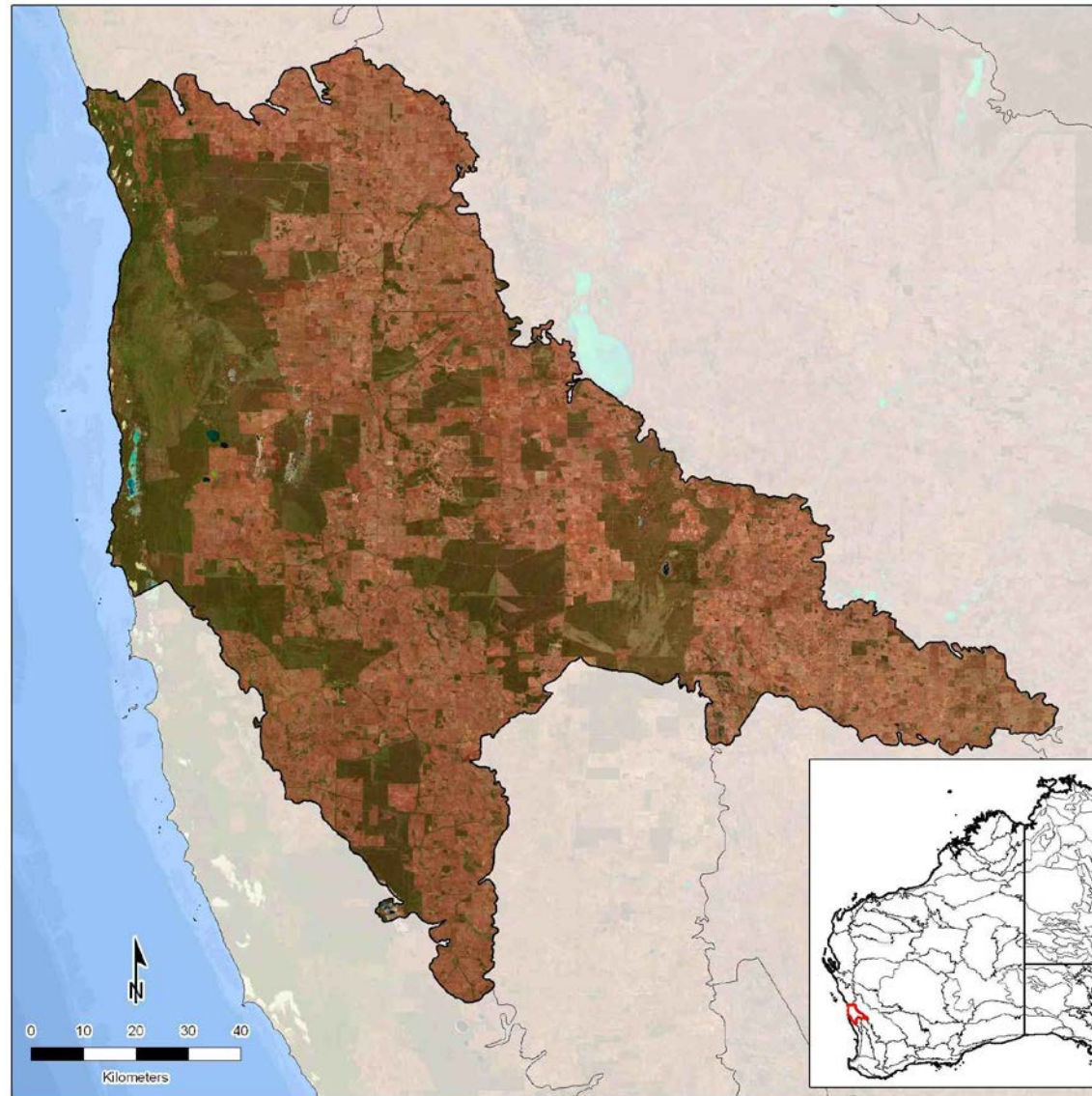


Geraldton Sandplains 2 Sub-region



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) (%)
1,172,152	0.46	100	43.31	17.90

