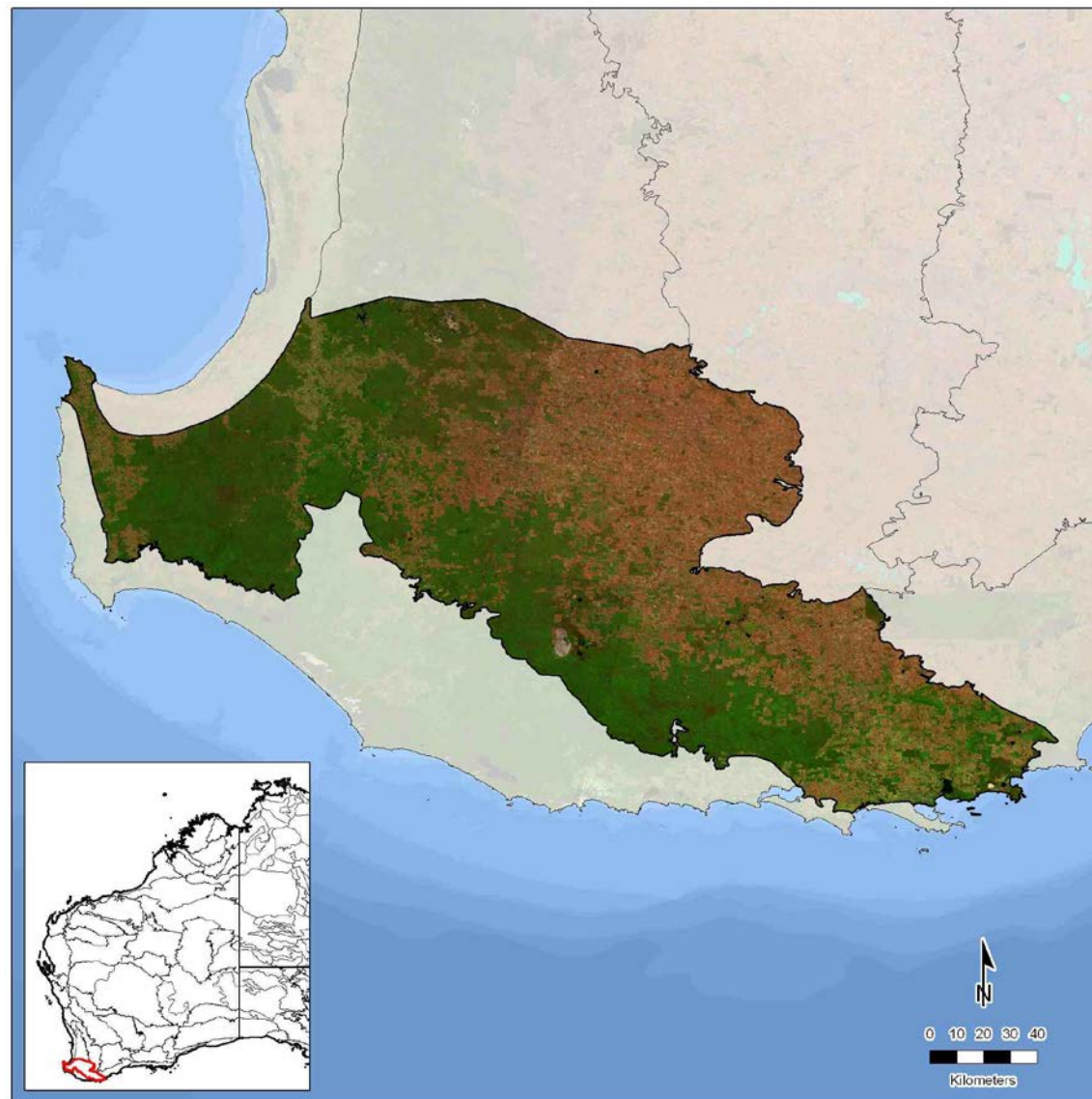


## Jarrah Forest 2 Sub-region



*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) (%)
2,610,277	1.03	100	51.81	16.97

