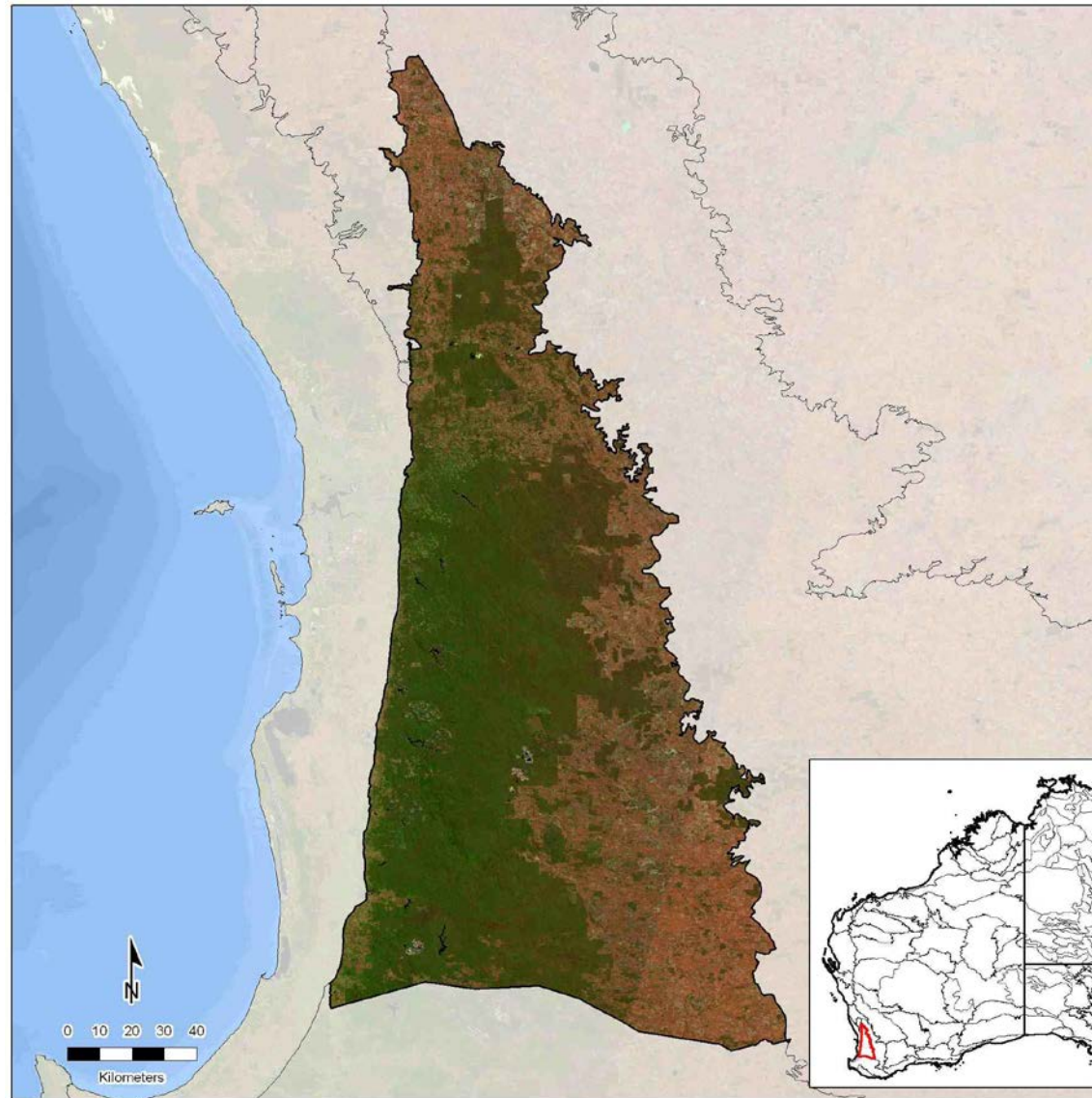


## Jarrah Forest 1 Sub-region



*Statistics and maps produced by GIS Branch, Department of Parks and Wildlife (2014)*

Information on the methods used to generate the statistics is available [here](#).

Note: the analysis was undertaken in 2012 under the auspices of the Department of Environment and Conservation. Therefore the acronym of “DEC” is used in this document.