*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)	208,360	17.78	399	0.03	208,759	17.81
	DEC-managed lands proposed for conservation	1,085	0.09	0	0.00	1,085	0.09
	Conservation reserves (IUCN V & VI)	559	0.05	0	0.00	559	0.05
	Other DEC-managed lands	858	0.07	0	0.00	858	0.07
Native vegetation on other public lands		149,598	12.76	142	0.01	149,740	12.77
Native vegetation on leasehold lands		3,761	0.32	3	0.00	3,764	0.32
Native vegetation on freehold lands		140,135	11.96	2,706	0.23	142,841	12.19
Native vegetation with no tenure category assigned		3	0.00	0	0.00	3	0.00
Cleared areas		-	-	-	-	664,541	56.69
Unmapped islands*		-	-	-	-	1	0.00
Total		504,359	43	3,250	0	1,172,151	100

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)		204,570	209,778	5,208	17.45	17.90	0.45	44	48	4
	DEC-managed lands proposed for conservation		0	1,096	1,096	0.00	0.09	0.09	0	1	1
	Conservation reserves (IUCN V & VI)		970	580	-390	0.08	0.05	-0.03	4	6	2
	State forest / timber reserves		0	0	0	0.00	0.00	0.00	0	0	0
	Other DEC-managed lands		119	1,547	1,428	0.01	0.13	0.12	1	1	0
Other lands	Unallocated crown lands		109,271	107,389	-1,882	9.32	9.16	-0.16	-	-	-
	Other crown reserves		35,943	33,966	-1,977	3.07	2.90	-0.17	-	-	-
		Crown reserves vested in Aboriginal Lands Trust*	-	6,549	-	-	0.56	-	-	-	-
	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	33,176	33,176	0.00	2.83	2.83	-	-	-
		General purpose leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Freehold lands		797,843	762,305	-35,538	68.07	65.03	-3.04	-	-	-
		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)		742	22,282	21,540	0.06	1.90	1.84	-	-	-
	No tenure category assigned†		22,694	33	-22,661	1.94	0.00	-1.94	-	-	-
Total			1,172,152	1,172,152	-	100	100	-	49	56	-

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	2	N/A	3	N/A	1	0	0	0	0	0	0	0	0	0	0	0	0
	Exploration	31	N/A	56	N/A	25	11	15	4	0	0	0	0	0	0	0	1	1
	Mining	69	N/A	88	N/A	19	13	14	1	0	0	0	1	1	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	9	N/A	23	N/A	14	8	18	10	1	1	0	2	5	3	1	1	0
	Production	5	N/A	6	N/A	1	5	6	1	0	0	0	1	1	0	0	0	0
Land area (ha)	Mining (live) tenements	130,313	11.12	343,879	29.34	18.22	8,907	17,102	8,195	0	0	0	38	38	0	0	39	39
	Petroleum (active) titles	625,346	53.35	665,588	56.78	3.43	138,948	154,658	15,710	58	1,096	1,038	200	530	330	1,547	1,547	0
	Mining (live) tenements and petroleum (active) titles*	666,897	56.90	820,268	69.98	13.08	141,596	157,261	15,665	58	1,096	1,038	239	568	329	1,547	1,547	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
Agriculture (intensive use)	436,975	687,763	250,788	37.28	58.68	21.40
Miscellaneous (non-intensive use)*	134,648	243,183	108,535	11.49	20.75	9.26
Conservation	218,230	220,877	2,647	18.62	18.84	0.22
Pastoralism	376,836	13,470	-363,366	32.15	1.15	-31.00
Mining	3,619	4,021	402	0.31	0.34	0.03
Plantation forestry	107	800	693	0.01	0.07	0.06
Urban	556	289	-267	0.05	0.02	-0.03
Water (not classified)	77	50	-27	0.01	0.00	-0.01
Traditional indigenous use	0	0	0	0.00	0.00	0.00
Native forestry	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	1,104	1,700	596	0.09	0.15	0.06
Total	1,172,152	1,172,153	-	100	100	-

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)	2,907	1,172,152	0.0025
Roads (Strategic Survey Roads in national parks, conservation parks and nature reserves)	1,203	208,394	0.0058
Railways (sub-region)	146	1,172,152	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	1,158	1,158	0.00	0.10	0.10
Land for Wildlife properties	1,733	3,401	1,668	0.15	0.29	0.14
Combined total*	1,733	4,401	2,668	0.15	0.38	0.23

