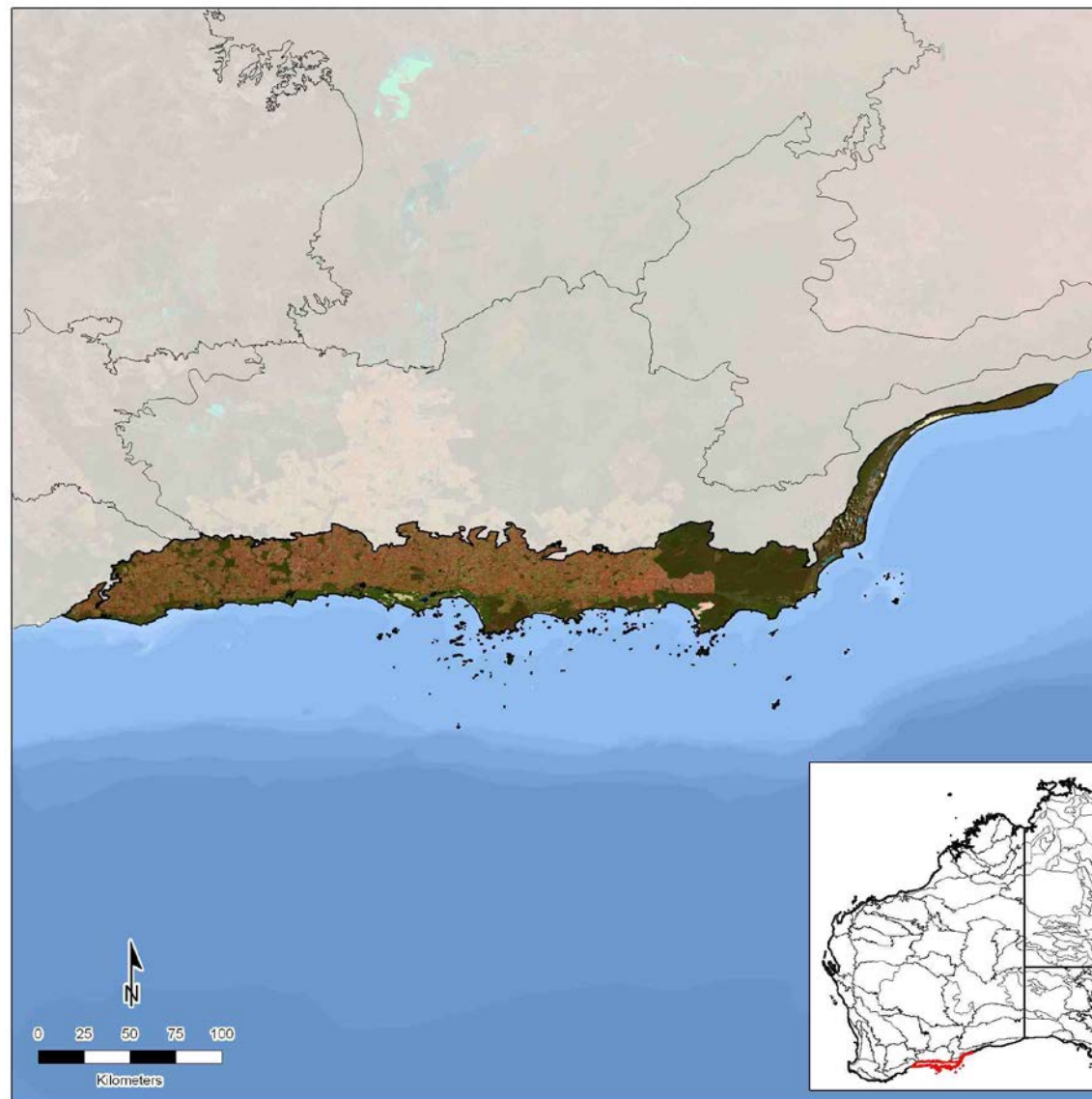


Esperance Plains 2 Sub-region



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) (%)
1,343,390	0.53	100	48.60	29.80

