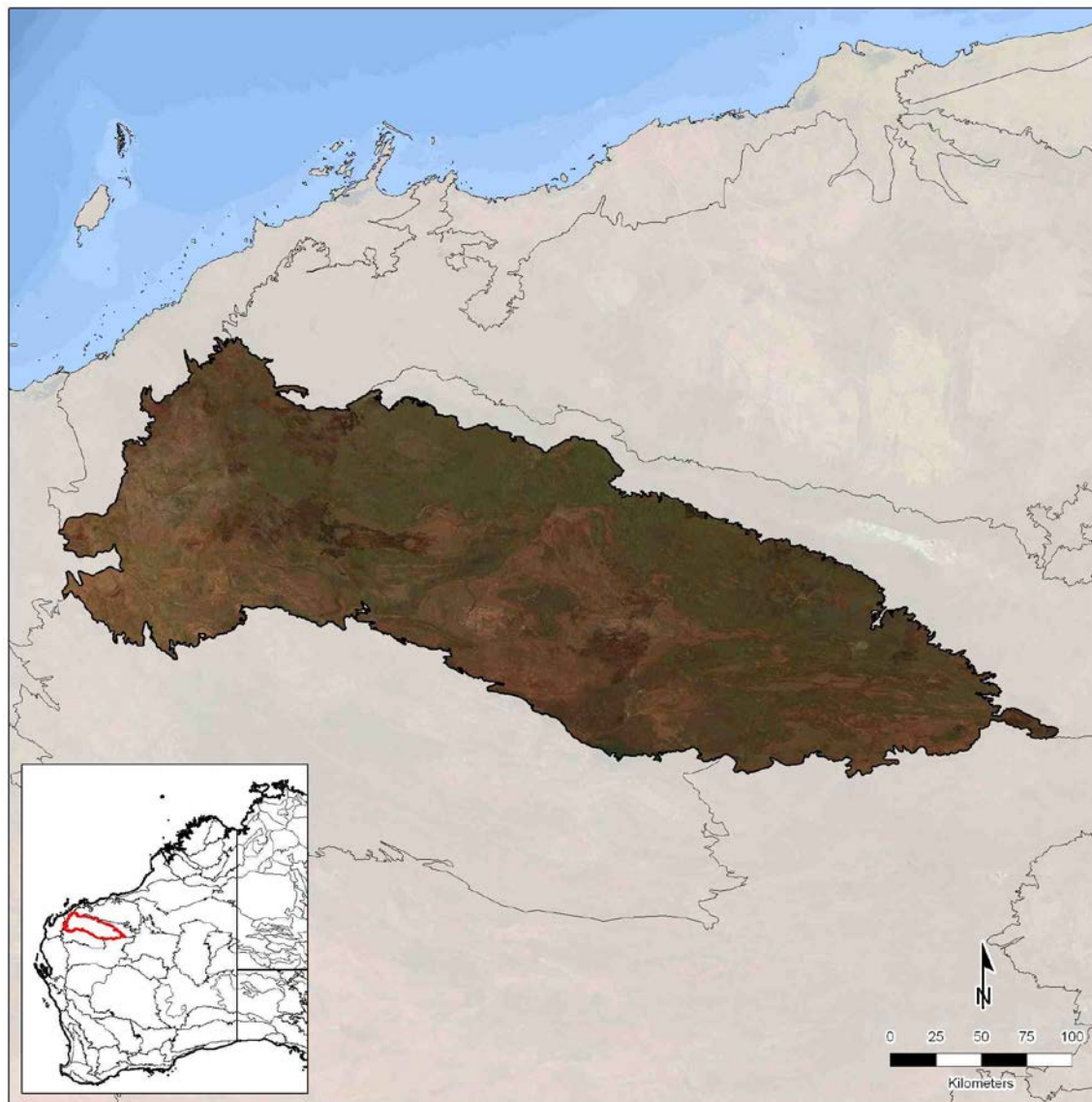


## Pilbara 3 Sub-region



*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) (%)
5,634,727	2.23	100	99.56	12.88

