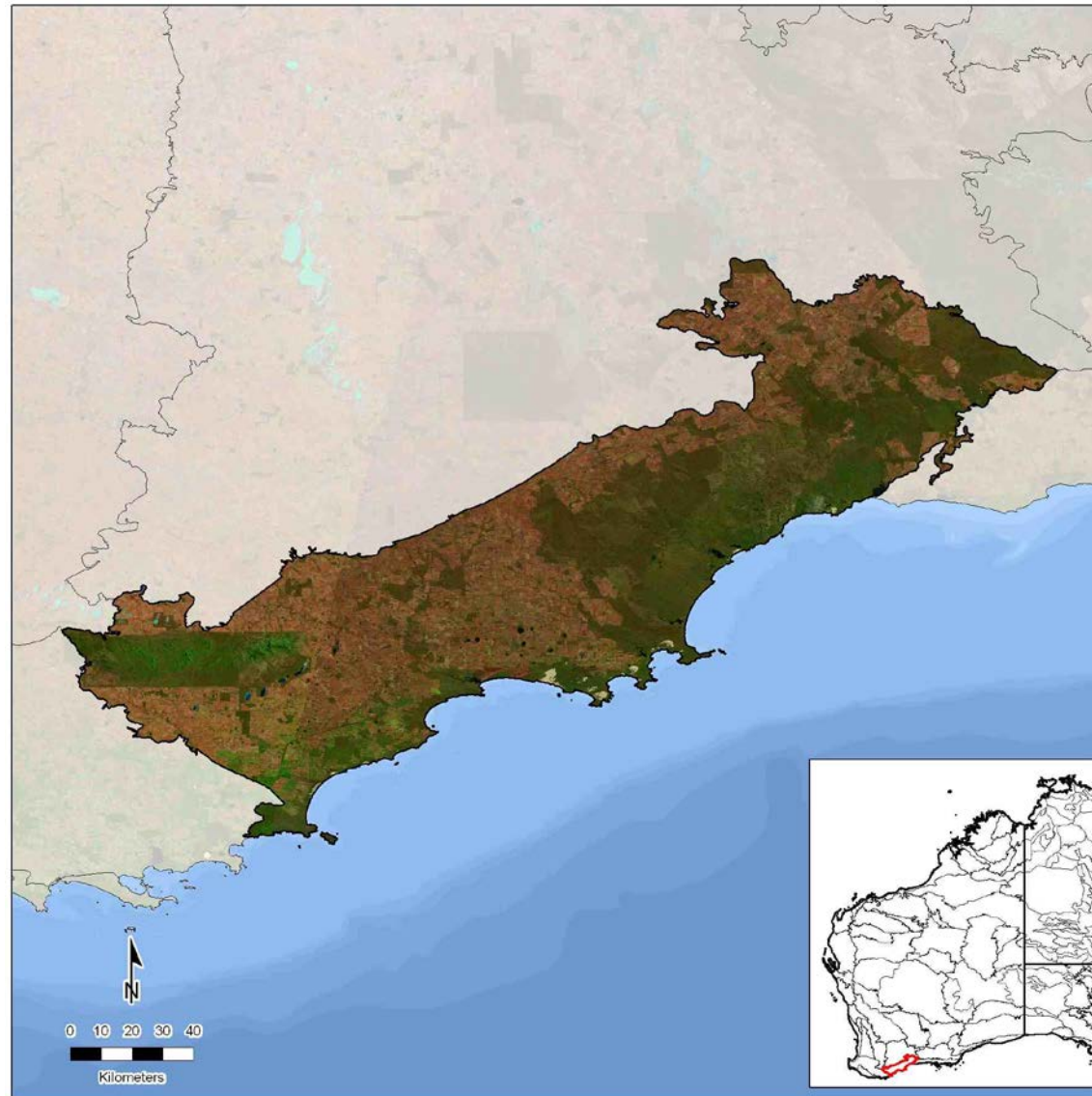


Esperance Plains 1 Sub-region



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) (%)
1,577,938	0.62	100	56.42	27.64