* 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)	13.97	15.38	17.03	1.30	2.71	4.36	1.19 - 1.43	2.48 - 2.98	3.99 - 4.79
Maximum Temperature (degrees C)	27.71	29.24	31.02	1.41	2.93	4.72	1.26 - 1.59	2.61 - 3.31	4.19 - 5.32
Precipitation (mm)	395.18	349.10	306.63	-53.33	-99.42	-141.89	-62.10 - -40.70	-117.30 - -74.40	-169.40 - -104.30
	Medium impact scenario								
Minimum Temperature (degrees C)	13.71	14.43	15.14	1.04	1.77	2.47	0.95 - 1.14	1.61 - 1.94	2.26 - 2.71
Maximum Temperature (degrees C)	27.43	28.21	28.97	1.12	1.91	2.67	1.00 - 1.27	1.70 - 2.15	2.38 - 3.01
Precipitation (mm)	405.12	378.90	356.30	-43.41	-69.62	-92.21	-50.40 - -33.30	-81.40 - -52.80	-108.60 - -69.19

* Base Climate is 1990

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

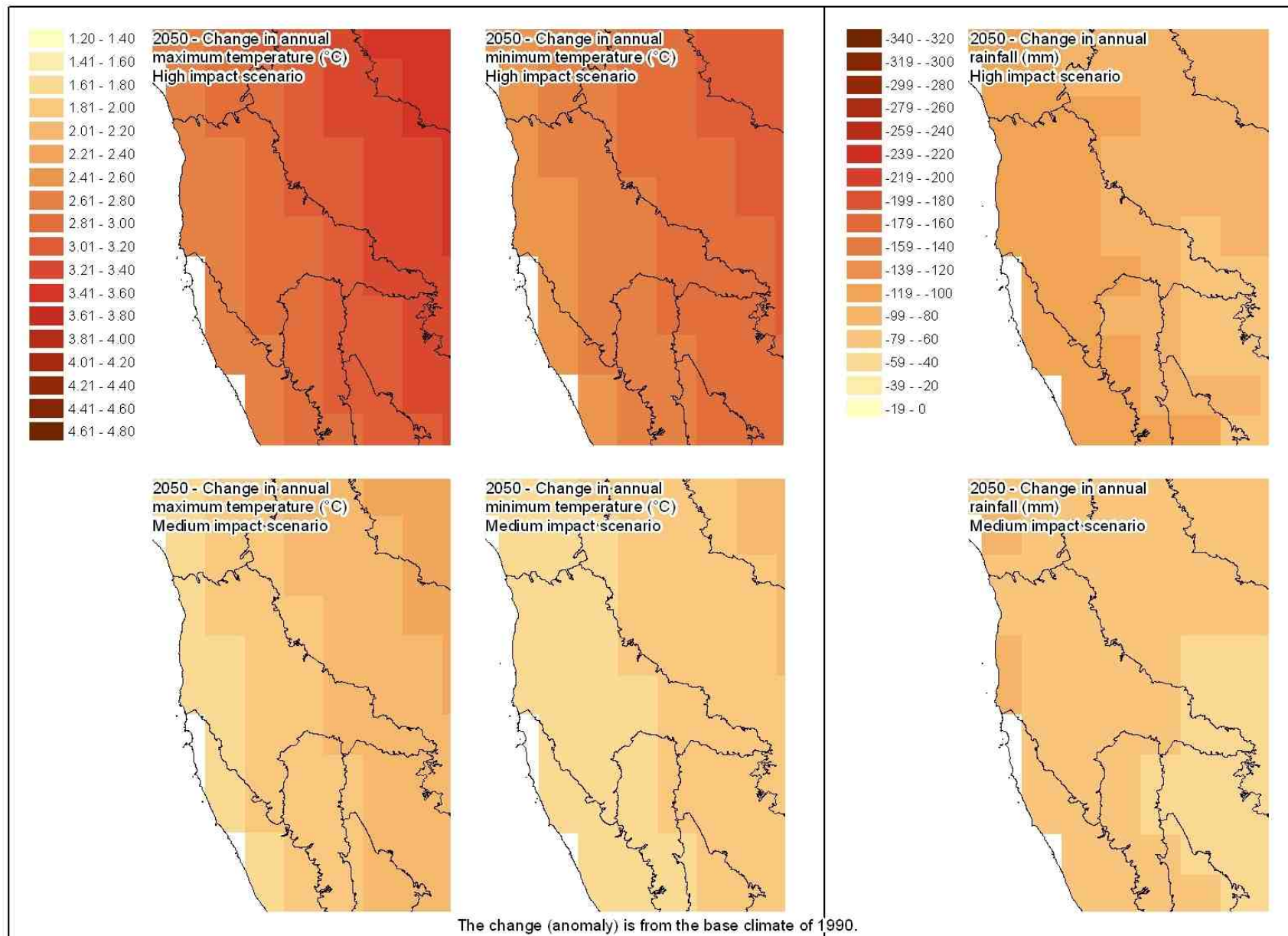
For more information see <https://wiki.csiro.au/confluence/display/ozclim/Science#Science-CSIRO35>