\*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)	725,734	12.88	0	0.00	725,734	12.88
	DEC-managed lands proposed for conservation	73,380	1.30	0	0.00	73,380	1.30
	Conservation reserves (IUCN V & VI)	4,855	0.09	0	0.00	4,855	0.09
	Other DEC-managed lands	0	0.00	0	0.00	0	0.00
Native vegetation on other public lands		2,221,314	39.42	0	0.00	2,221,314	39.42
Native vegetation on leasehold lands		2,571,666	45.64	0	0.00	2,571,666	45.64
Native vegetation on freehold lands		13,256	0.24	0	0.00	13,256	0.24
Native vegetation with no tenure category assigned		0	0.00	0	0.00	0	0.00
Cleared areas		-	-	-	-	24,522	0.44
<b>Total</b>		<b>5,610,205</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>5,634,727</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)		725,693	725,748	55	12.88	12.88	0.00	2	2	0
	DEC-managed lands proposed for conservation		67,668	73,380	5,712	1.20	1.30	0.10	1	2	1
	Conservation reserves (IUCN V & VI)		4,855	4,855	0	0.09	0.09	0.00	1	1	0
	State forest / timber reserves		0	0	0	0.00	0.00	0.00	0	0	0
	Other DEC-managed lands		0	0	0	0.00	0.00	0.00	0	0	0
Other lands	Unallocated crown lands		2,168,558	2,159,967	-8,591	38.49	38.33	-0.16	-	-	-
	Other crown reserves		67,038	66,775	-263	1.19	1.19	0.00	-	-	-
		Crown reserves vested in Aboriginal Lands Trust*	-	8	-	-	0.00	-	-	-	-
	Pastoral leases^		2,550,189	2,530,189	-20,000	45.26	44.90	-0.36	-	-	-
		Pastoral leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Other leasehold lands^		0	52,709	52,709	0.00	0.94	0.94	-	-	-
		General purpose leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Freehold lands		44,991	13,865	-31,126	0.80	0.25	-0.55	-	-	-
		Freehold lands held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Commonwealth lands (defence)		0	0	0	0.00	0.00	0.00	-	-	-
	Other public lands (roads and water bodies)		215	7,239	7,024	0.00	0.13	0.13	-	-	-
	No tenure category assigned†		5,521	0	-5,521	0.10	0.00	-0.10	-	-	-
<b>Total</b>			<b>5,634,728</b>	<b>5,634,727</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>4</b>	<b>5</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	6	N/A	155	N/A	149	0	1	1	0	0	0	0	0	0	0	0	0
	Exploration	255	N/A	811	N/A	556	16	37	21	1	17	16	4	7	3	0	0	0
	Mining	1,414	N/A	394	N/A	-1,020	4	3	-1	2	3	1	1	1	0	0	0	0
	Other	15	N/A	14	N/A	-1	4	3	-1	0	0	0	0	0	0	0	0	0
Number of petroleum (active) titles	Exploration	0	N/A	0	N/A	0	0	0	0	0	0	0	0	0	0	0	0	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	1,572,371	27.91	4,547,235	80.70	52.79	74,138	136,695	62,557	5,798	41,863	36,065	4,855	4,855	< 1	0	0	0
	Petroleum (active) titles	0	0.00	0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
	Mining (live) tenements and petroleum (active) titles*	1,572,371	27.91	4,547,235	80.70	52.79	74,138	136,695	62,557	5,798	41,863	36,065	4,855	4,855	< 1	0	0	0

\*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
Pastoralism	2,734,353	2,580,758	-153,595	48.53	45.80	-2.73
Miscellaneous (non-intensive use)*	2,264,312	2,311,108	46,796	40.18	41.02	0.84
Conservation	627,442	734,760	107,318	11.14	13.04	1.90
Mining	4,314	3,900	-414	0.08	0.07	-0.01
Water (not classified)	3,852	3,400	-452	0.07	0.06	-0.01
Urban	454	400	-54	0.01	0.01	0.00
Traditional indigenous use	0	400	400	0.00	0.01	0.01
Native forestry	0	0	0	0.00	0.00	0.00
Plantation forestry	0	0	0	0.00	0.00	0.00
Agriculture (intensive use)	0	0	0	0.00	0.00	0.00
Water (man-made/man modified)	0	0	0	0.00	0.00	0.00
No data	0	0	0	0.00	0.00	0.00
<b>Total</b>	<b>5,634,727</b>	<b>5,634,726</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)	9,402	5,634,727	0.0017
Roads (Strategic Survey Roads in national parks, conservation parks and nature reserves)	393	725,748	0.0005
Railways (sub-region)	587	5,634,727	0.0001

## Complementary conservation initiatives to the formal conservation reserve system

	Extent (ha)			Extent (%)		
	2002	2012	Change	2002	2012	Change
Private conservation organisations' land	0	0	0	0.00	0.00	0.00
Nature Conservation covenants	0	0	0	0.00	0.00	0.00
Land for Wildlife properties	0	0	0	0.00	0.00	0.00
Combined total*	0	0	0	0.00	0.00	0.00