## PROFILE OF SUB-REGION

### Total area of sub-region (ha)

Size of sub-region in WA (ha)	Percentage of WA covered by sub-region (%)	Percentage of sub-region within WA (%)	Percentage of sub-region covered by intact habitat* (%)	Percentage of sub-region within DEC-managed conservation reserves (IUCN Ia - IV) (%)
1,898,797	0.75	100	59.22	10.07

\*Intact habitat includes remnant vegetation and additional intact habitats (wetlands) not mapped in the remnant vegetation dataset.

Please see the GIS Branch intranet site for the latest annual statistics in the following report:

- [DPaW-Managed and Other IUCN Terrestrial Lands by IBRA Sub-Regions Report](#). Statistic: Percentage of sub-region within DEC-managed conservation reserves (IUCN Ia – IV).

## Remnant vegetation

		Extent of remnant vegetation		Extent of additional intact habitats (wetlands) not mapped in the remnant vegetation dataset		Total extent	
		(ha)	(%)	(ha)	(%)	(ha)	(%)
Native vegetation on DEC-managed lands	Conservation reserves (IUCN Ia - IV)	188,424	9.92	348	0.02	188,772	9.94
	DEC-managed lands proposed for conservation	2,839	0.15	0	0.00	2,839	0.15
	Conservation reserves (IUCN V & VI)	5,398	0.28	0	0.00	5,398	0.28
	Other DEC-managed lands	577,612	30.42	6	0.00	577,618	30.42
Native vegetation on other public lands		61,124	3.22	137	0.01	61,261	3.23
Native vegetation on leasehold lands		2,605	0.14	10	0.00	2,615	0.14
Native vegetation on freehold lands		285,479	15.03	496	0.03	285,975	15.06
Native vegetation with no tenure category assigned		16	0.00	0	0.00	16	0.00
Cleared areas		-	-	-	-	774,286	40.78
<b>Total</b>		<b>1,123,497</b>	<b>59</b>	<b>997</b>	<b>0</b>	<b>1,898,780</b>	<b>100</b>

NB: some rounding errors may occur.

Please see the GIS Branch intranet site for the latest annual statistics in the following report:

- [Statewide Vegetation Statistics \(Full report\)](#). Statistic: Extent of Remnant Vegetation including on DEC-managed lands.

## Tenure

			Extent (ha)			Extent (%)			Number of reserves		
			2002	2012	Change	2002	2012	Change	2002	2012	Change
DEC-managed lands	Conservation reserves (IUCN Ia - IV)		147,279	191,154	43,875	7.76	10.07	2.31	94	104	10
	DEC-managed lands proposed for conservation		0	3,077	3,077	0.00	0.16	0.16	0	10	10
	Conservation reserves (IUCN V & VI)		46	5,917	5,871	0.00	0.31	0.31	1	8	7
	State forest / timber reserves		645,061	605,317	-39,744	33.97	31.88	-2.09	24	23	-1
	Other DEC-managed lands		7,730	2,185	-5,545	0.41	0.12	-0.29	25	26	1
Other lands	Unallocated crown lands		5,805	8,111	2,306	0.31	0.43	0.12	-	-	-
	Other crown reserves		31,612	31,440	-172	1.66	1.66	0.00	-	-	-
		Crown reserves vested in Aboriginal Lands Trust*	-	3,699	-	-	0.19	-	-	-	-
	Pastoral leases^		0	0	0	0.00	0.00	0.00	-	-	-
		Pastoral leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Other leasehold lands^		0	16,724	16,724	0.00	0.88	0.88	-	-	-
		General purpose leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Freehold lands		1,035,826	993,685	-42,141	54.55	52.33	-2.22	-	-	-
		Freehold lands held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Commonwealth lands (defence)		2,981	20,183	17,202	0.16	1.06	0.90	-	-	-
	Other public lands (roads and water bodies)		1,874	20,945	19,071	0.10	1.10	1.00	-	-	-
	No tenure category assigned†		20,567	43	-20,524	1.08	0.00	-1.08	-	-	-
<b>Total</b>			<b>1,898,781</b>	<b>1,898,781</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>144</b>	<b>171</b>	<b>-</b>

NB: some rounding errors may occur.