Medium Impact Scenario:

- *Emission Scenario:* Medium CO₂ 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 CO₂ from 280 ppm to 560 ppm.

High Impact Scenario:

- *Emission Scenario:* High CO₂ 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 CO₂ 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
379	67.56	370,030	112,061	30.28	20,644	792	0	0	44,547	2,896	43,182
1031	89.56	241,350	83,414	34.56	35,545	0	346	858	23,093	6	23,566
694	49.75	172,382	55,122	31.98	30,204	0	38	0	11,212	0	13,668
378	95.60	90,923	60,547	66.59	13,427	0	0	0	40,622	570	5,928
697	35.51	66,503	33,654	50.61	13,333	0	0	0	1,094	0	19,227
377	100.00	63,100	62,726	99.41	47,426	0	32	0	11,994	0	3,274

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
377	100.00	63,100	62,726	99.41	47,426	0	32	0	11,994	0	3,274
1032	100.00	8,317	6,602	79.38	5,128	0	0	0	50	0	1,424
393	100.00	5,005	4,799	95.88	4,319	0	114	0	366	0	0
391	100.00	3,063	1,641	53.57	640	0	0	0	43	45	912
1037	100.00	2,383	2,342	98.28	2,287	0	0	0	0	0	55
254	100.00	360	150	41.67	0	0	0	0	1	0	149
748	100.00	342	294	85.96	147	0	0	0	63	0	83
772	99.61	4,808	4,602	95.72	3,705	0	0	0	628	0	270
432	98.33	5,636	5,103	90.54	2,990	0	7	0	527	0	1,578
1034	96.71	1,763	1,105	62.68	649	0	0	0	47	0	409
255	96.44	3,064	2,934	95.76	1,510	0	0	0	330	0	1,093
378	95.60	90,923	60,547	66.59	13,427	0	0	0	40,622	570	5,928
1149	94.09	7,113	797	11.20	187	0	0	0	20	0	591
1031	89.56	241,350	83,414	34.56	35,545	0	346	858	23,093	6	23,566

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
1039	13.11	270	143	52.96	116	0	0	0	0	0	28
748	100.00	342	294	85.96	147	0	0	0	63	0	83
696	11.33	345	232	67.25	217	0	0	0	3	0	12
254	100.00	360	150	41.67	0	0	0	0	1	0	149
1044	43.76	635	207	32.60	15	0	0	0	3	0	189
126	3.78	888	432	48.65	292	0	0	0	116	0	24
1035	31.55	1,583	134	8.46	10	0	0	0	21	0	103
392	53.24	1,634	1,328	81.27	275	0	0	0	444	0	608
1034	96.71	1,763	1,105	62.68	649	0	0	0	47	0	409
1037	100.00	2,383	2,342	98.28	2,287	0	0	0	0	0	55
391	100.00	3,063	1,641	53.57	640	0	0	0	43	45	912
255	96.44	3,064	2,934	95.76	1,510	0	0	0	330	0	1,093
772	99.61	4,808	4,602	95.72	3,705	0	0	0	628	0	270
393	100.00	5,005	4,799	95.88	4,319	0	114	0	366	0	0
432	98.33	5,636	5,103	90.54	2,990	0	7	0	527	0	1,578
1149	94.09	7,113	797	11.20	187	0	0	0	20	0	591
1032	100.00	8,317	6,602	79.38	5,128	0	0	0	50	0	1,424