\*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)	428,494	16.42	7,940	0.30	436,434	16.72
	DEC-managed lands proposed for conservation	356	0.01	0	0.00	356	0.01
	Conservation reserves (IUCN V & VI)	1,248	0.05	0	0.00	1,248	0.05
	Other DEC-managed lands	473,010	18.12	233	0.01	473,243	18.13
Native vegetation on other public lands		82,564	3.16	2,009	0.08	84,573	3.24
Native vegetation on leasehold lands		20,463	0.78	116	0.00	20,579	0.79
Native vegetation on freehold lands		330,285	12.65	4,153	0.16	334,438	12.81
Native vegetation with no tenure category assigned		16	0.00	1,594	0.06	1,610	0.06
Cleared areas		-	-	-	-	1,257,802	48.19
Unmapped islands*		-	-	-	-	12	0.00
<b>Total</b>		<b>1,336,436</b>	<b>51</b>	<b>16,045</b>	<b>1</b>	<b>2,610,295</b>	<b>100</b>

NB: some rounding errors may occur.

\* DEC regions may advise if these are to be included under additional intact habitat.

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)		78,069	442,889	364,820	2.99	16.97	13.98	127	164	37
	DEC-managed lands proposed for conservation		0	433	433	0.00	0.02	0.02	0	6	6
	Conservation reserves (IUCN V & VI) <sup>1</sup>		0	1,300	1,300	0.00	0.05	0.05	0	10	10
	State forest / timber reserves		791,735	504,443	-287,292	30.33	19.33	-11.00	83	72	-11
	Other DEC-managed lands		17,873	16,494	-1,379	0.68	0.63	-0.05	225	232	7
Other lands	Unallocated crown lands		44,225	20,902	-23,323	1.69	0.80	-0.89	-	-	-
	Other crown reserves		100,447	49,488	-50,959	3.85	1.90	-1.95	-	-	-
		Crown reserves vested in Aboriginal Lands Trust*	-	290	-	-	0.01	-	-	-	-
	Pastoral leases^		7,848	6,797	-1,051	0.30	0.26	-0.04	-	-	-
		Pastoral leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Other leasehold lands^		0	65,947	65,947	0.00	2.53	2.53	-	-	-
		General purpose leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Freehold lands		1,525,657	1,461,233	-64,424	58.45	55.98	-2.47	-	-	-
		Freehold lands held by Aboriginal Lands Trust*	-	58	-	-	0.00	-	-	-	-
	Commonwealth lands (defence)		0	0	0	0.00	0.00	0.00	-	-	-
	Other public lands (roads and water bodies)		4,704	38,597	33,893	0.18	1.48	1.30	-	-	-
	No tenure category assigned <sup>†</sup>		39,736	1,773	-37,963	1.52	0.07	-1.45	-	-	-
<b>Total</b>			<b>2,610,294</b>	<b>2,610,296</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>435</b>	<b>484</b>	<b>-</b>

NB: some rounding errors may occur.

<sup>1</sup> The extents shown in this category include parts of marine reserves. This is due to misalignments of coastal boundaries between tenure and IBRA datasets.

\* 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	6	N/A	8	N/A	2	1	0	-1	0	0	0	0	0	0	6	3	-3
	Exploration	20	N/A	68	N/A	48	7	32	25	1	1	0	0	3	3	14	42	28
	Mining	162	N/A	140	N/A	-22	8	3	-5	0	0	0	0	0	0	115	101	-14
	Other	3	N/A	0	N/A	-3	0	0	0	0	0	0	0	0	0	3	0	-3
Number of petroleum (active) titles	Exploration	3	N/A	3	N/A	0	3	3	0	2	0	-2	2	1	-1	3	3	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	147,447	5.65	1,029,525	39.44	33.79	3,601	32,277	28,676	18	96	78	0	168	168	76,965	153,278	76,313
	Petroleum (active) titles	335,953	12.87	137,694	5.28	-7.59	77,240	36,083	-41,157	202	0	-202	28	1	-27	203,812	89,862	-113,950
	Mining (live) tenements and petroleum (active) titles*	463,123	17.74	1,163,414	44.57	26.83	79,373	67,961	-11,412	220	96	-124	28	169	141	273,346	241,795	-31,551