\* Aboriginal Lands Trust data are only available for 2012. The extents shown are a subset of the category they sit below. These values should therefore not be summed since they are not mutually exclusive.

^ In 2002, there is not data to differentiate other leasehold lands. Therefore it is likely that the total extent shown for pastoral leases in 2002 includes both pastoral leases and other leasehold lands.

† The attributing of the state cadastral database has improved considerably over time. Therefore much of the land which had no tenure category assigned in 2002 will have been attributed and consequently distributed between other reporting categories in 2012. Much of this is expected to be distributed to the "Other public lands (roads and water bodies)" category, as road casings are progressively digitised and attributed, though increases in other categories is also possible as attributing improves.

Please see the GIS Branch intranet site for the latest annual statistics in the following report:

- [DPaW-Managed and Other IUCN Terrestrial Lands by IBRA Sub-Regions Report](#). Statistic: DEC-managed lands (extent only).

## Mining and petroleum

		IBRA sub-region					DEC-managed conservation reserves (IUCN Ia - IV)			DEC-managed lands proposed for conservation			DEC-managed conservation reserves (IUCN V & VI)			Other DEC-managed lands		
		2001/02	2001/02 % of IBRA sub-region	2012	2012 % of IBRA sub-region	Change^	2001/02	2012	Change	2001/02	2012	Change	2001/02	2012	Change	2001/02	2012	Change
Number of mining (live) tenements	Prospecting	1	N/A	2	N/A	1	0	0	0	0	0	0	0	0	0	0	0	0
	Exploration	23	N/A	80	N/A	57	1	25	24	0	4	4	0	3	3	6	10	4
	Mining	136	N/A	104	N/A	-32	3	2	-1	2	2	0	1	1	0	24	27	3
	Other	0	N/A	0	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of petroleum (active) titles	Exploration	4	N/A	3	N/A	-1	3	3	0	0	0	0	0	0	0	2	2	0
	Production	0	N/A	0	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0
Land area (ha)	Mining (live) tenements	962,409	50.69	1,429,733	75.30	24.61	101,471	122,922	21,451	2,024	3,077	1,053	88	726	638	542,964	555,167	12,203
	Petroleum (active) titles	30,028	1.58	27,626	1.45	-0.13	485	1,124	639	0	0	0	0	0	0	3,773	6,652	2,879
	Mining (live) tenements and petroleum (active) titles*	980,008	51.61	1,431,701	75.40	23.79	101,665	122,970	21,305	2,024	3,077	1,053	88	726	638	542,964	555,243	12,279

\*An area of land can have over it both a mining tenement and petroleum title. The combined total represents the land area which is covered by a mining tenement or petroleum title or both.

^For the Land Area "Change" is calculated as the difference in % coverage at the IBRA sub-region scale of the two year dates.

## Current dominant land uses

	Extent (ha)			Extent (%)		
	1996/97	2005/06	Change	1996/97	2005/06	Change
Agriculture (intensive use)	531,351	771,075	239,724	27.98	40.61	12.63
Native forestry	578,004	541,982	-36,022	30.44	28.54	-1.90
Conservation	237,858	271,653	33,795	12.53	14.31	1.78
Miscellaneous (non-intensive use)*	151,195	231,089	79,894	7.96	12.17	4.21
Pastoralism	380,770	43,650	-337,120	20.05	2.30	-17.75
Plantation forestry	6,470	26,309	19,839	0.34	1.39	1.05
Urban	8,752	7,402	-1,350	0.46	0.39	-0.07
Water (man-made/man modified)	1,773	3,408	1,635	0.09	0.18	0.09
Mining	1,793	1,446	-347	0.09	0.08	-0.01
Water (not classified)	818	769	-49	0.04	0.04	0.00
Traditional indigenous use	0	0	0	0.00	0.00	0.00
No data	0	0	0	0.00	0.00	0.00
<b>Total</b>	<b>1,898,784</b>	<b>1,898,783</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>-</b>

NB: some rounding errors may occur.

\* Largely unmodified natural systems under various land uses. See detailed descriptions.

See the methods document available [here](#) for definitions of the categories.