*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)	432,375	27.40	2,500	0.16	434,875	27.56
	DEC-managed lands proposed for conservation	3,133	0.20	0	0.00	3,133	0.20
	Conservation reserves (IUCN V & VI)	0	0.00	0	0.00	0	0.00
	Other DEC-managed lands	1	0.00	0	0.00	1	0.00
Native vegetation on other public lands		295,024	18.70	2,791	0.18	297,815	18.87
Native vegetation on leasehold lands		18,386	1.17	263	0.02	18,649	1.18
Native vegetation on freehold lands		134,507	8.52	1,190	0.08	135,697	8.60
Native vegetation with no tenure category assigned		76	0.00	106	0.01	182	0.01
Cleared areas		-	-	-	-	687,574	43.57
Unmapped islands*		-	-	-	-	16	0.00
Total		883,502	56	6,850	0	1,577,942	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)		436,032	436,143	111	27.63	27.64	0.01	36	36	0
	DEC-managed lands proposed for conservation		0	3,272	3,272	0.00	0.21	0.21	0	10	10
	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		32	1	-31	0.00	0.00	0.00	1	3	2
Other lands	Unallocated crown lands		141,296	145,563	4,267	8.95	9.22	0.27	-	-	-
	Other crown reserves		134,597	135,238	641	8.53	8.57	0.04	-	-	-
		Crown reserves vested in Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Pastoral leases^		5,241	0	-5,241	0.33	0.00	-0.33	-	-	-
		Pastoral leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Other leasehold lands^		0	132,829	132,829	0.00	8.42	8.42	-	-	-
		General purpose leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Freehold lands		833,157	698,035	-135,122	52.80	44.24	-8.56	-	-	-
		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)		276	26,141	25,865	0.02	1.66	1.64	-	-	-
	No tenure category assigned†		27,309	718	-26,591	1.73	0.05	-1.68	-	-	-
Total			1,577,940	1,577,940	-	100	100	-	37	49	-

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	11	N/A	48	N/A	37	0	2	2	0	1	1	0	0	0	0	0	0
	Exploration	36	N/A	80	N/A	44	4	18	14	2	3	1	0	0	0	2	2	0
	Mining	27	N/A	58	N/A	31	0	0	0	1	1	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	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	99,737	6.32	463,703	29.39	23.07	2,546	11,624	9,078	1,384	998	-386	0	0	0	1	1	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*	99,737	6.32	463,703	29.39	23.07	2,546	11,624	9,078	1,384	998	-386	0	0	0	1	1	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)	512,657	671,935	159,278	32.49	42.58	10.09
Conservation	445,686	447,930	2,244	28.24	28.39	0.15
Miscellaneous (non-intensive use)*	248,169	382,177	134,008	15.73	24.22	8.49
Plantation forestry	26,769	52,218	25,449	1.70	3.31	1.61
Native forestry	8,852	9,200	348	0.56	0.58	0.02
Pastoralism	328,938	7,382	-321,556	20.85	0.47	-20.38
Water (not classified)	1,561	1,750	189	0.10	0.11	0.01
Urban	1,409	100	-1,309	0.09	0.01	-0.08
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	3,900	5,249	1,349	0.25	0.33	0.08
Total	1,577,941	1,577,941	-	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)	4,597	1,577,938	0.0029
Roads (Strategic Survey Roads in national parks, conservation parks and nature reserves)	1,014	436,143	0.0023
Railways (sub-region)	0	1,577,938	0.0000

Complementary conservation initiatives to the formal conservation reserve system

	Extent (ha)			Extent (%)		
	2002	2012	Change	2002	2012	Change
Private conservation organisations' land	889	7,117	6,228	0.06	0.45	0.39
Nature Conservation covenants	21	7,762	7,741	0.00	0.49	0.49
Land for Wildlife properties	1,768	8,399	6,631	0.11	0.53	0.42
Combined total*	2,657	18,956	16,299	0.17	1.20	1.03

* 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)	11.30	12.54	14.00	1.15	2.39	3.85	1.05 - 1.26	2.20 - 2.61	3.53 - 4.19
Maximum Temperature (degrees C)	23.13	24.49	26.09	1.26	2.62	4.21	1.13 - 1.41	2.33 - 2.93	3.77 - 4.71
Precipitation (mm)	426.85	389.51	354.94	-42.65	-79.97	-114.56	-56.40 - -32.90	-107.10 - -60.90	-155.30 - -85.70
	Medium impact scenario								
Minimum Temperature (degrees C)	11.07	11.71	12.33	0.92	1.56	2.17	0.84 - 1.00	1.43 - 1.70	2.00 - 2.38
Maximum Temperature (degrees C)	22.88	23.58	24.26	1.00	1.70	2.38	0.90 - 1.12	1.53 - 1.91	2.13 - 2.67
Precipitation (mm)	434.83	413.70	395.37	-34.65	-55.79	-74.12	-45.70 - -26.80	-74.10 - -42.80	-99.00 - -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).

