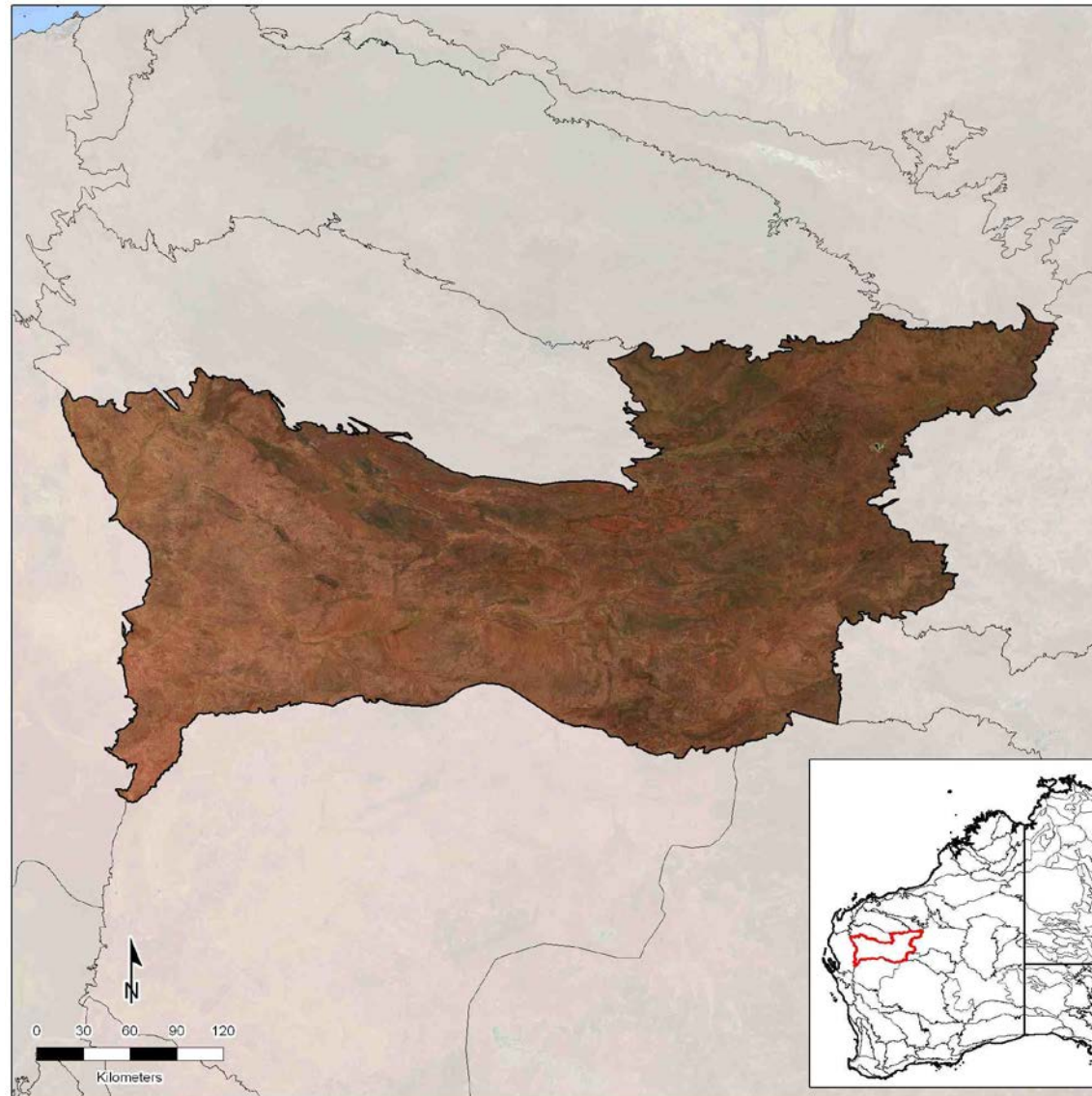


## Gascoyne 3 Sub-region



*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) (%)
9,669,567	3.83	100	99.93	2.53