## Linear infrastructure

	Length (km)	Area of reporting region (ha)	Length per hectare (km/ha)
Roads (sub-region)	7,585	1,898,797	0.0040
Roads (Strategic Survey Roads in national parks, conservation parks and nature reserves)	956	133,553	0.0072
Railways (sub-region)	174	1,898,797	0.0001

## Complementary conservation initiatives to the formal conservation reserve system

	Extent (ha)			Extent (%)		
	2002	2012	Change	2002	2012	Change
Private conservation organisations' land	2,103	2,103	0	0.11	0.11	0.00
Nature Conservation covenants	103	1,904	1,801	0.01	0.10	0.09
Land for Wildlife properties	6,856	11,995	5,139	0.36	0.63	0.27
Combined total*	8,987	14,607	5,620	0.47	0.77	0.30

\* These conservation initiatives are not mutually exclusive. For example freehold land owned by a private conservation organisation may have a formal nature conservation covenant on its title. Therefore its area will be included in both category totals. The combined total represents the total extent of land which is covered by one or more initiative.

Please see the GIS Branch intranet site for the latest annual statistics in the following report:

- [\*DPaW-Managed and Other IUCN Terrestrial Lands by IBRA Sub-Regions Report\*](#). Statistic: Nature conservation covenants.

## Indigenous

		Extent (ha)			Extent (%)		
		2002	2012	Change	2002	2012	Change
Native Title determinations	On DEC-managed lands	0	0	0	0.00	0.00	0.00
	On all other lands	0	0	0	0.00	0.00	0.00
Commonwealth Indigenous Protected Areas		0	0	0	0.00	0.00	0.00

Please see the GIS Branch intranet site for the latest annual statistics in the following report:

- [\*DPaW-Managed and Other IUCN Terrestrial Lands by IBRA Sub-Regions Report\*](#). Statistic: Commonwealth Indigenous Protected Areas.

## Climate projection 2030, 2050 and 2070

### Projected climate change scenarios (OzClim)

ANNUAL	Projected (Average)			Change from Base Climate* (Average)			Change from Base Climate* (range)		
	2030	2050	2070	2030	2050	2070	2030	2050	2070
	High impact scenario								
Minimum Temperature (degrees C)	11.79	13.17	14.79	1.28	2.65	4.27	1.12 - 1.39	2.33 - 2.90	3.75 - 4.66
Maximum Temperature (degrees C)	25.01	26.54	28.33	1.42	2.95	4.74	1.22 - 1.55	2.54 - 3.21	4.08 - 5.17
Precipitation (mm)	609.61	566.94	530.89	-52.71	-95.38	-131.43	-80.30 - -34.80	-143.20 - -64.19	-193.50 - -90.00
	Medium impact scenario								
Minimum Temperature (degrees C)	11.54	12.25	12.94	1.02	1.73	2.42	0.89 - 1.11	1.52 - 1.89	2.11 - 2.64
Maximum Temperature (degrees C)	24.72	25.51	26.27	1.13	1.92	2.68	0.97 - 1.23	1.65 - 2.08	2.31 - 2.93
Precipitation (mm)	619.19	594.19	573.40	-43.14	-68.13	-88.92	-65.90 - -28.40	-103.30 - -45.30	-133.80 - -59.70

\* Base Climate is 1990

The Global Climate Change Model (GCM) used in both scenarios is CSIRO Mk3.5 (CSIRO: CSIRO Mk3.5 on OzClim).