*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)	387,233	28.83	5,362	0.40	392,595	29.22
	DEC-managed lands proposed for conservation	0	0.00	0	0.00	0	0.00
	Conservation reserves (IUCN V & VI)	3,218	0.24	41	0.00	3,259	0.24
	Other DEC-managed lands	0	0.00	0	0.00	0	0.00
Native vegetation on other public lands		164,884	12.27	3,710	0.28	168,594	12.55
Native vegetation on leasehold lands		26	0.00	0	0.00	26	0.00
Native vegetation on freehold lands		82,469	6.14	5,827	0.43	88,296	6.57
Native vegetation with no tenure category assigned		59	0.00	0	0.00	59	0.00
Cleared areas		-	-	-	-	687,944	51.21
Unmapped islands*		-	-	-	-	2,617	0.19
Total		637,889	47	14,940	1	1,343,390	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)		399,068	400,354	1,286	29.71	29.80	0.09	34	37	3
	DEC-managed lands proposed for conservation		0	0	0	0.00	0.00	0.00	0	0	0
	Conservation reserves (IUCN V & VI)		0	3,774	3,774	0.00	0.28	0.28	0	3	3
	State forest / timber reserves		0	0	0	0.00	0.00	0.00	0	0	0
	Other DEC-managed lands		3,889	1	-3,888	0.29	0.00	-0.29	6	1	-5
Other lands	Unallocated crown lands		86,735	89,916	3,181	6.46	6.69	0.23	-	-	-
	Other crown reserves		78,197	75,195	-3,002	5.82	5.60	-0.22	-	-	-
		Crown reserves vested in Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	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	342	342	0.00	0.03	0.03	-	-	-
		General purpose leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Freehold lands		753,553	752,263	-1,290	56.09	56.00	-0.09	-	-	-
		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)		1,053	21,144	20,091	0.08	1.57	1.49	-	-	-
	No tenure category assigned†		20,895	402	-20,493	1.56	0.03	-1.53	-	-	-
Total			1,343,390	1,343,391	-	100	100	-	40	41	-

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	1	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0
	Exploration	9	N/A	39	N/A	30	1	11	10	0	0	0	0	0	0	0	0	0
	Mining	11	N/A	18	N/A	7	1	0	-1	0	0	0	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	0	N/A	1	N/A	1	0	1	1	0	0	0	0	1	1	0	1	1
	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	12,999	0.97	327,046	24.34	23.37	860	9,158	8,298	0	0	0	0	0	0	0	0	0
	Petroleum (active) titles	0	0.00	318,530	23.71	23.71	0	32,020	32,020	0	0	0	0	3,758	3,758	0	1	1
	Mining (live) tenements and petroleum (active) titles*	12,999	0.97	630,668	46.95	45.98	860	41,136	40,276	0	0	0	0	3,758	3,758	0	1	1

*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)	727,904	666,062	-61,842	54.18	49.58	-4.60
Conservation	423,983	420,774	-3,209	31.56	31.32	-0.24
Miscellaneous (non-intensive use)*	116,839	206,745	89,906	8.70	15.39	6.69
Plantation forestry	103	28,924	28,821	0.01	2.15	2.14
Water (not classified)	1,925	1,831	-94	0.14	0.14	0.00
Urban	613	1,138	525	0.05	0.08	0.03
Pastoralism	54,092	851	-53,241	4.03	0.06	-3.97
Native forestry	4,009	200	-3,809	0.30	0.01	-0.29
Traditional indigenous use	0	0	0	0.00	0.00	0.00
Mining	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	13,923	16,864	2,941	1.04	1.26	0.22
Total	1,343,391	1,343,389	-	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)	3,728	1,343,390	0.0028
Roads (Strategic Survey Roads in national parks, conservation parks and nature reserves)	790	400,118	0.0020
Railways (sub-region)	54	1,343,390	< 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	7	729	722	0.00	0.05	0.05
Land for Wildlife properties	929	4,260	3,331	0.07	0.32	0.25
Combined total*	936	4,705	3,769	0.07	0.35	0.28

* 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)	11.91	13.15	14.60	1.14	2.38	3.83	1.09 - 1.19	2.27 - 2.48	3.66 - 3.98
Maximum Temperature (degrees C)	24.07	25.40	26.97	1.23	2.57	4.13	1.14 - 1.31	2.36 - 2.72	3.82 - 4.38
Precipitation (mm)	416.39	372.39	333.77	-53.77	-97.77	-136.40	-84.20 - -26.70	-157.70 - -45.50	-226.50 - -59.20
	Medium impact scenario								
Minimum Temperature (degrees C)	11.68	12.32	12.94	0.91	1.55	2.17	0.87 - 0.95	1.48 - 1.61	2.07 - 2.25
Maximum Temperature (degrees C)	23.82	24.51	25.18	0.98	1.67	2.33	0.91 - 1.04	1.55 - 1.77	2.16 - 2.48
Precipitation (mm)	426.18	400.60	379.13	-43.99	-69.56	-91.03	-68.40 - -22.20	-110.00 - -33.80	-146.20 - -42.80

