97	0.58	g
1068/261	e8,9,34,39Mi/SC	Medium woodland; salmon gum (<i>E. salmonophloia</i>), morrel (<i>E. longicornis</i>), gimlet (<i>E. salubris</i>) & <i>E. sheathiana</i> /Southern Cross Zone	133072	357.20	0.27	357.20	0.27	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
1071/261	aSi k1,2Ci /SC	Succulent steppe with scrub; acacia species over saltbush & bluebush/Southern Cross Zone	67	0.00	0.00	0.00	0.00	e
1073/257	e5,64Mi/ZRD	Medium woodland; wandoo (E. wandoo) & mallet/Zone of Rejuvenated Drainage	16627	2892.47	17.40	2892.47	17.40	
1073/259	e5,64Mi/SZAD	Medium woodland; wandoo (E. wandoo) & mallet/Southern Zone of Ancient Drainage	378	297.46	78.63	297.46	78.63	
1074/257	e5c6Mr mSc k3Ci/ZRD	Succulent steppe with open woodland & thicket; wandoo (E. wandoo) & Allocasuarina obesa over teatree & samphire /Zone of Rejuvenated Drainage	4626	2379.06	51.43	2379.06	51.43	
1075/241	e15,27Si/SR	Shrublands; mallee scrub, E. eremophila & black marlock (E.redunca)/Stirling Range Zone	73051	0.00	0.00	253.09	0.35	f
1075/243	e15,27Si/JP	Shrublands; mallee scrub, E. eremophila & black marlock (E.redunca)/Jerramungup Plain Zone	2034	0.00	0.00	0.00	0.00	e
1075/259	e15,27Si/SZAD	Shrublands; mallee scrub, E. eremophila & black marlock (E.redunca)/Southern Zone of Ancient Drainage	262533	4509.27	1.72	4509.27	1.72	g
1076/259	e8,9Mi/e15,24Si/SZA D	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis) / Shrublands; mallee scrub E. eremophila & sp /Southern Zone of Ancient Drainage	11	10.74	97.68	10.74	97.68	
1077/247	e2,18Mi/B	Medium woodland; jarrah (E. marginata) & river gum (E. rudis) /Boorokup Lakes Zone	2030	15.75	0.78	15.75	0.78	g
1077/257	e2,18Mi/ZRD	Medium woodland; jarrah (E. marginata) & river gum (E. rudis) /Zone of Rejuvenated Drainage	86	0.00	0.00	0.00	0.00	e
1079/259	e8,9Mr/k1Ci/SZAD	Mosaic: Medium open woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis) / Succulent steppe; saltbush /Southern Zone of Ancient Drainage	6547	4597.04	70.21	4597.04	70.21	
1080/257	eSr m6Sc (k3Ci)/ZRD	Succulent steppe with malle & thickets; Mallee and Melaleuca uncinata thickets on salt flats/Zone of Rejuvenated Drainage	3449	0.00	0.00	0.00	0.00	e
1080/258	eSr m6Sc (k3Ci)/NZAD	Succulent steppe with malle & thickets; Mallee and Melaleuca uncinata thickets on salt flats/Northern Zone of Ancient Drainage	459	0.00	0.00	0.00	0.00	e
1083/257	e5,8c6Mr mSi k3Ci /ZRD	Succulent steppe with open woodland & scrub; wandoo (E. wandoo), salmon gum (E. salmonophloia) & Allocasuarina obesa over teatree & samphire /Zone of Rejuvenated Drainage	8716	944.01	10.83	944.01	10.83	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
1083/259	e5,8c6Mr mSi k3Ci /SZAD	Succulent steppe with open woodland & scrub; wandoo (E. wandoo), salmon gum (E. salmonophloia) & Allocasuarina obesa over teatree & samphire /Southern Zone of Ancient Drainage	2023	18.79	0.93	18.79	0.93	g
1085/241	e5,69Mi /SR	Medium woodland; wandoo (E. wandoo) & blue mallet (E. gardneri)/Stirling Range Zone	824	0.00	0.00	0.00	0.00	e
1085/257	e5,69Mi /ZRD	Medium woodland; wandoo (E. wandoo) & blue mallet (E. gardneri)/Zone of Rejuvenated Drainage	28469	33.18	0.12	33.18	0.12	g
1085/259	e5,69Mi /SZAD	Medium woodland; wandoo (E. wandoo) & blue mallet (E. gardneri)/Southern Zone of Ancient Drainage	22833	0.12	0.00	0.12	0.00	g
1087/257	e5,9,69Mi/ZRD	Medium woodland; wandoo (E. wandoo), morrel (E. longicornis) & blue mallet/Zone of Rejuvenated Drainage	149	0.00	0.00	0.00	0.00	e
1087/259	e5,9,69Mi/SZAD	Medium woodland; wandoo (E. wandoo), morrel (E. longicornis) & blue mallet/Southern Zone of Ancient Drainage	601	68.29	11.36	68.29	11.36	g
1088/257	e64,69 Mi/ZRD	Medium woodland; mallet & blue mallet/Zone of Rejuvenated Drainage	400	0.00	0.00	0.00	0.00	e
1091/259	b3c5Li/SZAD	Low woodland; Banksia prionotes & Allocasuarina huegelianna/Southern Zone of Ancient Drainage	723	24.31	3.36	24.31	3.36	g
1092/259	e5,6,9 Mi/SZAD	Medium woodland; wandoo (E. wandoo), York gum (E. loxophleba) & morrel (E. longicornis)/Southern Zone of Ancient Drainage	78484	291.68	0.37	291.68	0.37	g
1093/259	ec6Mr mSc k3Ci /SZAD	Succulent steppe with open woodland & thicket; eucalypts & Allocasuarina obesa over teatree & samphire /Southern Zone of Ancient Drainage	8299	1034.33	12.46	1034.33	12.46	g
1094/259	e6,8Mi/e15,27Si /SZAD	Mosaic: Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmonophloia) / Shrublands; mallee scrub E. eremophila & balck marlock (E. redunca) /Southern Zone of Ancient Drainage	73111	58.09	0.08	58.09	0.08	g
1095/241	e6,7,8Mi/SR	Medium woodland; York gum (E. loxophleba), yate (E. occidentalis) & salmon gum (E. salmonophloia)/Stirling Range Zone	1227	0.00	0.00	0.00	0.00	e
1096/259	e7,8Mi/SZAD	Medium woodland; yate (E. occidentalis) & salmon gum (E. salmonophloia)/Southern Zone of Ancient Drainage	354	0.00	0.00	0.00	0.00	e
1098/259	e8,9Mp/k3Ci /SZAD	Mosaic: Medium sparse woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis) / Succulent steppe; samphire/Southern Zone of Ancient Drainage	18236	2835.58	15.55	2835.58	15.55	
1143/257	c3Sc xZi/ZRD	Shrublands; Allocasuarina campestris thicket with patches of heath /Zone of Rejuvenated Drainage	10023	0.00	0.00	0.00	0.00	e
1143/258	c3Sc xZi/NZAD	Shrublands; Allocasuarina campestris thicket with patches of heath /Northern Zone of Ancient Drainage	56208	0.00	0.00	119.60	0.21	f

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
1147/257	x10SZc/ZRD	Shrublands; scrub-heath in the south-east Avon-Wheatbelt Region/Zone of Rejuvenated Drainage	369	0.00	0.00	0.00	0.00	e
1147/258	x10SZc/NZAD	Shrublands; scrub-heath in the south-east Avon-Wheatbelt Region/Northern Zone of Ancient Drainage	7797	74.04	0.95	74.04	0.95	g
1147/259	x10SZc/SZAD	Shrublands; scrub-heath in the south-east Avon-Wheatbelt Region/Southern Zone of Ancient Drainage	35434	69.51	0.20	69.51	0.20	g
1148/246	x12SZc/SGM	Shrublands; scrub-heath in the Coolgardie Region/Salmon Gums-Mallee Zone	3443	0.00	0.00	0.00	0.00	e
1148/261	x12SZc/SC	Shrublands; scrub-heath in the Coolgardie Region/Southern Cross Zone	4054	0.00	0.00	0.00	0.00	e
1149/257	x19SZc/ZRD	Shrublands; scrub-heath A.-Ecdeiocolia association in the south-east Geraldton Sandplain Region /Zone of Rejuvenated Drainage	7466	182.21	2.44	210.96	2.83	g
1149/258	x19SZc/NZAD	Shrublands; scrub-heath A.-Ecdeiocolia association in the south-east Geraldton Sandplain Region /Northern Zone of Ancient Drainage	110	0.00	0.00	0.00	0.00	e
1154/257	anSc xZi/ZRD	Shrublands; A. thicket with patches of heath /Zone of Rejuvenated Drainage	119	0.00	0.00	0.00	0.00	e
1154/258	anSc xZi/NZAD	Shrublands; A. thicket with patches of heath /Northern Zone of Ancient Drainage	26094	172.96	0.66	226.03	0.87	g
1154/271	anSc xZi/IR	Shrublands; A. thicket with patches of heath /Irwin River Zone	13265	0.00	0.00	0.00	0.00	e
1155/271	e6Mi/c3Sc/IR	Mosaic: Medium woodland; York gum (E. loxophleba) / Shrublands; Allocasuarina campestris thicket /Irwin River Zone	7871	0.00	0.00	0.00	0.00	e
1156/257	a19c5Lr cSc/ZRD	Shrublands; Allocasuarina campestris thickets with scattered jam (A. acuminata) & casuarina /Zone of Rejuvenated Drainage	1561	0.00	0.00	0.00	0.00	e
1156/258	a19c5Lr cSc/NZAD	Shrublands; Allocasuarina campestris thickets with scattered jam (A. acuminata) & casuarina /Northern Zone of Ancient Drainage	188	0.00	0.00	0.00	0.00	e
1164/257	x8SZc/c3Sc/ZRD	Mosaic: Shrublands; scrub-heath on sandplain (banksia-xylomelum alliance) in the Geraldton Sandplain & Avon-Wheatbelt Regions / Shrublands; Allocasuarina campestris thicket /Zone of Rejuvenated Drainage	2024	0.00	0.00	0.00	0.00	e
1198/271	m5Si k3Ci/a9Sr/IR	Mosaic: Succulent steppe with thicket; Melaleuca thiodora over samphire / Shrublands; bowgada (A. ramulosa-A.linophylla) open scrub /Irwin River Zone	1454	0.00	0.00	0.00	0.00	e
1200/241	e8,9Mi/e15,27Si/SR	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & morrell (E. longicornis) / Shrublands; mallee scrub E. eremophila & black marlock (E. redunca)/Stirling Range Zone	40340	7.90	0.02	7.90	0.02	g