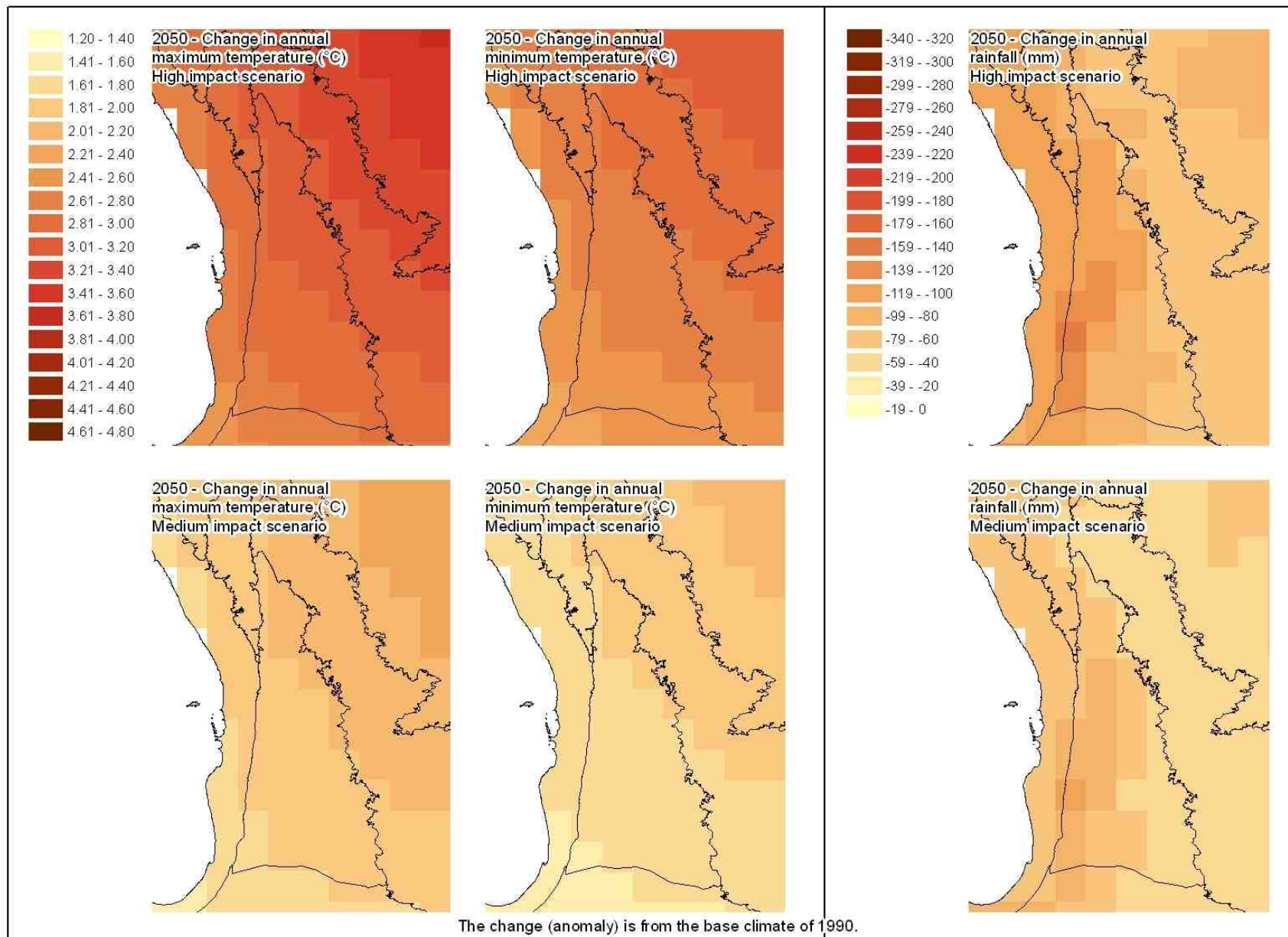
For more information see <https://wiki.csiro.au/confluence/display/ozclim/Science#Science-CSIRO35>

#### Medium Impact Scenario:

- *Emission Scenario:* Medium CO<sub>2</sub> emissions, peaking around 2030 (SRES Marker Scenario A1B)
- *Climate Sensitivity (Rate of Global Warming):* Moderate rate of global warming corresponds to a global warming of 2.6°C for a doubling of CO<sub>2</sub> from 280 ppm to 560 ppm.

#### High Impact Scenario:

- *Emission Scenario:* High CO<sub>2</sub> emissions, increasing throughout the 21st century (SRES Marker Scenario A1FI)
- *Climate Sensitivity (Rate of Global Warming):* High rate of global warming corresponds to a global warming of 4.2°C for a doubling of CO<sub>2</sub> from 280 ppm to 560 ppm.



# BIODIVERSITY ASSETS

## Native vegetation

Please see the GIS Branch intranet site for the latest annual statistics in the following report:

- [Statewide Vegetation Statistics \(Full report\)](#). Statistic: All statistics except 'Currently remaining on other lands'.

Vegetation Association descriptions can be viewed [here](#) (worksheet "Veg Assoc Descriptions").