\*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)	244,438	2.53	0	0.00	244,438	2.53
	DEC-managed lands proposed for conservation	754,749	7.81	0	0.00	754,749	7.81
	Conservation reserves (IUCN V & VI)	0	0.00	0	0.00	0	0.00
	Other DEC-managed lands	0	0.00	0	0.00	0	0.00
Native vegetation on other public lands		1,262,157	13.05	0	0.00	1,262,157	13.05
Native vegetation on leasehold lands		7,395,526	76.48	0	0.00	7,395,526	76.48
Native vegetation on freehold lands		5,815	0.06	0	0.00	5,815	0.06
Native vegetation with no tenure category assigned		0	0.00	0	0.00	0	0.00
Cleared areas		-	-	-	-	6,857	0.07
<b>Total</b>		<b>9,662,685</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>9,669,542</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)		244,438	244,438	0	2.53	2.53	0.00	2	2	0
	DEC-managed lands proposed for conservation		749,335	754,905	5,570	7.75	7.81	0.06	6	6	0
	Conservation reserves (IUCN V & VI)		0	0	0	0.00	0.00	0.00	0	0	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		840,909	841,449	540	8.70	8.70	0.00	-	-	-
	Other crown reserves		413,461	412,542	-919	4.28	4.27	-0.01	-	-	-
		Crown reserves vested in Aboriginal Lands Trust*	-	239,713	-	-	2.48	-	-	-	-
	Pastoral leases^		7,381,543	7,386,466	4,923	76.34	76.39	0.05	-	-	-
		Pastoral leases held by Aboriginal Lands Trust*	-	6,960	-	-	0.07	-	-	-	-
	Other leasehold lands^		0	14,523	14,523	0.00	0.15	0.15	-	-	-
		General purpose leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Freehold lands		30,888	5,836	-25,052	0.32	0.06	-0.26	-	-	-
		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)		286	9,384	9,098	0.00	0.10	0.10	-	-	-
	No tenure category assigned†		8,682	0	-8,682	0.09	0.00	-0.09	-	-	-
<b>Total</b>			<b>9,669,542</b>	<b>9,669,543</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>8</b>	<b>8</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	53	N/A	188	N/A	135	0	0	0	1	24	23	0	0	0	0	0	0
	Exploration	115	N/A	573	N/A	458	1	3	2	17	83	66	0	0	0	0	0	0
	Mining	138	N/A	151	N/A	13	0	0	0	4	15	11	0	0	0	0	0	0
	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	1	N/A	1	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	655,093	6.77	5,564,272	57.54	50.77	3,405	13,314	9,909	35,646	389,928	354,282	0	0	0	0	0	0
	Petroleum (active) titles	91,428	0.95	10	0.00	-0.95	0	0	0	0	0	0	0	0	0	0	0	0
	Mining (live) tenements and petroleum (active) titles*	700,782	7.25	5,564,272	57.54	50.29	3,405	13,314	9,909	35,646	389,928	354,282	0	0	0	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	8,147,653	8,043,544	-104,109	84.26	83.18	-1.08
Miscellaneous (non-intensive use)*	938,914	1,044,813	105,899	9.71	10.81	1.10
Traditional indigenous use	326,010	325,008	-1,002	3.37	3.36	-0.01
Conservation	245,500	245,800	300	2.54	2.54	0.00
Water (not classified)	9,564	7,685	-1,879	0.10	0.08	-0.02
Water (man-made/man modified)	793	1,300	507	0.01	0.01	0.00
Mining	892	800	-92	0.01	0.01	0.00
Agriculture (intensive use)	0	600	600	0.00	0.01	0.01
Urban	226	0	-226	0.00	0.00	0.00
Native forestry	0	0	0	0.00	0.00	0.00
Plantation forestry	0	0	0	0.00	0.00	0.00
No data	0	0	0	0.00	0.00	0.00
<b>Total</b>	<b>9,669,552</b>	<b>9,669,550</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)	16,513	9,669,567	0.0017
Roads (Strategic Survey Roads in national parks, conservation parks and nature reserves)	29	244,438	0.0001
Railways (sub-region)	5	9,669,567	0.0000