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
1200/243	e8,9Mi/e15,27Si/JP	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Shrublands; mallee scrub <i>E. eremophila</i> & black marlock (<i>E. redunca</i>)/Jerramungup Plain Zone	349	0.00	0.00	0.00	0.00	e
1200/259	e8,9Mi/e15,27Si/SZA D	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Shrublands; mallee scrub <i>E. eremophila</i> & black marlock (<i>E. redunca</i>)/Southern Zone of Ancient Drainage	84335	1574.20	1.87	1574.20	1.87	g
1413/226	acmSc/L	Shrublands; acacia, casuarina & melaleuca thicket/Lockier Zone	15	0.00	0.00	0.00	0.00	e
1413/246	acmSc/SGM	Shrublands; acacia, casuarina & melaleuca thicket/Salmon Gums-Mallee Zone	48588	0.00	0.00	205.07	0.42	f
1413/258	acmSc/NZAD	Shrublands; acacia, casuarina & melaleuca thicket/Northern Zone of Ancient Drainage	586505	13113.77	2.24	13113.77	2.24	g
1413/259	acmSc/SZAD	Shrublands; acacia, casuarina & melaleuca thicket/Southern Zone of Ancient Drainage	23039	697.18	3.03	697.18	3.03	g
1413/261	acmSc/SC	Shrublands; acacia, casuarina & melaleuca thicket/Southern Cross Zone	39347	73.41	0.19	73.41	0.19	g
1413/271	acmSc/IR	Shrublands; acacia, casuarina & melaleuca thicket/Irwin River Zone	133742	692.24	0.52	692.24	0.52	g
1516/246	e27,32Si/SGM	Shrublands; mallee scrub, black marlock (<i>E. redunca</i>) & Forrest's marlock (<i>E. forrestiana</i>)/Salmon Gums-Mallee Zone	110427	2183.66	1.98	13519.36	12.24	g
1519/246	e15,bSi/SGM	Shrublands; mallee scrub, <i>E. eremophila</i> & banksia/Salmon Gums-Mallee Zone	3297	0.00	0.00	0.00	0.00	e
1967/241	e5,7,18Mi/SR	Medium woodland; wandoo (<i>E. wandoo</i>), yate (<i>E. occidentalis</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>)/Stirling Range Zone	2670	83.42	3.12	83.42	3.12	g
1967/247	e5,7,18Mi/B	Medium woodland; wandoo (<i>E. wandoo</i>), yate (<i>E. occidentalis</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>)/Boorokup Lakes Zone	21671	278.43	1.28	278.43	1.28	g
1967/257	e5,7,18Mi/ZRD	Medium woodland; wandoo (<i>E. wandoo</i>), yate (<i>E. occidentalis</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>)/Zone of Rejuvenated Drainage	1299	0.00	0.00	0.00	0.00	e
2047/257	c3dSc/ZRD	Shrublands; tamma & dryandra thicket/Zone of Rejuvenated Drainage	1454	579.29	39.84	579.29	39.84	
2048/246	x13SZc/SGM	Shrublands; scrub-heath in the Mallee Region/Salmon Gums-Mallee Zone	66	0.00	0.00	0.00	0.00	e
2048/258	x13SZc/NZAD	Shrublands; scrub-heath in the Mallee Region/Northern Zone of Ancient Drainage	23151	138.41	0.60	138.41	0.60	g
2048/259	x13SZc/SZAD	Shrublands; scrub-heath in the Mallee Region/Southern Zone of Ancient Drainage	192590	15100.15	7.84	15100.15	7.84	g
2081/271	a9Si/IR	Shrublands; bowgada (<i>A. ramulosa</i> - <i>A. linophylla</i>) and associated spp. scrub/Irwin River Zone	860	0.00	0.00	0.00	0.00	e

Table 2 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area Pre-European Sub_Assoc	Area in IUCN Reserves	% in IUCN Reserves	Area in CALM Reserves	% in CALM Reserves	Code*
2093/259	e7Mi mSi k3Ci/SZAD	Succulent steppe with open woodland & scrub; yate (<i>E. occidentalis</i>) over teatree & samphire /Southern Zone of Ancient Drainage	9296	2693.20	28.97	2693.20	28.97	g
3041/257	a19c5Li/rock/ZRD	Mosaic: Low woodland; Allocasuarina huegeliana & jam (<i>A. acuminata</i>) around granite rocks/Zone of Rejuvenated Drainage	5026	67.79	1.35	67.79	1.35	
3041/258	a19c5Li/rock/NZAD	Mosaic: Low woodland; Allocasuarina huegeliana & jam (<i>A. acuminata</i>) around granite rocks/Northern Zone of Ancient Drainage	983	26.88	2.74	26.88	2.74	
3041/259	a19c5Li/rock/SZAD	Mosaic: Low woodland; Allocasuarina huegeliana & jam (<i>A. acuminata</i>) around granite rocks/Southern Zone of Ancient Drainage	47	0.00	0.00	0.00	0.00	e
4048/246	x15SZc/SGM	Shrublands; scrub-heath in the Esperence Plains incl. Mt Ragged scrub-heath/Salmon Gums-Mallee Zone	3793	92.38	2.44	92.38	2.44	g
5048/246	b1SZc/SGM	Shrublands; banksia and lambertia scrub-heath in the Esperence Plains Region/Salmon Gums-Mallee Zone	5095	0.00	0.00	358.79	7.04	f
6048/246	bSZc/SGM	Shrublands; banksia scrub-heath on sandplain in the Esperence Plains Region/Salmon Gums-Mallee Zone	2692	0.00	0.00	118.35	4.40	f

*codes are e = vegetation sub-associations completely unrepresented in IUCN I- IV reserves or other CALM-managed lands, f = vegetation association unrepresented in IUCN I- IV reserves but <15% of their original areal extent in other CALM-managed lands, g = inadequately represented in the conservation reserve system with <15% of their original areal extent in IUCN I- IV.

Table 3 shows those vegetation sub-associations that may be regarded as at risk from rising ground waters and associated salinisation. Seventeen vegetation sub-associations have 100% of their present extent in areas of soils at risk from salinity. A further 40 sub-associations have >70% of their present extent in areas of soils at risk from salinity. Twenty sub-associations have >50% of their present extent in areas of soils at risk from salinity. The total number of vegetation types at risk (out of the 464 analysed) is 78. These vegetation sub-associations at risk are coded h (100% at risk), I (>70% at risk) or j (>50%at risk).

Table 3. Vegetation sub-associations potentially at risk from rising ground water and salinisation. Codes are h = vegetation sub-association with 100% of its remaining extent at risk, i = vegetation sub-association with >70% of its remaining extent at risk and j = vegetation sub-association with > 50% of its remaining extent at risk.

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area if existing Veg	Existing Veg at risk	% at risk	Code
5/259	e5,45Mi/SZAD	Medium woodland; wandoo (E. wandoo) & powderbark (E. accedens)/Southern Zone of Ancient Drainage	3	2	66.67	j
8/243	e8,34Mi/JP	Medium woodland; salmon gum (E. salmophloia) & gimlet (E. salubris) /Jerramungup Plain Zone	20	11	55.00	j
8/257	e8,34Mi/ZRD	Medium woodland; salmon gum (E. salmophloia) & gimlet (E. salubris) /Zone of Rejuvenated Drainage	5	4	80.00	i
31/222	e6Mr m5Sc/DP	Shrublands; Melaleuca thicket with scattered York gum (E. loxophleba)/Dandaragan Plateau Zone	485	485	100.00	h
31/257	e6Mr m5Sc/ZRD	Shrublands; Melaleuca thicket with scattered York gum (E. loxophleba)/Zone of Rejuvenated Drainage	13	13	100.00	h
37/257	mSc/ZRD	Shrublands; teatree thicket /Zone of Rejuvenated Drainage	252	149	59.13	j
37/259	mSc/SZAD	Shrublands; teatree thicket /Southern Zone of Ancient Drainage	944	860	91.10	i
41/246	mSi/SGM	Shrublands; teatree scrub /Salmon Gums-Mallee Zone	1267	777	61.33	j
41/259	mSi/SZAD	Shrublands; teatree scrub /Southern Zone of Ancient Drainage	4356	4007	91.99	i
48/257	xSZc/ZRD	Shrublands; scrub-heath /Zone of Rejuvenated Drainage	298	239	80.20	i
125/222	sl/DP	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Dandaragan Plateau Zone	481	481	100.00	h
125/226	sl/L	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Lockier Zone	87	87	100.00	h
125/257	sl/ZRD	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Zone of Rejuvenated Drainage	472	384	81.36	i
125/259	sl/SZAD	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Southern Zone of Ancient Drainage	6393	4777	74.72	i
125/271	sl/IR	Bare and poorly vegetated areas; salt lakes, lagoons & claypans/Irwin River Zone	207	116	56.04	j
141/259	e6,8,34Mi/SZAD	Medium woodland; York gum (E. loxophleba), salmon gum (E. salmophloia) & gimlet (E. salubris) /Southern Zone of Ancient Drainage	26	14	53.85	j
142/222	e6,8Mi/DP	Medium woodland; York gum (E. loxophleba) & salmon gum (E. salmophloia)/Dandaragan Plateau Zone	763	635	83.22	i
325/223	k1,3Ci/VP	Succulent steppe; saltbush & samphire/Victoria Plateau Zone	519	405	78.03	i
352/222	e6Mi/DP	Medium woodland; York gum (E. loxophleba)/Dandaragan Plateau Zone	727	727	100.00	h
380/243	x3SZc/JP	Shrublands; scrub-heath on sandplain/Jerramungup Plain Zone	470	465	98.94	i
392/271	m5Sc/IR	Shrublands; Melaleuca thicket /Irwin River Zone	3	3	100.00	h
412/223	mSi k3Ci/VP	Succulent steppe with scrub; teatree (Melaleuca thicket?) over samphire /Victoria Plateau Zone	374	242	64.71	j
412/271	mSi k3Ci/IR	Succulent steppe with scrub; teatree (Melaleuca thicket?) over samphire /Irwin River Zone	16	11	68.75	j
511/259	e8,9Mi/SZAD	Medium woodland; salmon gum (E. salmophloia) & morrell (E. longicornis)/Southern Zone of Ancient Drainage	22246	16605	74.64	i
631/222	e6Mi m5Sc k3Ci/DP	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thicket & samphire/Dandaragan Plateau Zone	958	944	98.54	i

Table 3 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area if existng Veg	Existing Veg at risk	% at risk	Code
631/226	e6Mi m5Sc k3Ci/L	Succulent steppe with woodland and thicket; York gum (<i>E. loxophleba</i>) over <i>Melaleuca thyoides</i> & samphire/Lockier Zone	102	76	74.51	i
631/271	e6Mi m5Sc k3Ci/IR	Succulent steppe with woodland and thicket; York gum (<i>E. loxophleba</i>) over <i>Melaleuca thyoides</i> & samphire/Irwin River Zone	1635	1192	72.91	i
676/259	k3Ci/SZAD	Succulent steppe; samphire/Southern Zone of Ancient Drainage	42	39	92.86	i
676/271	k3Ci/IR	Succulent steppe; samphire/Irwin River Zone	249	169	67.87	j
694/222	x8SZc/DP	Shrublands; scrub-heath on yellow sandplain banksia- <i>xylomelum</i> alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions/Dandaragan Plateau Zone	42688	23038	53.97	j
695/257	c3Si /ZRD	Shrublands; <i>Allocasuarina campestris</i> scrub /Zone of Rejuvenated Drainage	62	62	100.00	h
697/222	x7SZc/DP	Shrublands; scrub-heath on lateritic sandplain in the southern Geraldton Sandplain Region/Dandaragan Plateau Zone	6914	6220	89.96	i
697/257	x7SZc/ZRD	Shrublands; scrub-heath on lateritic sandplain in the southern Geraldton Sandplain Region/Zone of Rejuvenated Drainage	5023	4984	99.22	i
924/246	e15,22Si/SG M	Shrublands; mallee scrub, <i>E. eremophila</i> & red mallee (<i>E. oleosa</i> group)/Salmon Gums-Mallee Zone	15097	9051	59.95	j
931/259	e7Mi/SZAD	Medium woodland; yate (<i>E. occidentalis</i>)/Southern Zone of Ancient Drainage	1021	719	70.42	i
934/259	e28Si/SZAD	Shrublands; mallee scrub <i>E. nutans</i> /Southern Zone of Ancient Drainage	125	92	73.60	i
936/259	e8Mi/SZAD	Medium woodland; salmon gum (<i>E. salmonophloia</i>) /Southern Zone of Ancient Drainage	9627	4863	50.51	j
945/258	e8Mi/e10,27 Si/NZAD	Mosaic: Medium woodland; salmon gum (<i>E. salmonophloia</i>) / Shrublands; mallee scrub, redwood (<i>E. transcontinentalis</i>) & black marlock (<i>E. redunca</i>) /Northern Zone of Ancient Drainage	1631	940	57.63	j
948/257	e6,18Mr/ZR D	Medium woodland; York gum (<i>E. loxophleba</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>) /Zone of Rejuvenated Drainage	107	107	100.00	h
948/259	e6,18Mr/SZA D	Medium woodland; York gum (<i>E. loxophleba</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>) /Southern Zone of Ancient Drainage	37	37	100.00	h
949/259	bLi/SZAD	Low woodland; banksia/Southern Zone of Ancient Drainage	95	64	67.37	j
950/257	c6Mi/ZRD	Medium woodland; <i>Casuarina obesa</i> /Zone of Rejuvenated Drainage	160	160	100.00	h
953/257	mSc k3Ci/ZRD	Succulent steppe with thicket; teatree over samphire /Zone of Rejuvenated Drainage	17	12	70.59	i
953/259	mSc k3Ci/SZAD	Succulent steppe with thicket; teatree over samphire)/Southern Zone of Ancient Drainage	901	801	88.90	i
959/259	e36,66Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; yorrell (<i>E. gracilis</i>) & Kondinin blackbutt over teatree & samphire/Southern Zone of Ancient Drainage	626	561	89.62	i