\*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)	846,532	1,088,525	241,993	32.43	41.70	9.27
Native forestry	704,926	508,716	-196,210	27.01	19.49	-7.52
Conservation	270,313	469,720	199,407	10.36	18.00	7.64
Plantation forestry	154,032	276,208	122,176	5.90	10.58	4.68
Miscellaneous (non-intensive use)*	149,749	237,607	87,858	5.74	9.10	3.36
Pastoralism	469,382	13,568	-455,814	17.98	0.52	-17.46
Urban	6,415	6,659	244	0.25	0.26	0.01
Water (not classified)	4,079	3,772	-307	0.16	0.14	-0.02
Mining	2,392	2,500	108	0.09	0.10	0.01
Water (man-made/man modified)	1,032	1,192	160	0.04	0.05	0.01
Traditional indigenous use	0	0	0	0.00	0.00	0.00
No data	1,441	1,825	384	0.06	0.07	0.01
<b>Total</b>	<b>2,610,293</b>	<b>2,610,292</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)	11,967	2,610,277	0.0046
Roads (Strategic Survey Roads in national parks, conservation parks and nature reserves)	1,326	442,183	0.0030
Railways (sub-region)	267	2,610,277	0.0001

## Complementary conservation initiatives to the formal conservation reserve system

	Extent (ha)			Extent (%)		
	2002	2012	Change	2002	2012	Change
Private conservation organisations' land	392	392	0	0.02	0.02	0.00
Nature Conservation covenants	807	3,090	2,283	0.03	0.12	0.09
Land for Wildlife properties	10,746	16,106	5,360	0.41	0.62	0.21
Combined total*	11,376	18,181	6,805	0.44	0.70	0.26

\* 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)	11.10	12.30	13.71	1.11	2.31	3.72	1.00 - 1.22	2.08 - 2.54	3.36 - 4.08
Maximum Temperature (degrees C)	22.65	23.96	25.50	1.21	2.53	4.07	1.04 - 1.36	2.19 - 2.84	3.52 - 4.56
Precipitation (mm)	680.11	634.53	593.62	-53.12	-98.69	-139.61	-85.90 - -32.90	-162.70 - -60.90	-240.40 - -85.70
	Medium impact scenario								
Minimum Temperature (degrees C)	10.87	11.49	12.09	0.88	1.51	2.10	0.80 - 0.97	1.36 - 1.65	1.90 - 2.31
Maximum Temperature (degrees C)	22.40	23.08	23.73	0.97	1.65	2.30	0.84 - 1.09	1.42 - 1.85	1.99 - 2.58
Precipitation (mm)	689.99	663.93	641.61	-43.24	-69.29	-91.61	-69.80 - -26.80	-112.40 - -42.80	-150.10 - -56.50