## 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	413,012	413,012	0	4.27	4.27	0.00
	On all other lands	3,646,933	3,820,559	173,626	37.72	39.51	1.79
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)	18.01	19.94	22.21	1.79	3.73	6.00	1.49 - 1.95	3.11 - 4.06	5.00 - 6.52
Maximum Temperature (degrees C)	33.21	35.43	38.03	2.05	4.27	6.87	1.69 - 2.21	3.52 - 4.61	5.67 - 7.41
Precipitation (mm)	209.69	181.22	158.79	-41.29	-69.76	-92.19	-55.70 - -30.50	-92.30 - -50.10	-122.10 - -63.90
	Medium impact scenario								
Minimum Temperature (degrees C)	17.64	18.64	19.61	1.43	2.43	3.40	1.19 - 1.55	2.02 - 2.64	2.83 - 3.69
Maximum Temperature (degrees C)	32.79	33.94	35.05	1.64	2.78	3.89	1.35 - 1.76	2.29 - 3.00	3.21 - 4.19
Precipitation (mm)	216.58	199.03	185.34	-34.40	-51.95	-65.63	-46.70 - -25.40	-69.60 - -38.00	-87.00 - -47.40

\* 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>

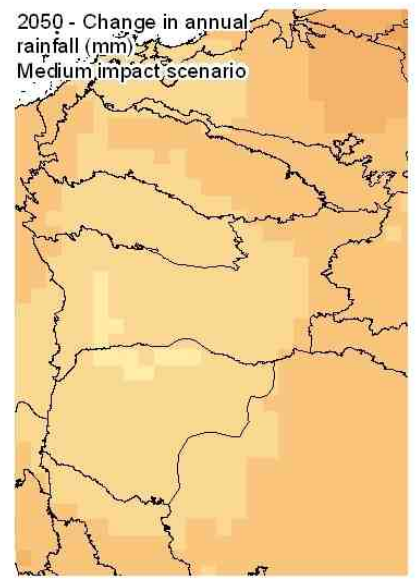
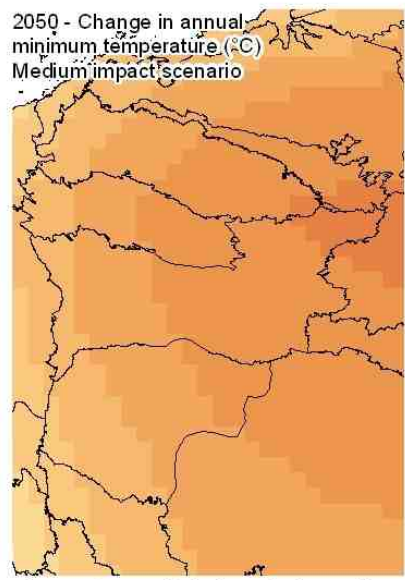
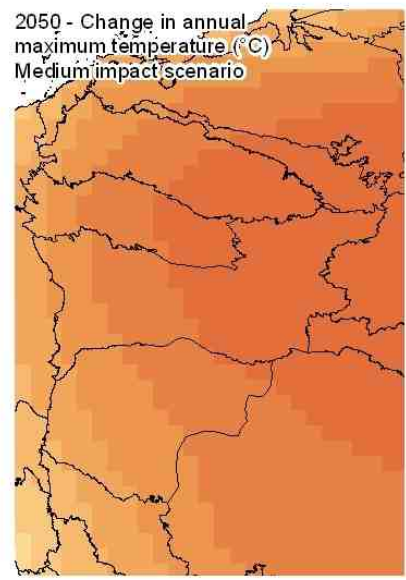
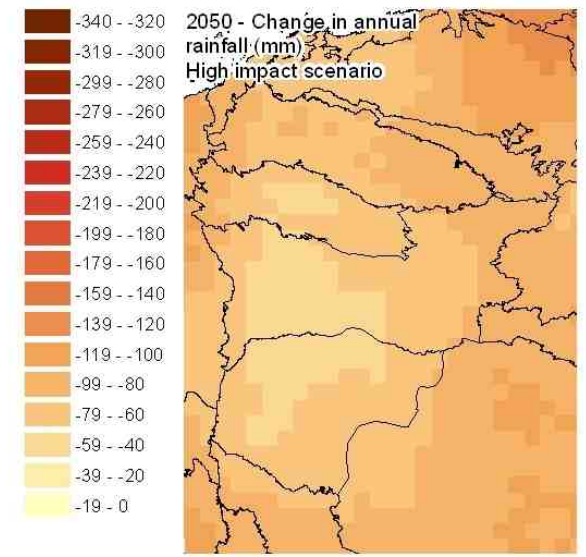
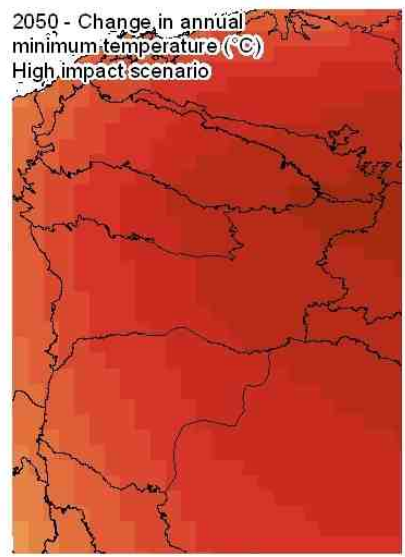
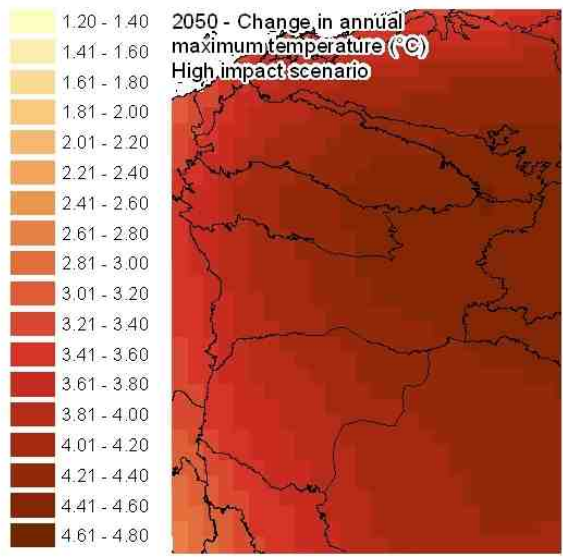
#### Medium Impact Scenario:

- *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>18</b>	12.19	2,425,858	2,424,368	99.94	81,485	200,086	0	0	292,822	1,849,294	681
<b>29</b>	27.69	2,188,767	2,185,967	99.87	998	94,819	0	0	277,527	1,809,062	3,561
<b>39</b>	21.23	1,404,074	1,403,526	99.96	55,523	152,423	0	0	335,655	859,450	475
<b>160</b>	71.01	789,353	789,339	100.00	0	126,587	0	0	19,119	643,633	0
<b>165</b>	64.92	475,463	475,461	100.00	0	14,171	0	0	5,298	455,992	0
<b>166</b>	79.90	309,625	309,620	100.00	0	3,889	0	0	17,001	288,569	162
<b>216</b>	90.50	254,090	252,864	99.52	0	0	0	0	59,090	193,017	757
<b>163</b>	39.23	251,828	251,826	100.00	0	9,242	0	0	726	241,858	0
<b>183</b>	59.68	220,363	220,363	100.00	0	110,720	0	0	24,961	84,683	0

### *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>222</b>	100.00	154,623	154,588	99.98	62,787	0	0	0	4,358	87,442	0
<b>285</b>	100.00	14,923	14,923	100.00	0	0	0	0	6	14,917	0
<b>225</b>	100.00	9,883	9,883	100.00	0	0	0	0	3,710	6,173	0
<b>21</b>	99.93	49,145	49,145	100.00	0	0	0	0	847	48,297	0
<b>167</b>	99.60	120,182	120,182	100.00	0	0	0	0	29	120,154	0
<b>207</b>	99.42	38,152	38,152	100.00	0	0	0	0	22,697	15,455	0
<b>161</b>	93.64	59,369	59,369	100.00	0	0	0	0	52,458	6,911	0
<b>216</b>	90.50	254,090	252,864	99.52	0	0	0	0	59,090	193,017	757

### *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>228</b>	65.47	6,798	6,798	100.00	0	0	0	0	1,522	5,276	0
<b>225</b>	100.00	9,883	9,883	100.00	0	0	0	0	3,710	6,173	0
<b>186</b>	65.09	13,666	13,666	100.00	0	0	0	0	0	13,666	0
<b>285</b>	100.00	14,923	14,923	100.00	0	0	0	0	6	14,917	0