Table 3 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area if existng Veg	Existing Veg at risk	% at risk	Code
963/259	e7mMi/SZA D	Medium woodland; yate (<i>E. occidentalis</i>) & paperbark (<i>Melaleuca</i> spp)/Southern Zone of Ancient Drainage	1257	1176	93.56	i
966/259	e8,9Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) over teatree & samphire/Southern Zone of Ancient Drainage	84	84	100.00	h
988/222	m5Sc k3Ci/DP	Succulent steppe with thicket; <i>Melaleuca thyoides</i> over samphire/Dandaragan Plateau Zone	1634	1314	80.42	i
988/257	m5Sc k3Ci/ZRD	Succulent steppe with thicket; <i>Melaleuca thyoides</i> over samphire/Zone of Rejuvenated Drainage	2116	1632	77.13	i
988/271	m5Sc k3Ci/IR	Succulent steppe with thicket; <i>Melaleuca thyoides</i> over samphire/Irwin River Zone	121	75	61.98	j
1025/258	e6,8,9Mi/k1, 3Ci/NZAD	Mosaic: Medium woodland; York gum (<i>E. loxophleba</i>), salmon gum (<i>E. salmonophloia</i>) & morrel (<i>E. longicornis</i>) / Succulent steppe; saltbush & samphire/Northern Zone of Ancient Drainage	30	15	50.00	j
1036/222	b3Li/DP	Low woodland; <i>Banksia prionotes</i> /Dandaragan Plateau Zone	31849	23426	73.55	i
1037/222	e6,18Mi/DP	Medium woodland; York gum (<i>E. loxophleba</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>) /Dandaragan Plateau Zone	1592	1589	99.81	i
1037/257	e6,18Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & river gum (<i>E. rudis</i> or <i>E. camaldulensis</i>) /Zone of Rejuvenated Drainage	585	585	100.00	h
1039/222	e6Mr eSi/DP	Shrublands; mallee with scattered York gum (<i>E. loxophleba</i>) /Dandaragan Plateau Zone	1044	1044	100.00	h
1039/257	e6Mr eSi/ZRD	Shrublands; mallee with scattered York gum (<i>E. loxophleba</i>) /Zone of Rejuvenated Drainage	134	134	100.00	h
1040/222	c6e6Mi/DP	Medium woodland; York gum (<i>E. loxophleba</i>) & <i>Casuarina obesa</i> /Dandaragan Plateau Zone	440	414	94.09	i
1040/257	c6e6Mi/ZRD	Medium woodland; York gum (<i>E. loxophleba</i>) & <i>Casuarina obesa</i> /Zone of Rejuvenated Drainage	86	66	76.74	i
1041/257	c5a19Li/ZRD	Low woodland; <i>Allocasuarina huegeliana</i> & jam (<i>A. acuminata</i>)/Zone of Rejuvenated Drainage	578	464	80.28	i
1047/246	e29SZc/SG M	Shrublands; <i>E. incrassata</i> mallee-heath /Salmon Gums-Mallee Zone	2639	2335	88.48	i
1048/257	mSp/k3Ci/Z RD	Mosaic: Shrublands; <i>Melaleuca</i> patchy scrub / Succulent steppe; samphire/Zone of Rejuvenated Drainage	8	6	75.00	i
1051/257	e5,7Mr mSc/ZRD	Shrublands; teatree thicket with scattered wandoo (<i>E. wandoo</i>) & yate (<i>E. occidentalis</i>)/Zone of Rejuvenated Drainage	3946	3691	93.54	i

Table 3 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area if existng Veg	Existing Veg at risk	% at risk	Code
1053/257	e6Mr m6Sc/ZRD	Shrublands; Melaleuca uncinata thicket with scattered York gum (E. loxophleba)/Zone of Rejuvenated Drainage	8	8	100.00	h
1053/259	e6Mr m6Sc/SZAD	Shrublands; Melaleuca uncinata thicket with scattered York gum (E. loxophleba)/Southern Zone of Ancient Drainage	550	547	99.45	i
1074/257	e5c6Mr mSc k3Ci/ZRD	Succulent steppe with open woodland & thicket; wandoo (E. wandoo) & Allocasuarina obesa over teatree & samphire /Zone of Rejuvenated Drainage	1463	1394	95.28	i
1079/259	e8,9Mr/k1Ci/ SZAD	Mosaic: Medium open woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis) / Succulent steppe; saltbush /Southern Zone of Ancient Drainage	4432	3610	81.45	i
1083/257	e5,8c6Mr mSi k3Ci /ZRD	Succulent steppe with open woodland & scrub; wandoo (E. wandoo), salmon gum (E. salmonophloia) & Allocasuarina obesa over teatree & samphire /Zone of Rejuvenated Drainage	2331	1885	80.87	i
1083/259	e5,8c6Mr mSi k3Ci /SZAD	Succulent steppe with open woodland & scrub; wandoo (E. wandoo), salmon gum (E. salmonophloia) & Allocasuarina obesa over teatree & samphire /Southern Zone of Ancient Drainage	139	139	100.00	h
1091/259	b3c5Li/SZAD	Low woodland; Banksia prionotes & Allocasuarina huegelianna/Southern Zone of Ancient Drainage	266	266	100.00	h
1093/259	ec6Mr mSc k3Ci /SZAD	Succulent steppe with open woodland & thicket; eucalypts & Allocasuarina obesa over teatree & samphire /Southern Zone of Ancient Drainage	742	667	89.89	i
1096/259	e7,8Mi/SZA D	Medium woodland; yate (E. occidentalis) & salmon gum (E. salmonophloia)/Southern Zone of Ancient Drainage	180	176	97.78	i
1098/259	e8,9Mp/k3Ci /SZAD	Mosaic: Medium sparse woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis) / Succulent steppe; samphire/Southern Zone of Ancient Drainage	1953	1853	94.88	i
1164/257	x8SZc/c3Sc/ ZRD	Mosaic: Shrublands; scrub-heath on sandplain (banksia-xylocarp alliance) in the Geraldton Sandplain & Avon-Wheatbelt Regions / Shrublands; Allocasuarina campestris thicket /Zone of Rejuvenated Drainage	20	10	50.00	j
1200/259	e8,9Mi/e15,2 7Si/SZAD	Mosaic: Medium woodland; salmon gum (E. salmonophloia) & morrel (E. longicornis) / Shrublands; mallee scrub E. eremophila & black marlock (E. redunca)/Southern Zone of Ancient Drainage	7392	5670	76.70	i
1516/246	e27,32Si/SG M	Shrublands; mallee scrub, black marlock (E. redunca) & Forrest's marlock (E. forrestiana)/Salmon Gums-Mallee Zone	13502	9193	68.09	j
2093/259	e7Mi mSi k3Ci/SZAD	Succulent steppe with open woodland & scrub; yate (E. occidentalis) over teatree & samphire /Southern Zone of Ancient Drainage	2946	2816	95.59	i

Table 3 continued

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	Area if existng Veg	Existing Veg at risk	% at risk	Code
3041/259	a19c5Li/rock /SZAD	Mosaic: Low woodland; Allocasuarina huegeliana & jam (A. acuminata) around granite rocks/Southern Zone of Ancient Drainage	13	10	76.92	i

*codes are h = vegetation sub-association with 100% of its remaining extent at risk, i = vegetation association with >70% or its remaining extent at risk, j = vegetation association with >50% or its remaining extent at risk.

Table 4 represents a distillation of the data in Tables 1, 2, 3. The table shows those vegetation sub-associations that show all of the following characteristics:

- extensively cleared with less than 10% of their original areal extent remaining, or relatively restricted in distribution occurring over less than 2,000 ha, or both;
- completely unrepresented in the conservation reserve system or on other lands managed by CALM, and therefore a priority for acquisition;
- greatly at risk from rising groundwater and salinisation.

A total of 13 vegetation sub-associations are identified. These vegetation sub-associations should be given high priority for field survey leading to improved conservation and management. Figures 2-14 show the general location and distribution of these priority sub-associations.

Table 4. Summary of analyses showing the vegetation sub-associations that are relatively restricted in areal extent, poorly conserved and at risk

Sub_Assoc	Sub_Assoc code	Sub_Assoc Description	CODE*		
31/257	e6Mr m5Sc/ZRD	Shrublands; Melaleuca thyoides thicket with scattered York gum (E. loxophleba)/Zone of Rejuvenated Drainage	ac	e	h
325/223	k1,3Ci/VP	Succulent steppe; saltbush & samphire/Victoria Plateau Zone	bc	e	i
392/271	m5Sc/IR	Shrublands; Melaleuca thyoides thicket /Irwin River Zone	ac	e	h
631/226	e6Mi m5Sc k3Ci/L	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Lockier Zone	ac	e	i
631/271	e6Mi m5Sc k3Ci/IR	Succulent steppe with woodland and thicket; York gum (E. loxophleba) over Melaleuca thyoides & samphire/Irwin River Zone	ac	f	i
695/257	c3Si /ZRD	Shrublands; Allocasuarina campestris scrub /Zone of Rejuvenated Drainage	ac	e	h
948/257	e6,18Mr/ZRD	Medium woodland; York gum (E. loxophleba) & river gum (E. rudis or E. camaldulensis) /Zone of Rejuvenated Drainage	bc	e	h
966/259	e8,9Mp mSc k3Ci/SZAD	Succulent steppe with sparse woodland & thicket; salmon gum (E. salmonophloia) & morrel (E. longicornis) over teatree & samphire/Southern Zone of Ancient Drainage	ac	e	h
1040/222	c6e6Mi/DP	Medium woodland; York gum (E. loxophleba) & Casuarina obesa/Dandaragan Plateau Zone	bc	f	i
1040/257	c6e6Mi/ZRD	Medium woodland; York gum (E. loxophleba) & Casuarina obesa/Zone of Rejuvenated Drainage	bc	e	i
1048/257	mSp/k3Ci/ZRD	Mosaic: Shrublands; melaleuca patchy scrub / Succulent steppe; samphire/Zone of Rejuvenated Drainage	ac	e	i
1096/259	e7,8Mi/SZAD	Medium woodland; yate (E. occidentalis) & salmon gum (E. salmonophloia)/Southern Zone of Ancient Drainage	c	e	i
3041/259	a19c5Li/rock/SZAD	Mosaic: Low woodland; Allocasuarina huegeliana & jam (A. acuminata) around granite rocks/Southern Zone of Ancient Drainage	bc	e	i

*codes are a = vegetation sub-association with <10% of their original areal extent remaining, b = vegetation sub-association with <30% of their original areal extent remaining, c = vegetation sub-association with <2,000 ha remaining in the Agricultural zone and < 50,000 ha remaining in total, e = vegetation sub-associations completely unrepresented in IUCN I- IV reserves or other CALM-managed lands, f = vegetation sub-association unrepresented in IUCN I- IV reserves but <15% of their original areal extent in other CALM-managed lands, g = inadequately represented in the conservation reserve system with <15% of their original areal extent in IUCN I- IV, h = vegetation sub-sub-associations with 100% of their remaining extent at risk, i = vegetation sub-association with >70% or their remaining extent at risk, j = vegetation sub-association with >50% or their remaining extent at risk.