\* 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>

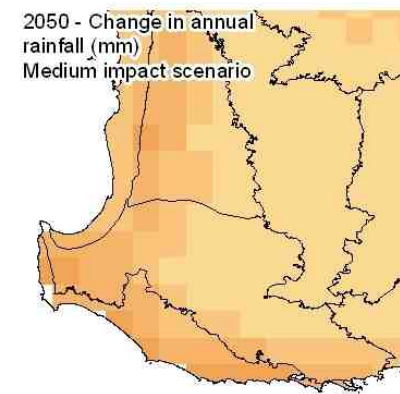
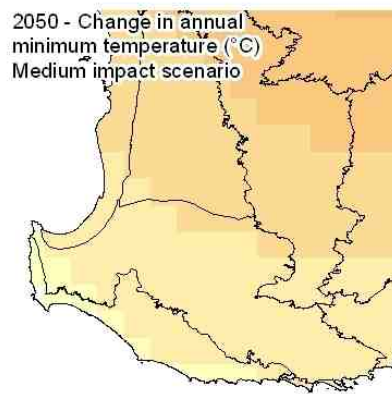
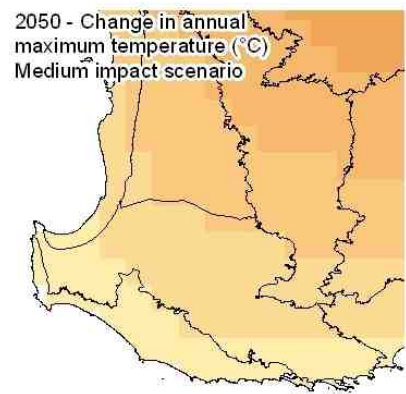
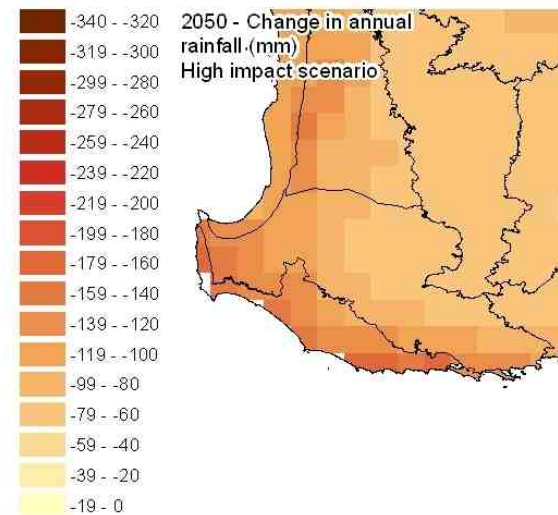
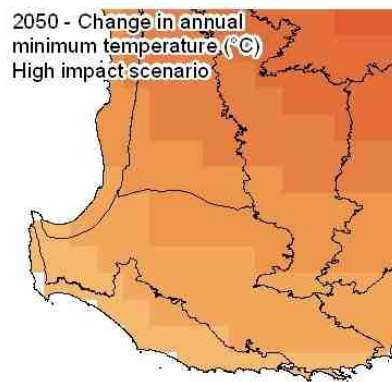
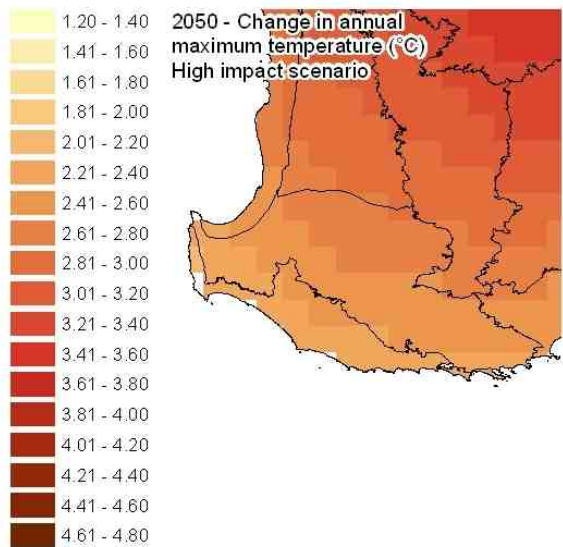
#### Medium Impact Scenario:

- *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.





The change (anomaly) is from the base climate of 1990.

# 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>	55.70	1,482,492	898,444	60.60	273,628	206	628	416,373	41,454	14,295	151,857
<b>4</b>	38.75	408,512	91,709	22.45	4,915	90	158	311	10,194	2,112	73,929
<b>992</b>	89.12	108,768	27,823	25.58	2,291	6	0	0	4,156	649	20,722
<b>14</b>	93.32	88,293	67,239	76.15	56,171	0	375	647	3,778	883	5,384
<b>968</b>	23.18	68,816	17,623	25.61	3,220	0	0	59	1,105	26	13,211
<b>978</b>	99.60	53,017	20,371	38.42	4,730	0	0	321	7,014	94	8,211
<b>27</b>	38.25	49,878	37,217	74.62	24,821	0	0	4,356	1,821	283	5,936