\* 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	94,287	94,287	0.00	1.67	1.67
	On all other lands	30,074	846,940	816,866	0.53	15.03	14.50
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)	19.52	21.40	23.60	1.74	3.62	5.83	1.43 - 1.94	2.97 - 4.04	4.78 - 6.51
Maximum Temperature (degrees C)	34.37	36.53	39.06	2.00	4.17	6.70	1.62 - 2.21	3.36 - 4.61	5.41 - 7.41
Precipitation (mm)	298.15	266.42	243.22	-49.42	-81.13	-104.34	-59.20 - -38.30	-99.30 - -61.80	-136.20 - -77.80
	Medium impact scenario								
Minimum Temperature (degrees C)	19.16	20.13	21.07	1.39	2.36	3.30	1.14 - 1.55	1.93 - 2.63	2.71 - 3.68
Maximum Temperature (degrees C)	33.96	35.07	36.16	1.60	2.71	3.80	1.29 - 1.76	2.19 - 3.00	3.06 - 4.19
Precipitation (mm)	306.08	286.06	270.90	-41.48	-61.50	-76.65	-49.60 - -32.30	-73.80 - -47.40	-92.80 - -58.60

\* 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:

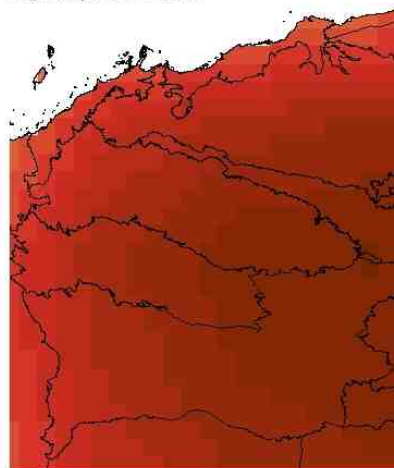
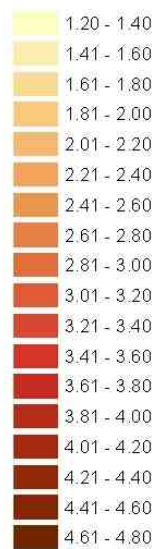
- *Emission Scenario:* Medium CO<sub>2</sub> emissions, peaking around 2030 (SRES Marker Scenario A1B)
- *Climate Sensitivity (Rate of Global Warming):* Moderate rate of global warming corresponds to a global warming of 2.6°C for a doubling of CO<sub>2</sub> from 280 ppm to 560 ppm.

#### High Impact Scenario:

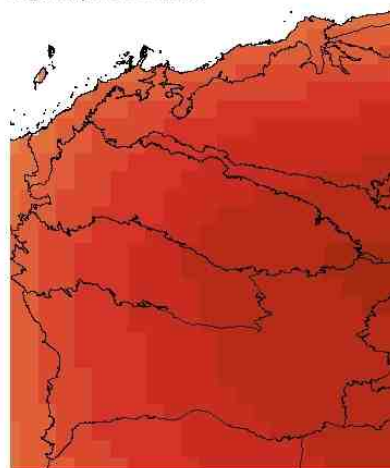
- *Emission Scenario:* High CO<sub>2</sub> emissions, increasing throughout the 21st century (SRES Marker Scenario A1FI)
- *Climate Sensitivity (Rate of Global Warming):* High rate of global warming corresponds to a global warming of 4.2°C for a doubling of CO<sub>2</sub> from 280 ppm to 560 ppm.



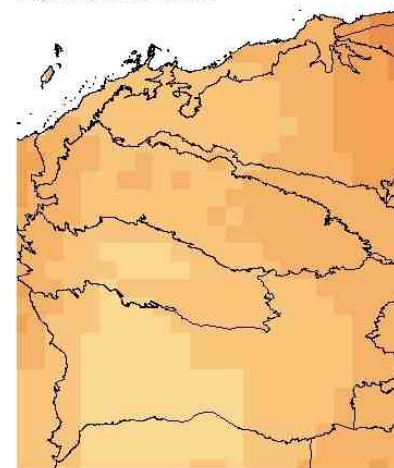
2050 - Change in annual maximum temperature (°C)  
High impact scenario



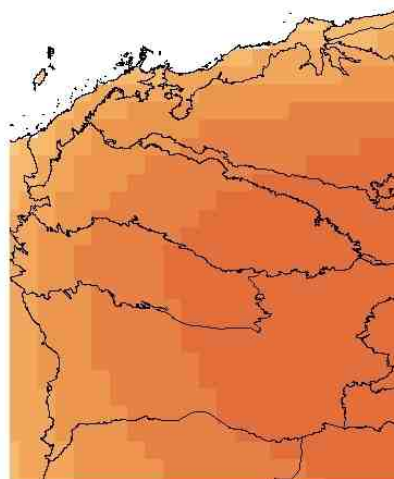
2050 - Change in annual minimum temperature (°C)  
High impact scenario