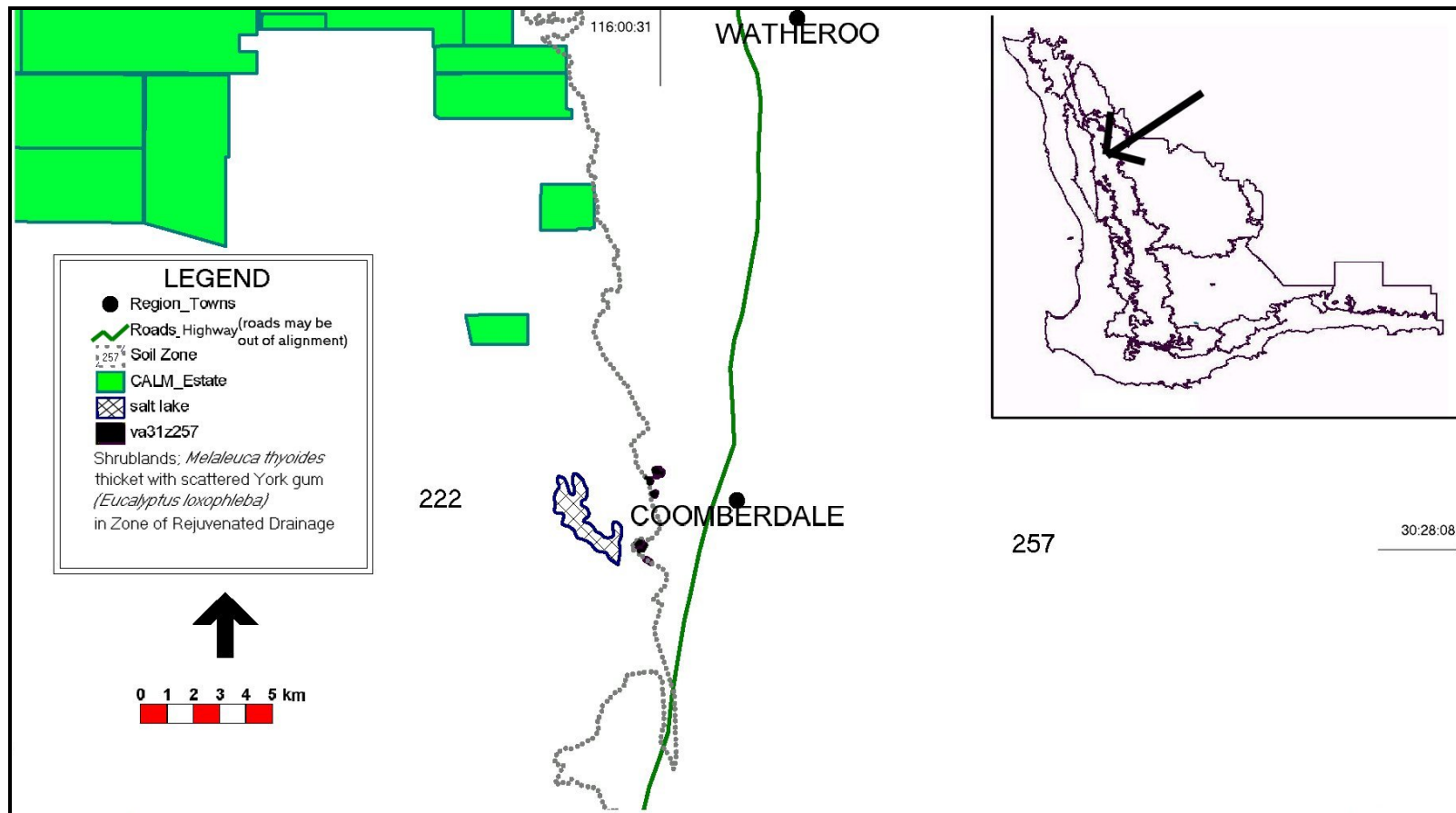


Figure 2. Map showing the present extent of Vegetation Sub-Association No 31/257, (Shrublands; *Melaleuca thyoides* thicket with scattered York gum (*Eucalyptus loxophleba*) / Zone of Rejuvenated Drainage) a poorly reserved and potentially threatened vegetation type.

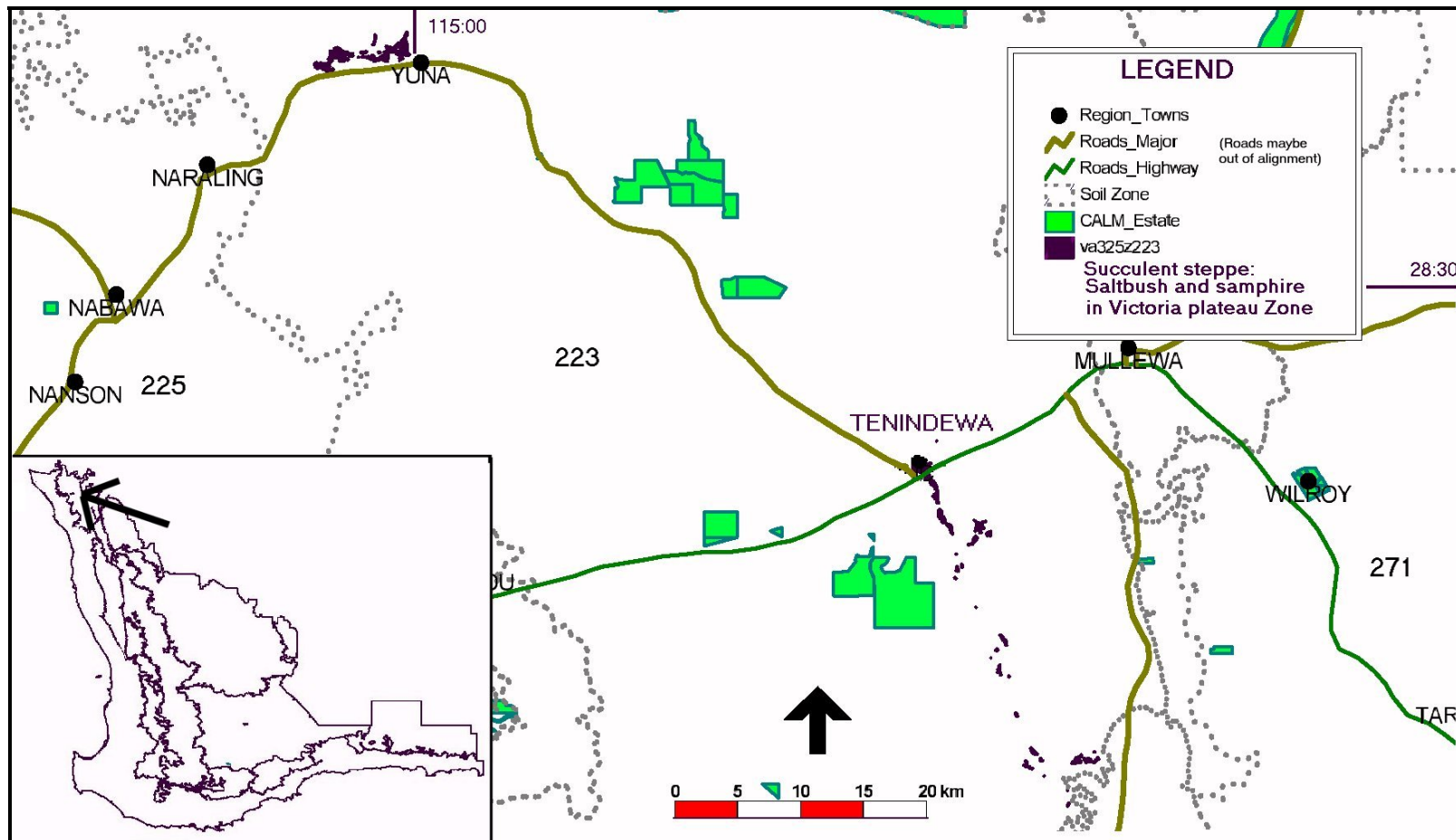


Figure 3. Map showing the present extent of Vegetation Sub-Association No 325/223, (Succulent steppe; saltbush & samphire / Victoria Plateau Zone), a poorly reserved and potentially threatened vegetation type.

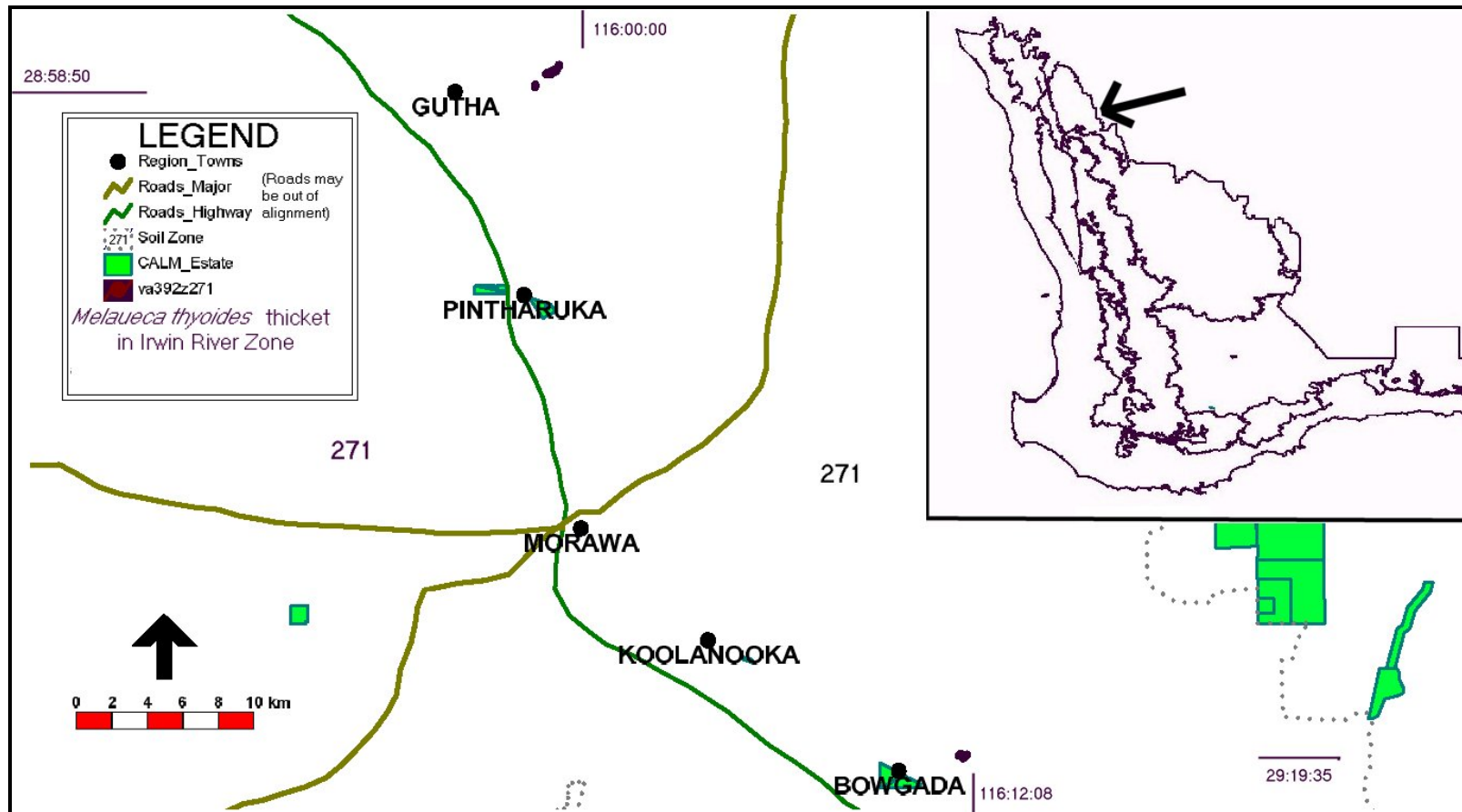


Figure 4. Map showing the present extent of Vegetation Sub-Association No 392/271, (Shrublands; *Melaleuca thyioides* thicket / Irwin River Zone), a poorly reserved and potentially threatened vegetation type