### *Dominant vegetation associations*

Dominant vegetation associations are those which together occupied 85% of the sub-region at the time of European settlement (when sorted from largest to smallest).

Beard's veg assoc no.	Percentage of veg assoc within sub- region (%)	Pre- European extent (ha)	Current extent (ha)	Percentage remaining (%)	Currently remaining on DEC-managed lands (ha)				Currently remaining on other lands (ha)		
					IUCN Ia-IV	Proposed for conservation	IUCN V-VI	Non-IUCN	Public lands	Leasehold lands	Freehold lands
<b>3</b>	34.12	908,100	732,667	80.68	111,257	1,598	88	501,033	17,003	670	101,016
<b>4</b>	58.26	614,201	201,267	32.77	39,697	561	1,715	17,771	19,738	1,710	120,074
<b>968</b>	24.25	72,007	53,412	74.18	10,665	10	43	21,353	13,457	0	7,884
<b>3003</b>	100.00	66,452	39,495	59.43	5,194	44	3,525	9,367	5,131	0	16,219

### *Unique vegetation associations*

Unique vegetation associations are those which were largely restricted to only one sub-region at the time of European settlement (i.e.  $\geq 85\%$  of the vegetation association falls within one sub-region).

Beard's veg assoc no.	Percentage of veg assoc within sub-region (%)	Pre-European extent (ha)	Current extent (ha)	Percentage remaining (%)	Currently remaining on DEC-managed lands (ha)				Currently remaining on other lands (ha)		
					IUCN Ia-IV	Proposed for conservation	IUCN V-VI	Non-IUCN	Public lands	Leasehold lands	Freehold lands
<b>3003</b>	100.00	66,452	39,495	59.43	5,194	44	3,525	9,367	5,131	0	16,219
<b>1006</b>	100.00	44,908	22,025	49.04	1,966	103	24	7,986	3,099	0	8,846
<b>1043</b>	100.00	5,095	1,545	30.32	0	0	0	0	4	0	1,541
<b>1003</b>	89.78	18,053	7,960	44.09	3,862	0	0	1	116	3	3,977

### *Rare vegetation associations*

Rare vegetation associations are those which together occupied  $\leq 1\%$  of the state at the time of European settlement. The table below lists any rare vegetation associations which fall within this sub-region.

Beard's veg assoc no.	Percentage of veg assoc within sub-region (%)	Pre-European extent (ha)	Current extent (ha)	Percentage remaining (%)	Currently remaining on DEC-managed lands (ha)				Currently remaining on other lands (ha)		
					IUCN Ia-IV	Proposed for conservation	IUCN V-VI	Non-IUCN	Public lands	Leasehold lands	Freehold lands
<b>25</b>	0.30	41	9	21.95	0	0	0	0	0	0	9
<b>1019</b>	7.21	58	13	22.41	0	0	0	0	0	0	13
<b>987</b>	2.78	100	23	23.00	0	0	0	0	0	0	23
<b>13</b>	39.29	154	151	98.05	151	0	0	0	0	0	0
<b>965</b>	2.43	227	9	3.96	0	0	0	0	0	0	9
<b>973</b>	4.84	242	101	41.74	74	0	0	0	2	0	24
<b>1005</b>	32.53	256	139	54.30	0	0	0	0	0	0	139
<b>1182</b>	1.11	261	20	7.66	0	0	0	0	7	0	14
<b>1017</b>	1.72	301	92	30.56	22	0	0	0	1	0	70
<b>1020</b>	5.61	315	116	36.83	0	0	0	0	1	0	114
<b>1002</b>	2.26	361	358	99.17	0	0	0	358	0	0	0
<b>1073</b>	2.73	514	226	43.97	0	0	0	51	2	11	161
<b>1004</b>	16.97	1,658	1,623	97.89	1,615	0	0	0	2	0	6
<b>1185</b>	16.79	2,547	2,219	87.12	955	0	0	272	45	0	947
<b>1043</b>	100.00	5,095	1,545	30.32	0	0	0	0	4	0	1,541
<b>1114</b>	49.58	9,835	7,782	79.13	3,208	339	0	3,517	147	0	570
<b>1003</b>	89.78	18,053	7,960	44.09	3,862	0	0	1	116	3	3,977