* Base Climate is 1990

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

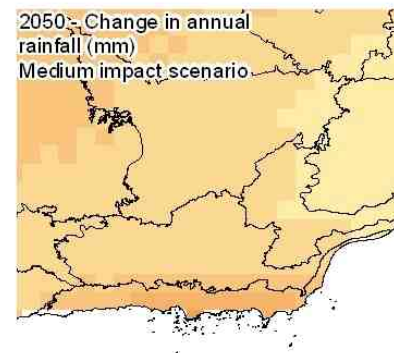
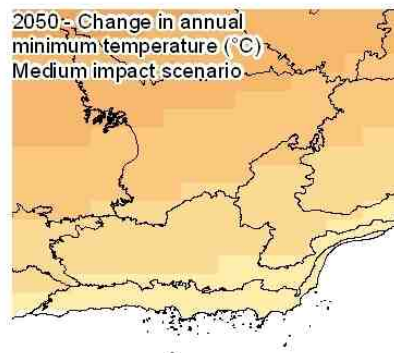
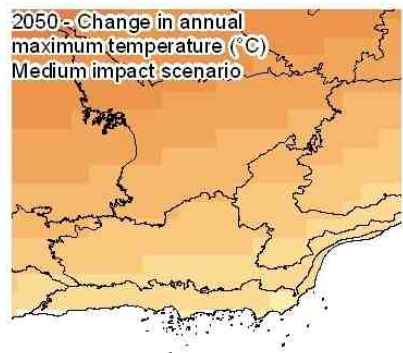
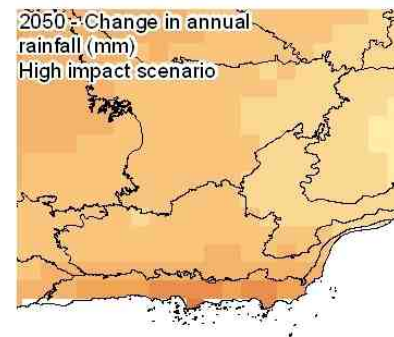
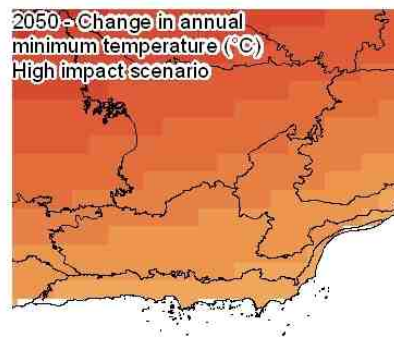
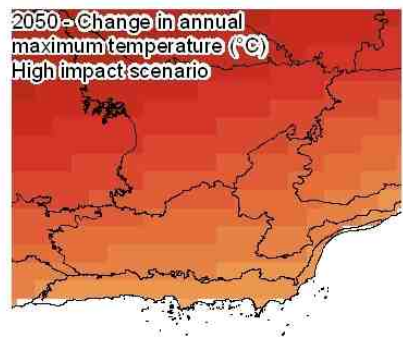
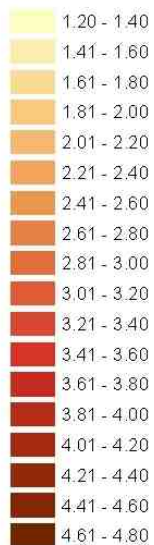
For more information see <https://wiki.csiro.au/confluence/display/ozclim/Science#Science-CSIRO35>

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.



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
47	40.03	413,535	62,275	15.06	7,032	0	162	0	23,470	3	31,608
1047	98.86	217,777	185,587	85.22	119,809	0	0	0	64,548	0	1,229
7048	99.99	134,615	106,280	78.95	87,545	0	16	0	10,238	0	8,480
6048	99.61	113,689	16,181	14.23	990	0	3,039	0	4,066	22	8,064
42	35.11	108,885	104,049	95.56	70,172	0	0	0	28,692	1	5,181
516	16.41	99,708	36,682	36.79	7,372	0	0	0	13,533	0	15,777
4801	100.00	58,196	6,494	11.16	1,932	0	0	0	1,087	0	3,475

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
4801	100.00	58,196	6,494	11.16	1,932	0	0	0	1,087	0	3,475
7048	99.99	134,615	106,280	78.95	87,545	0	16	0	10,238	0	8,480
5048	99.84	31,738	1,177	3.71	377	0	0	0	251	0	549
6048	99.61	113,689	16,181	14.23	990	0	3,039	0	4,066	22	8,064
1047	98.86	217,777	185,587	85.22	119,809	0	0	0	64,548	0	1,229

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
934	0.24	22	6	27.27	0	0	0	0	0	0	6
929	10.48	1,125	818	72.71	0	0	0	0	205	0	613
16	79.66	2,315	1,138	49.16	1,135	0	0	0	0	0	0