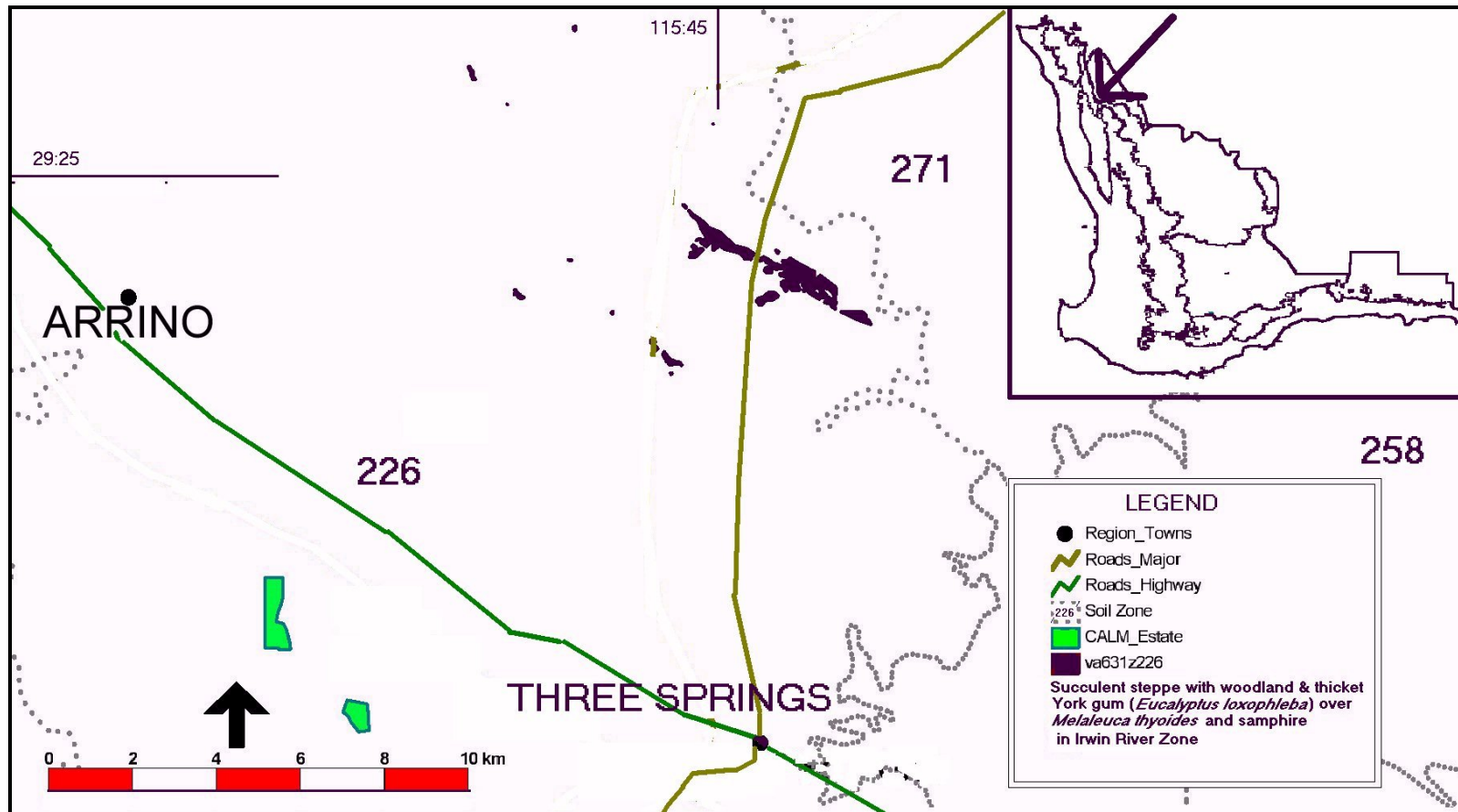


Figure 5. Map showing the present extent of Vegetation Sub-Association No 631/226, (Succulent steppe with woodland and thicket; York gum (*Eucalyptus. loxophleba*) over *Melaleuca thyoides* & samphire / Lockier Zone), a poorly reserved and potentially threatened vegetation type.

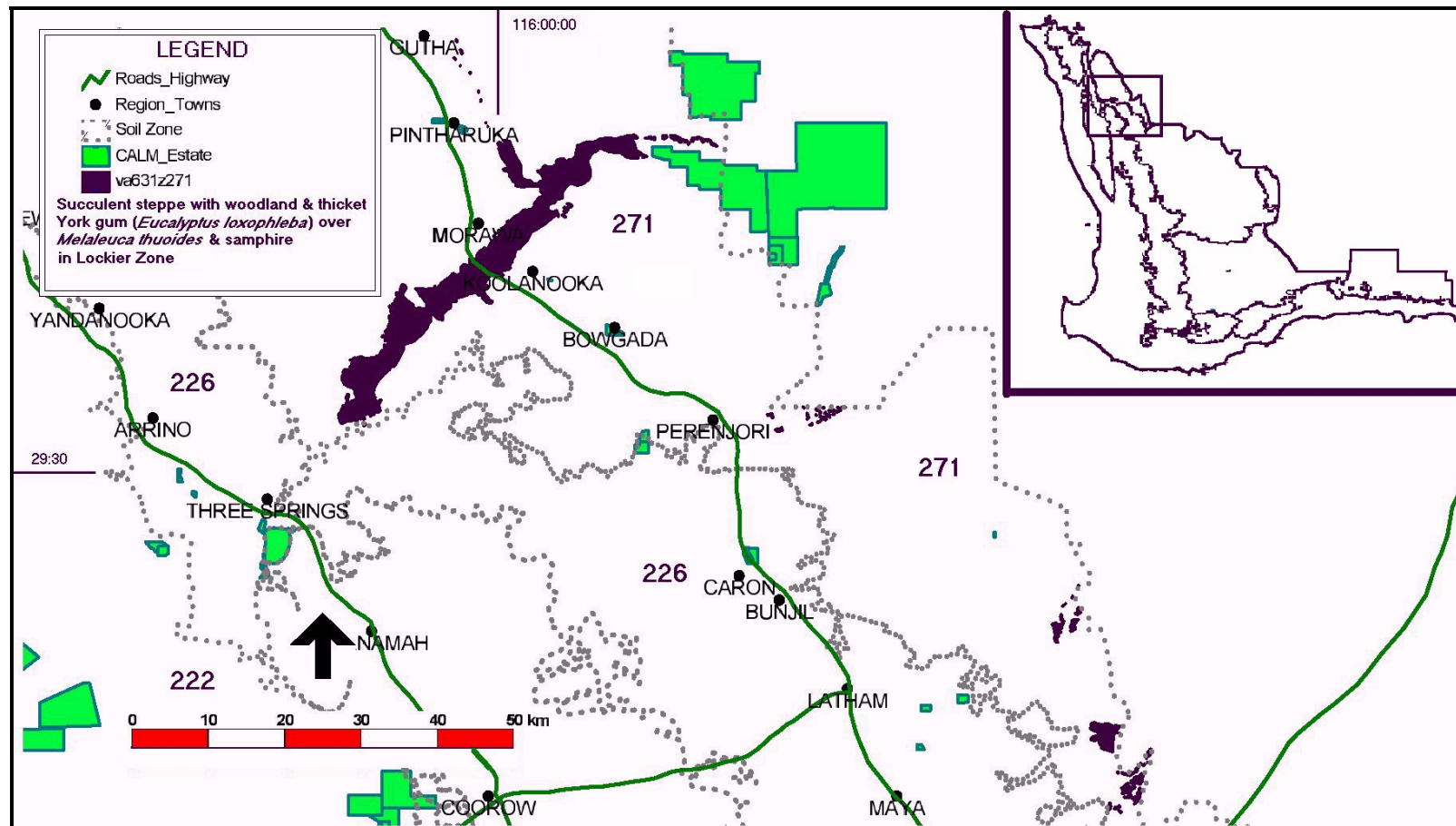


Figure 6. Map showing the present extent of Vegetation Sub-Association No 631/271, (Succulent steppe with woodland and thicket; York gum (*Eucalyptus. loxophleba*) over *Melaleuca thuyoides* & samphire / Irwin River Zone), a poorly reserved and potentially threatened vegetation type.