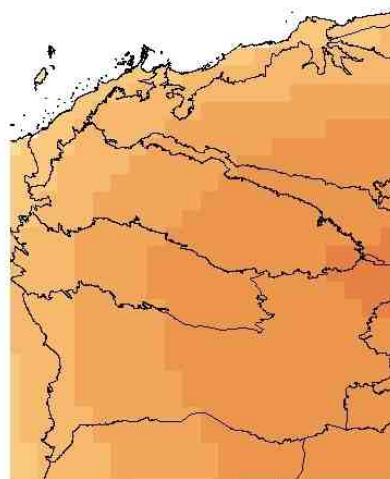
2050 - Change in annual rainfall (mm)  
High impact scenario



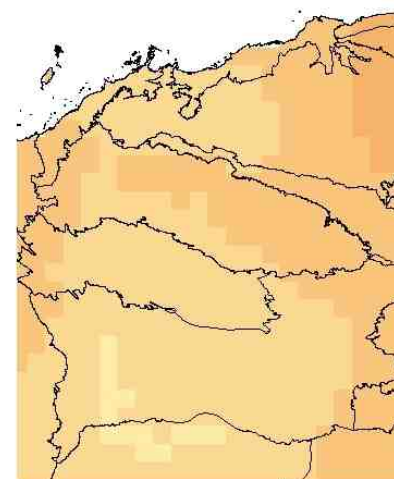
2050 - Change in annual maximum temperature (°C)  
Medium impact scenario



2050 - Change in annual minimum temperature (°C)  
Medium impact scenario



2050 - Change in annual rainfall (mm)  
Medium impact scenario



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>82</b>	84.87	2,177,574	2,165,235	99.43	262,286	5,961	173	0	1,396,816	498,164	1,835
<b>567</b>	99.91	776,824	774,213	99.66	173,599	0	1,300	0	162,400	434,933	1,981
<b>103</b>	99.91	614,056	613,924	99.98	12,274	18,352	0	0	45,152	535,470	2,675
<b>18</b>	2.92	581,246	577,123	99.29	113,495	0	2,592	0	208,188	250,708	2,139
<b>583</b>	99.02	240,724	240,724	100.00	85,449	13,620	0	0	2,058	139,080	517
<b>29</b>	2.18	172,083	171,975	99.94	19,307	0	790	0	90,893	60,346	639
<b>565</b>	75.96	108,957	108,945	99.99	0	0	0	0	85,466	23,480	0
<b>169</b>	24.12	103,844	103,844	100.00	30,175	0	0	0	44,638	29,032	0
<b>157</b>	19.76	99,353	99,300	99.95	11,295	0	0	0	4,724	83,194	87

### *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
568	100.00	33,905	33,905	100.00	0	0	0	0	76	33,830	0
625	100.00	16,212	16,212	100.00	1,170	0	0	0	0	15,042	0
620	100.00	15,539	15,539	100.00	0	0	0	0	140	15,399	0
94	100.00	8,890	8,890	100.00	0	0	0	0	14	8,876	0
612	100.00	476	476	100.00	0	0	0	0	2	475	0
118	100.00	321	321	100.00	0	0	0	0	0	321	0
567	99.91	776,824	774,213	99.66	173,599	0	1,300	0	162,400	434,933	1,981
103	99.91	614,056	613,924	99.98	12,274	18,352	0	0	45,152	535,470	2,675
674	99.04	3,212	3,212	100.00	0	0	0	0	0	3,212	0
583	99.02	240,724	240,724	100.00	85,449	13,620	0	0	2,058	139,080	517
609	98.60	73,149	71,741	98.08	0	0	0	0	21,054	50,602	86
603	94.66	53,697	52,734	98.21	0	0	0	0	21,552	30,955	227
624	93.64	50,507	50,507	100.00	0	0	0	0	46,237	4,270	0

### *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
118	100.00	321	321	100.00	0	0	0	0	0	321	0
612	100.00	476	476	100.00	0	0	0	0	2	475	0
674	99.04	3,212	3,212	100.00	0	0	0	0	0	3,212	0
580	22.86	5,189	5,189	100.00	0	0	0	0	0	5,189	0
94	100.00	8,890	8,890	100.00	0	0	0	0	14	8,876	0
620	100.00	15,539	15,539	100.00	0	0	0	0	140	15,399	0
625	100.00	16,212	16,212	100.00	1,170	0	0	0	0	15,042	0