### *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
972	100.00	23,294	9,161	39.33	577	0	0	0	1,510	1,069	6,005
2051	100.00	10,743	7,531	70.10	5,025	0	0	940	482	0	1,083
1183	100.00	9,062	7,490	82.65	3,815	53	5	2,579	406	0	631
979	100.00	7,723	1,442	18.67	0	0	0	0	102	63	1,277
1051	100.00	422	5	1.18	0	0	0	0	1	0	4
971	100.00	330	206	62.42	43	0	0	0	127	0	35
978	99.60	53,017	20,371	38.42	4,730	0	0	321	7,014	94	8,211
977	97.05	263	130	49.43	0	0	0	0	28	0	102
994	96.77	16,408	4,950	30.17	1,476	0	0	0	1,546	456	1,472
14	93.32	88,293	67,239	76.15	56,171	0	375	647	3,778	883	5,384
992	89.12	108,768	27,823	25.58	2,291	6	0	0	4,156	649	20,722

### *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
1152	0.30	22	22	100.00	22	0	0	0	0	0	0
1034	3.29	60	38	63.33	0	0	0	0	0	0	38
1140	12.61	99	99	100.00	99	0	0	0	0	0	0
1112	0.93	104	98	94.23	12	0	0	85	1	0	0
22	2.90	117	77	65.81	16	0	0	0	0	0	61
1132	49.51	152	151	99.34	148	0	0	1	2	0	0
1111	20.10	161	75	46.58	63	0	0	0	5	0	7
1151	9.75	218	218	100.00	218	0	0	0	0	0	0
1157	18.14	228	223	97.81	135	0	0	88	0	0	0
1153	20.58	242	240	99.17	240	0	0	0	0	0	0
977	97.05	263	130	49.43	0	0	0	0	28	0	102
1116	5.83	270	180	66.67	1	1	0	168	8	0	2
971	100.00	330	206	62.42	43	0	0	0	127	0	35
990	2.07	387	305	78.81	88	0	0	0	10	0	207
1051	100.00	422	5	1.18	0	0	0	0	1	0	4
965	4.82	451	451	100.00	388	0	0	63	0	0	0
1077	44.53	1,131	522	46.15	31	0	0	0	148	0	343
1180	68.25	1,993	1,888	94.73	1,528	0	0	5	114	3	237
975	11.87	2,051	1,828	89.13	655	0	0	884	24	0	264
963	33.81	2,053	753	36.68	57	0	0	0	10	0	686
1003	10.22	2,056	1,052	51.17	603	0	0	0	88	1	360
973	44.09	2,206	1,445	65.50	0	0	0	0	386	112	947
987	71.07	2,555	530	20.74	0	0	0	0	171	0	358
1073	20.92	3,935	800	20.33	56	0	0	0	43	33	668
979	100.00	7,723	1,442	18.67	0	0	0	0	102	63	1,277
1183	100.00	9,062	7,490	82.65	3,815	53	5	2,579	406	0	631
126	42.36	9,957	2,559	25.70	1,481	0	0	46	339	21	671
1181	51.92	9,978	5,374	53.86	362	0	0	3,281	469	6	1,256
1114	50.42	10,001	4,304	43.04	692	0	0	1,773	600	0	1,238
2051	100.00	10,743	7,531	70.10	5,025	0	0	940	482	0	1,083
1182	46.37	10,867	4,796	44.13	4	0	0	3,305	360	0	1,127
1017	65.87	11,546	9,026	78.17	0	0	0	8,006	192	0	827
1002	78.45	12,512	12,337	98.60	10,638	0	0	1,696	3	0	0

<b>1185</b>	83.14	12,612	11,415	90.51	2,643	0	0	8,443	77	0	252
<b>994</b>	96.77	16,408	4,950	30.17	1,476	0	0	0	1,546	456	1,472
<b>972</b>	100.00	23,294	9,161	39.33	577	0	0	0	1,510	1,069	6,005