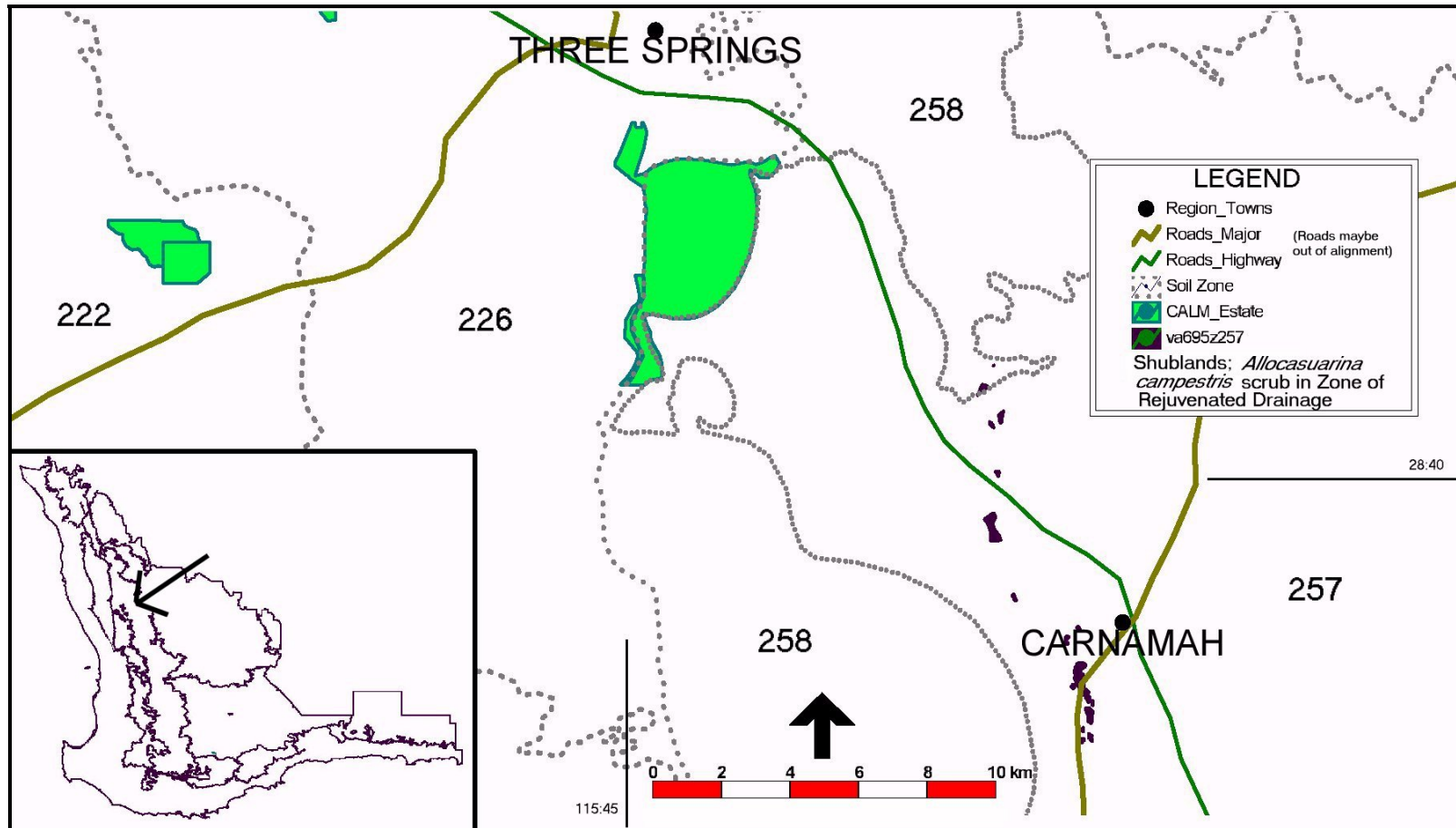


Figure 7. Map showing the present extent of Vegetation Sub-Association No 695/257, (Shrublands; *Allocasuarina campestris* scrub / Zone of Rejuvenated Drainage), a poorly reserved and potentially threatened vegetation type.

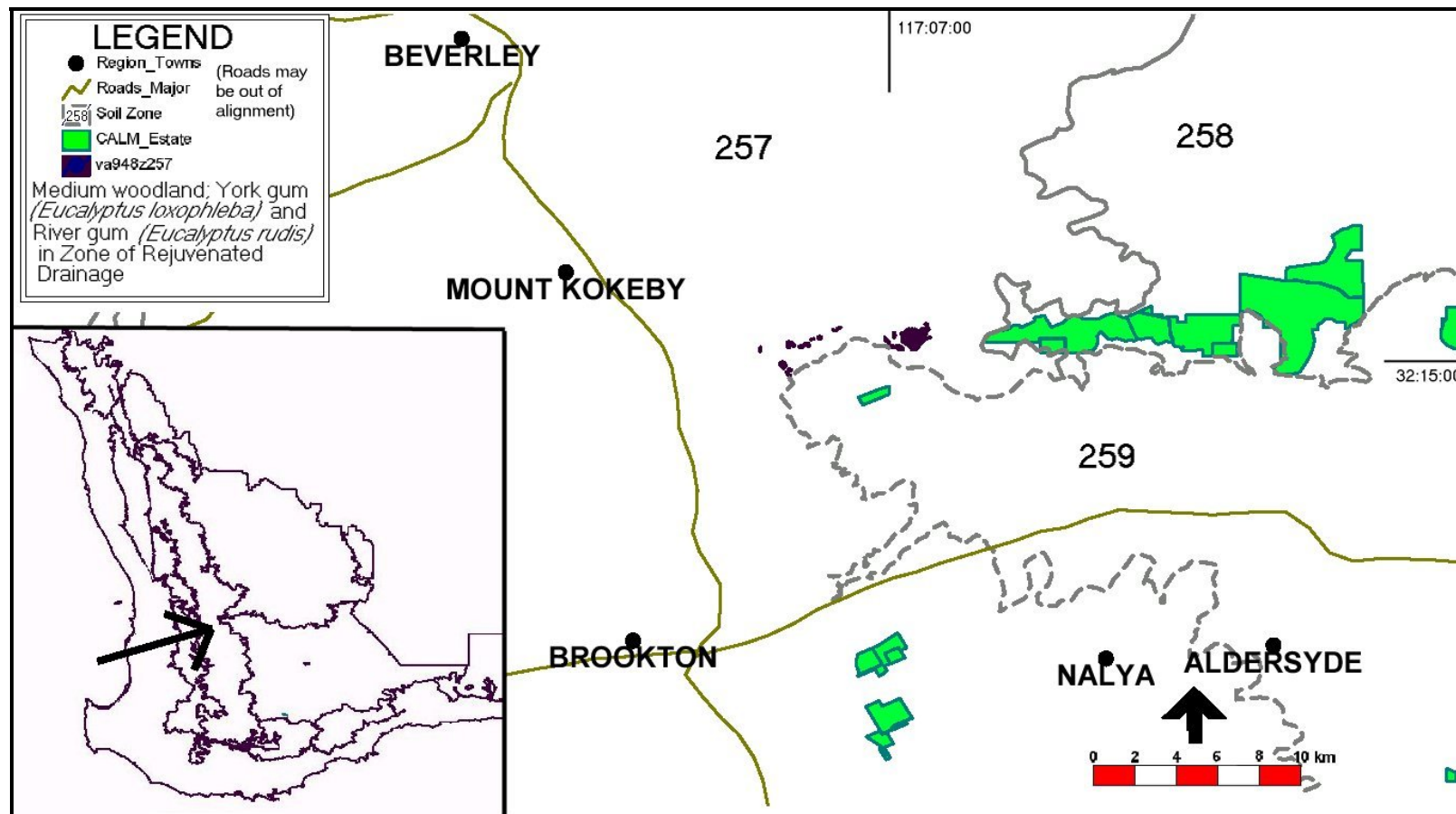


Figure 8. Map showing the present extent of Vegetation Sub-Association No 948/257, (Medium woodland; York gum (*Eucalyptus loxophleba*) & river gum (*E. rudis* or *E. camaldulensis*) / Zone of Rejuvenated Drainage), a poorly reserved and potentially threatened vegetation type.

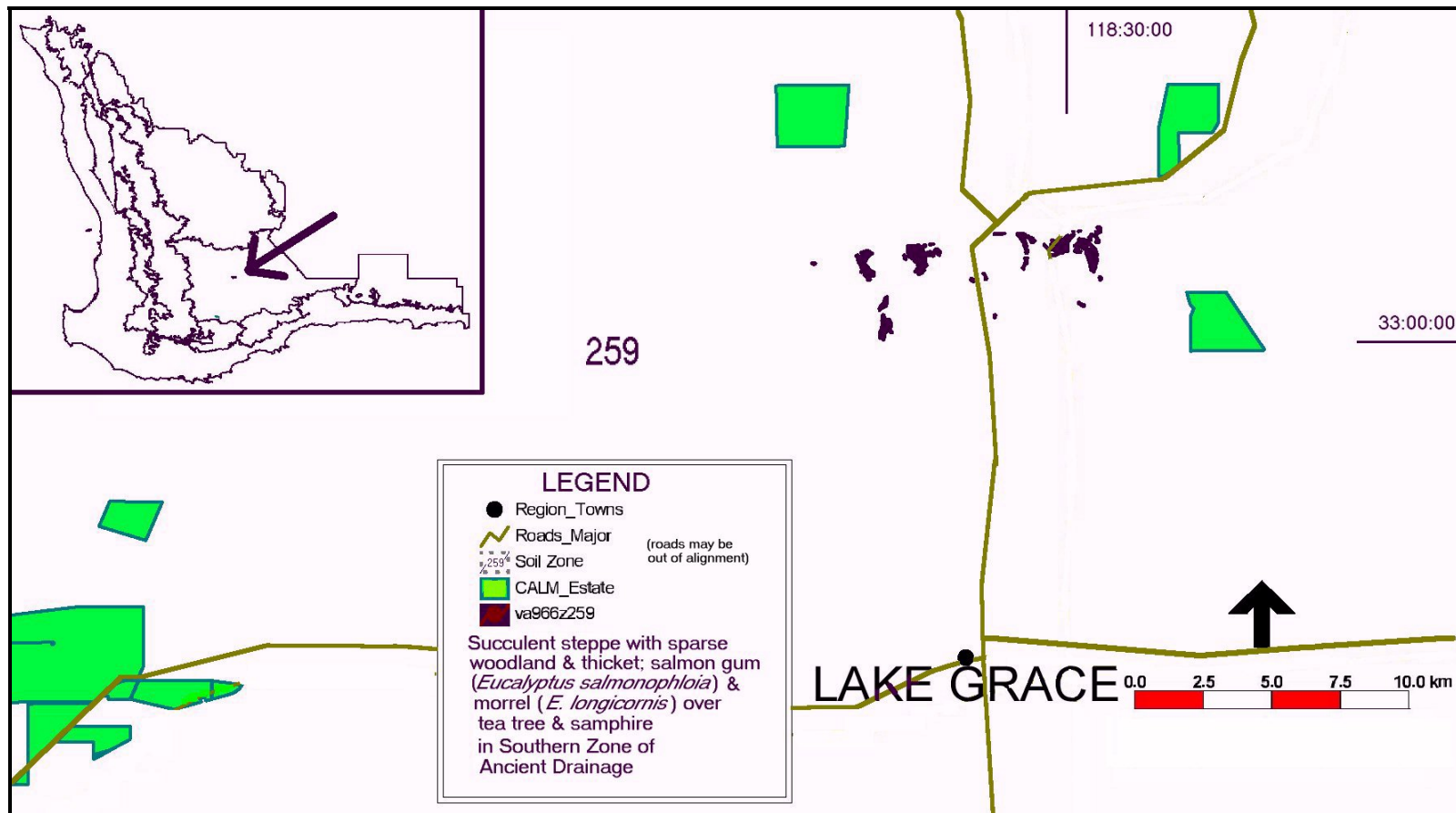


Figure 9. Map showing the present extent of Vegetation Sub-Association No 966/259, (Succulent steppe with sparse woodland & thicket; salmon gum (*Eucalyptus salmonophloia*) & morrell (*E. longicornis*) over teatree & samphire / Southern Zone of Ancient Drainage), a poorly reserved and potentially threatened vegetation type.

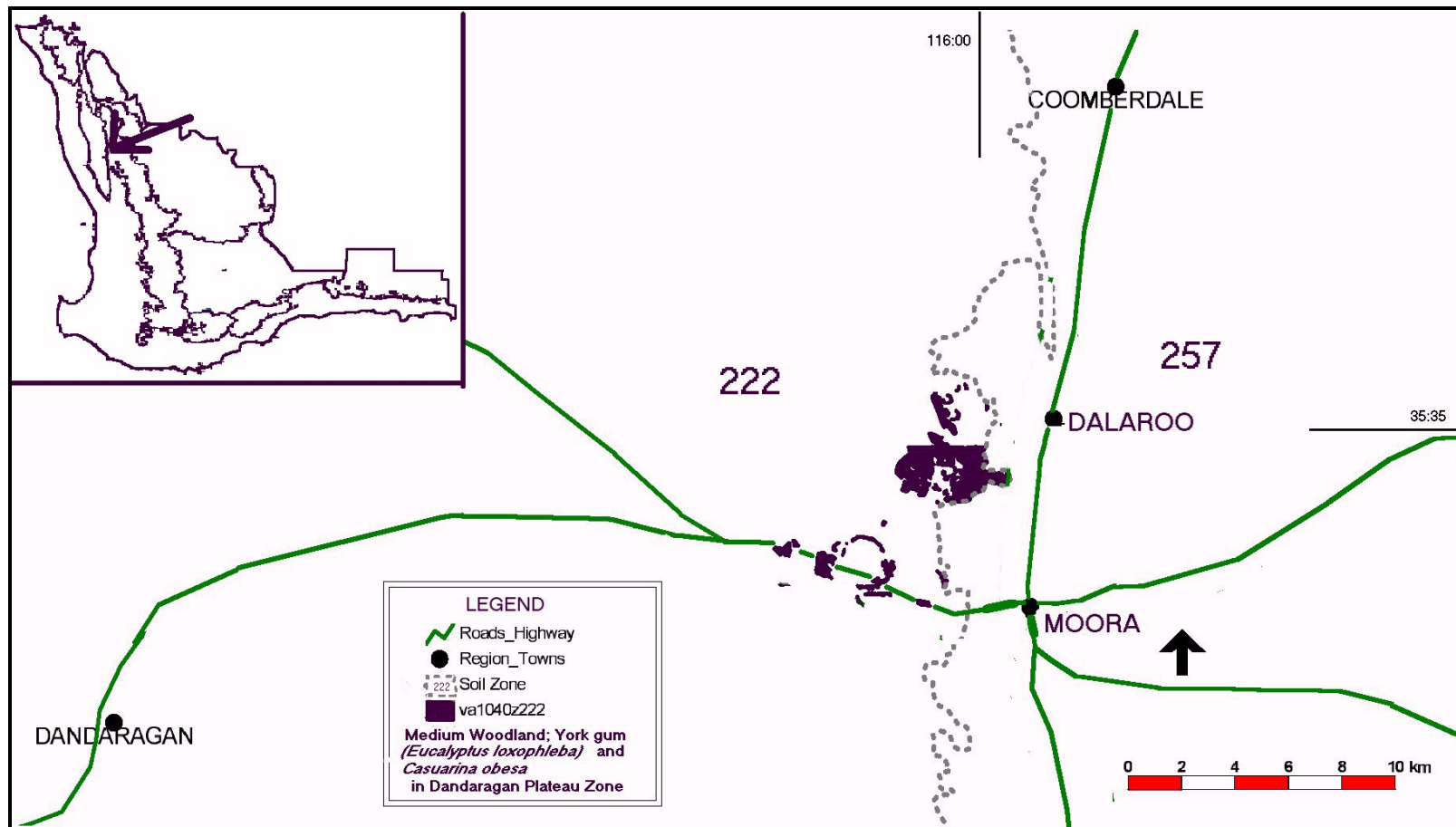


Figure 10. Map showing the present extent of Vegetation Sub-Association No 1040/222, (Medium woodland; York gum (*Eucalyptus. loxophleba*) & *Casuarina obesa* / Dandaragan Plateau Zone), a poorly reserved and potentially threatened vegetation type.

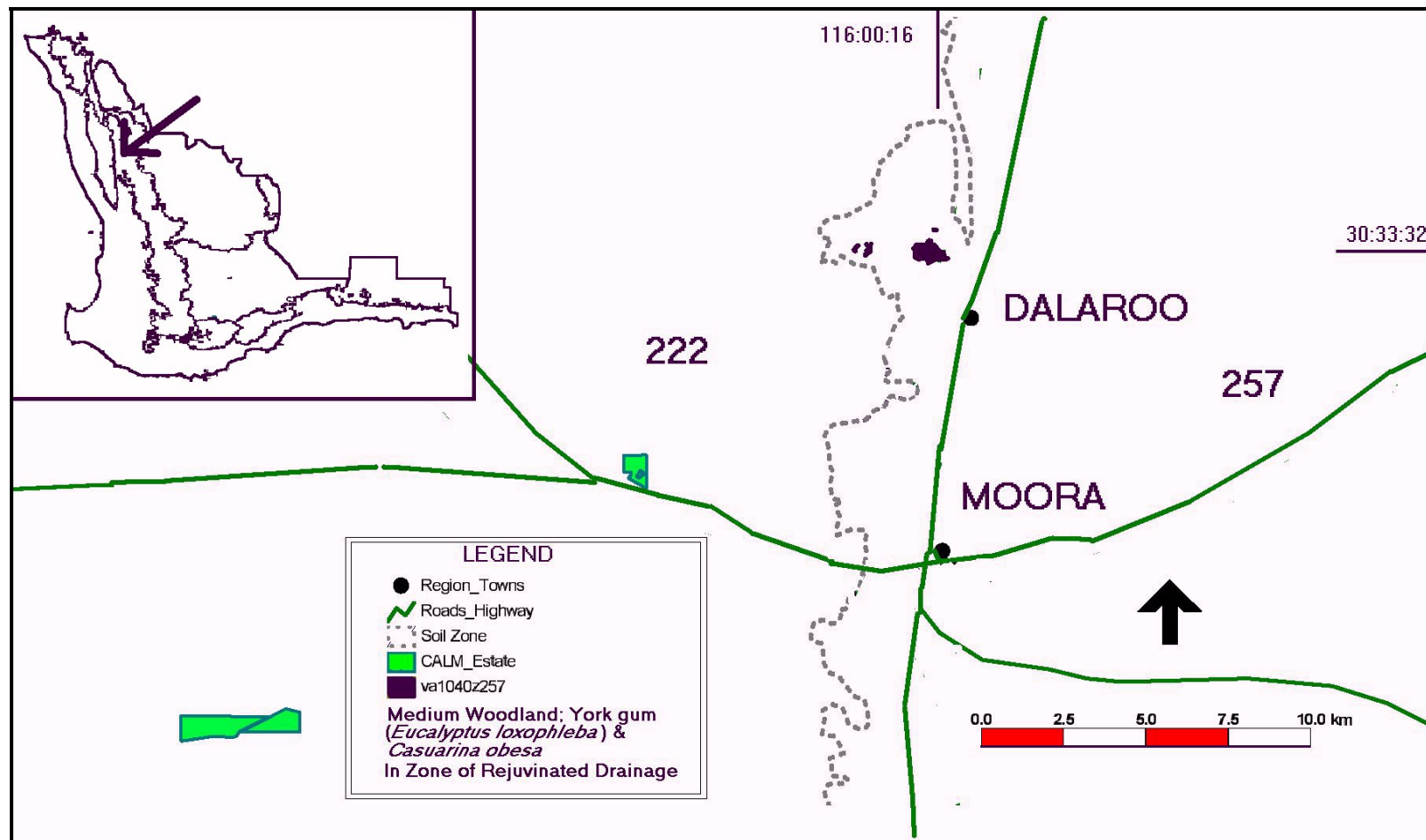


Figure 11. Map showing the present extent of Vegetation Sub-Association No 1040/257, (Medium woodland; York gum (*Eucalyptus loxophleba*) & *Casuarina obesa* / Zone of Rejuvenated Drainage), a poorly reserved and potentially threatened vegetation type.

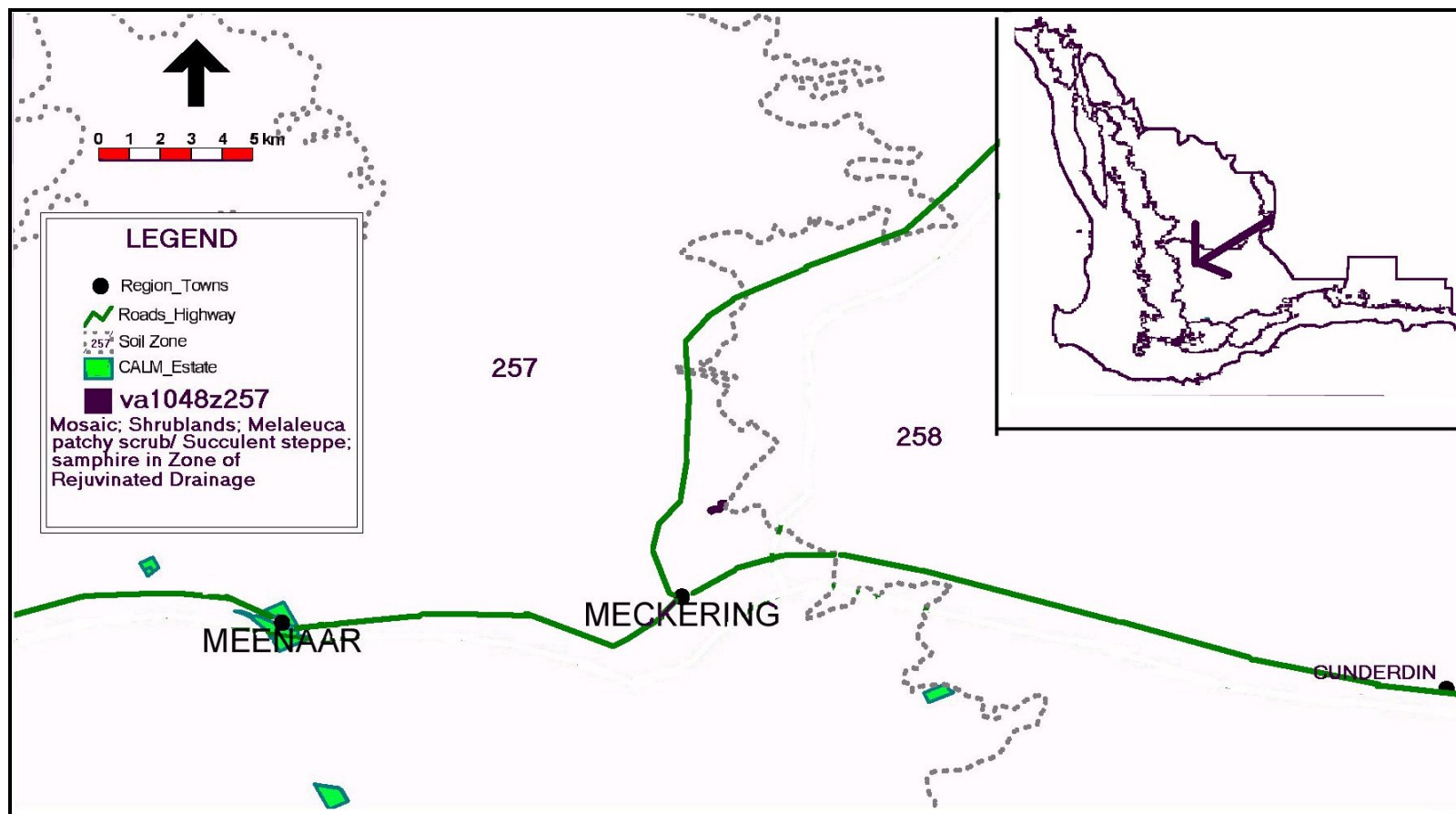


Figure 12. Map showing the present extent of Vegetation Sub-Association No 1048/257, (Mosaic: Shrublands; melaleuca patchy scrub / succulent steppe; samphire / Zone of Rejuvenated Drainage), a poorly reserved and potentially threatened vegetation type.

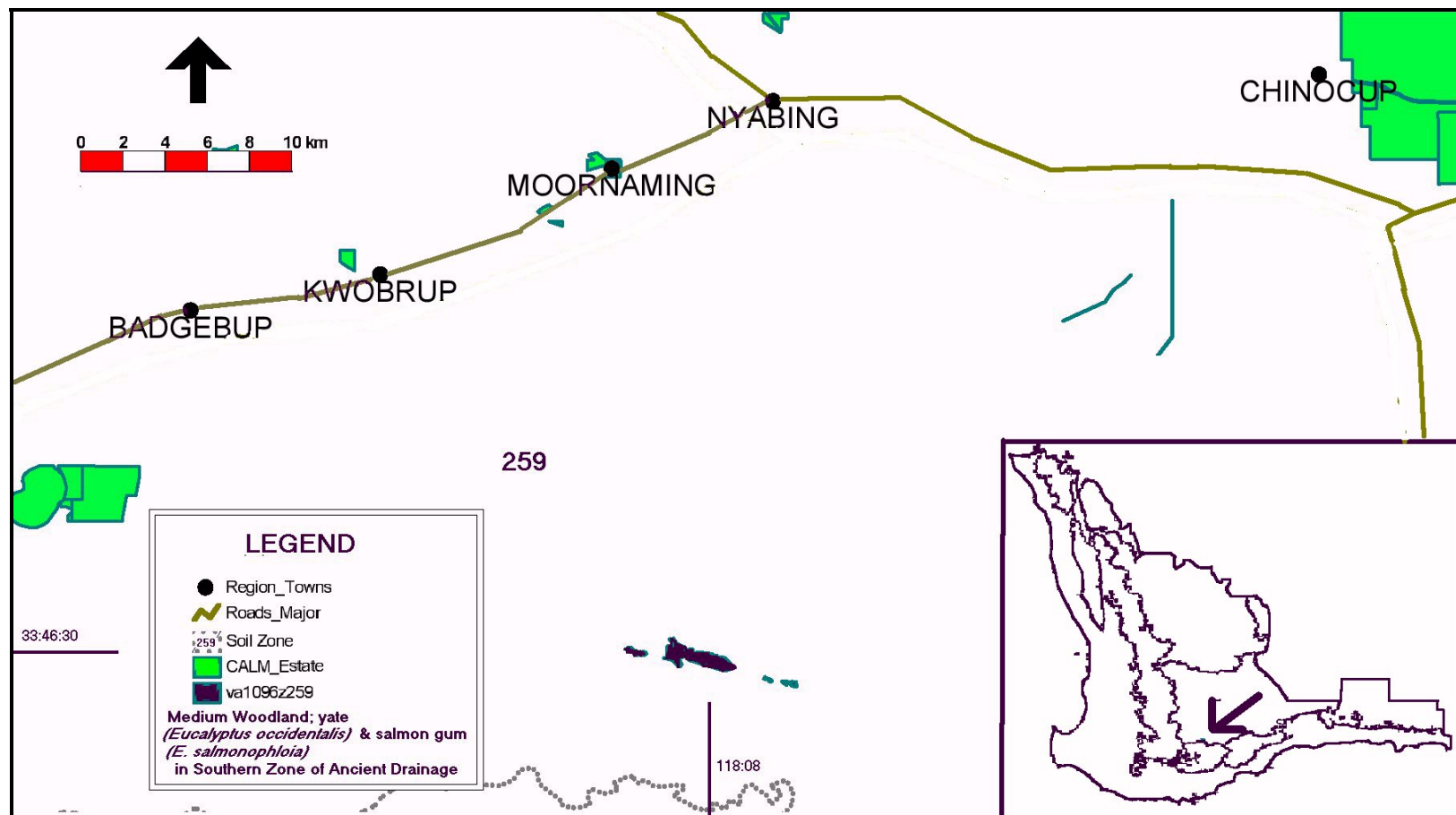


Figure 13. Map showing the present extent of Vegetation Sub-Association No 1096/259, (Medium woodland; yate (*Eucalyptus occidentalis*) & salmon gum (*E. salmonophloia*) / Southern Zone of Ancient Drainage), a poorly reserved and potentially threatened vegetation type.

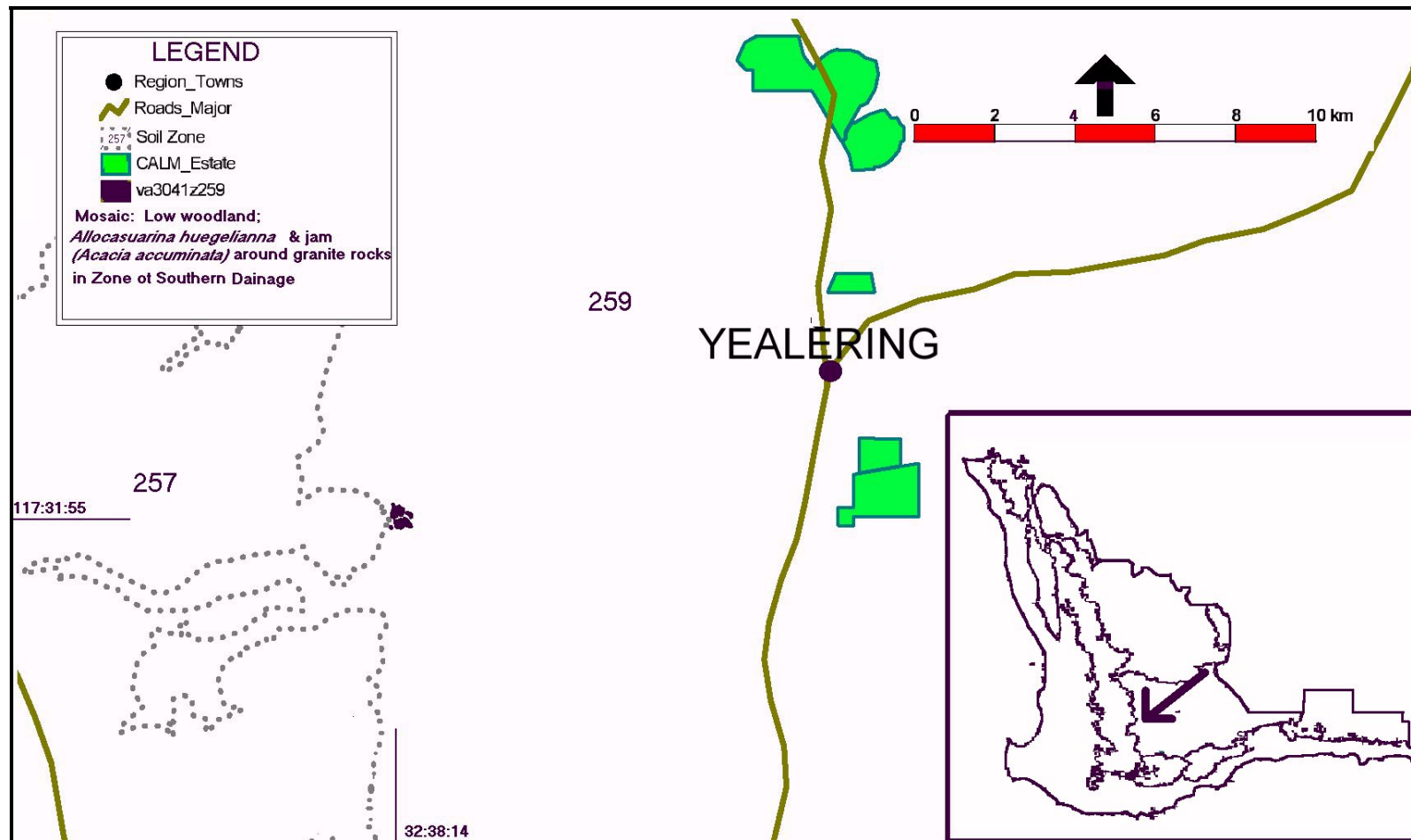


Figure 14. Map showing the present extent of Vegetation Sub-Association 3041/259, (Mosaic: Low woodland; *Allocasuarina huegeliana* & jam (*Acacia acuminata*) around granite rocks / Southern Zone of Ancient Drainage), a poorly reserved and potentially threatened vegetation type.

CONCLUSIONS

This report gives the results of the assessment of conservation status and threat of sub association-level vegetation units in the Western Australian wheatbelt. Data on some 459 vegetation sub associations are provided. Almost all (395 of the 459) are under-represented in the conservation reserve system: 172 are not represented at all. And 77 sub associations are potentially at risk from rising groundwater and associated salinisation.

Thirteen vegetation sub associations have a combination of high priority or risk characteristics for all three attributes studied here: they are extensively cleared, associated with saline soils so potentially at risk, and poorly represented in the present conservation reserve system. These 13 sub associations should be given highest priority for further research. Since the project is a desk-top one, such research should begin with on-ground survey.

The data are amenable to reanalysis to identify other priority vegetation sub associations eg those that are at less risk. Tables are available in digital form on request.

The 13 high priority vegetation sub associations listed in Table 4 should be evaluated against criteria for Threatened Ecological Communities (Blyth and English 1999). Other, lower-priority sub associations could be considered for entry in the TECs database in a lower risk category.

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Appendix 1. Description of Soil Landscape Zones used to define Vegetation Sub-associations and for the analysed in this project.

ZONE No.	ZONE Code	ZONE	ZONE DESCRIPTION
222	DPZ	Dandaragan Plateau Zone	Gently undulating plateau with areas of sandplain and some laterite. On Cretaceous sediments. Broad U-shaped valleys 80-150m deep, smaller V-shaped east of Gingin scarp in the south. Soils are formed in colluvium and weathered rock.
223	VPZ	Victoria Plateau Zone	Gently undulating sandplain on Silurian sandstone and Proterozoic granulite with laterite exposed at dissected margins.
226	LZ	Lockier Zone	River valleys of the Irwin, Lockier and Arrowsmith rivers. Alluvial valley plains underlain by Proterozoic granulites, Permian and Jurassic sediments. Outliers of Victoria Plateau Zone occur within the zone. Clayey to silty soils.
241	SRZ	Stirling Range Zone	Steep mountains of the Stirling Ranges (Proterozoic metasediments) and undulating rises on Archaean granitic rocks in the Upper Pallinup catchment.
243	JPZ	Jerramungup Plain Zone	Level to gently undulating plain dissected by a number of short rivers flowing south. On Eocene marine sediments overlying Proterozoic granitic and metamorphic rocks. Soils are alkaline sandy duplex soils with some clays, sands and gravels.
246	SGMZ	Salmon Gums-Mallee Zone	Level to gently undulating plain, with Tertiary sediments over Proterozoic granites. Salt lakes, scattered or in swarms are a common feature. Drainage lines become indistinct towards the north.
247	BLZ	Boorokup Lakes Zone	Poorly drained flats with lake systems on Eocene sedimentary deposits. Sandy duplex soils.
257	ZRD	Zone of Rejuvenated Drainage	Erosional surface of gently undulating rises to low hills. Continuous stream channels that flow in most years. Colluvial processes are active. Soils formed in colluvium or in-situ weathered rock.
258	NZAD	Northern Zone of Ancient Drainage	An ancient peneplain with low relief. There is no connected drainage, salt lake chains occur as remnants of ancient drainage systems which now only function in very wet years. Lateritic uplands dominated by yellow sandplain.
259	SZAD	Southern Zone of Ancient Drainage	An ancient peneplain with low relief. There is no connected drainage, salt lake chains occur as remnants of ancient drainage systems which now only function in very wet years. Lateritic uplands dominated by grey sandy gravel plain.

Appendix 1. Description of Soil Landscape Zones used to define Vegetation Sub-associations and for the analysed in this project.

261	SCZ	Southern Cross Zone	Rises and low hills on Archaean greenstones, with broad valleys often containing salt lake chains. Soils are usually red, loamy to clayey and calcareous.
271	IRZ	Irwin River Zone	The Irwin and Lockier River catchments within the Yilgarn Craton. Archaean granites, gneisses, metasediments and basic igneous rocks.