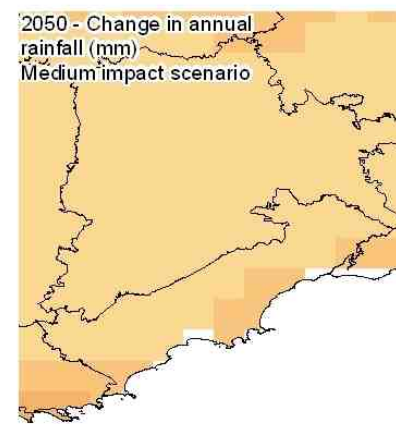
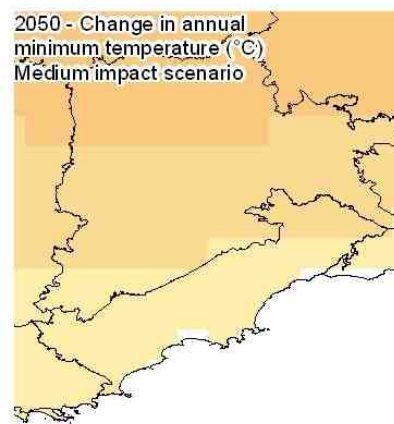
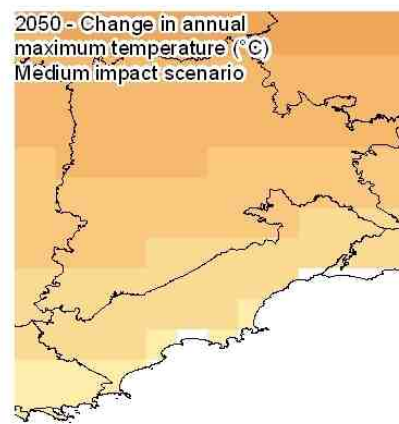
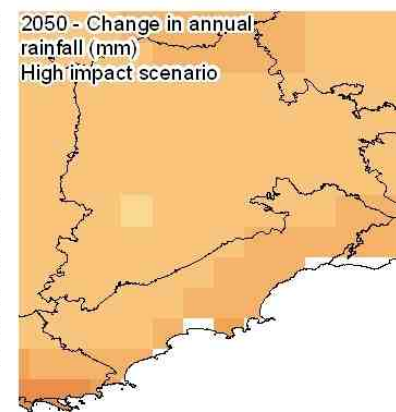
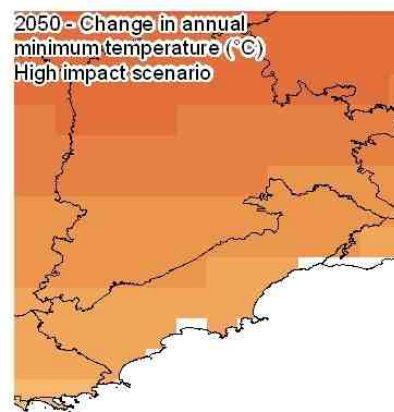
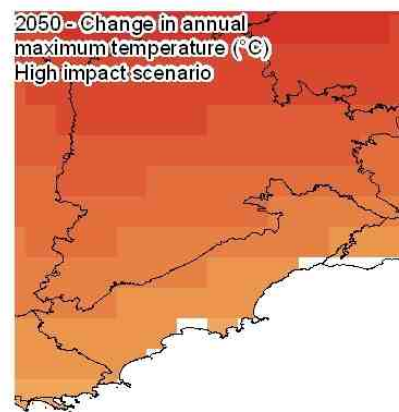
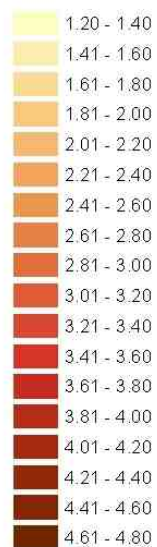
For more information see <https://wiki.csiro.au/confluence/display/ozclim/Science#Science-CSIRO35>

Medium Impact Scenario:

- *Emission Scenario:* Medium 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	52.89	546,401	278,578	50.98	166,504	1,766	0	0	68,923	7,702	33,653
940	99.68	260,761	113,525	43.54	52,592	0	0	0	35,314	3,333	22,285
516	36.06	219,038	183,491	83.77	83,056	1,152	0	0	84,341	2,276	12,657
980	98.76	160,410	69,032	43.03	30,568	9	0	0	11,665	1,654	25,135
519	2.95	68,889	37,116	53.88	1,650	0	0	0	29,918	262	5,284
938	52.44	40,669	12,184	29.96	1,209	0	0	0	4,029	0	6,945
691	77.85	35,490	34,897	98.33	29,814	48	0	1	4,852	0	180
986	97.74	29,713	15,853	53.35	14,030	0	0	0	112	0	1,710

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
964	100.00	3,359	1,545	46.00	1,100	0	0	0	5	0	440
970	100.00	1,400	1,400	100.00	1,400	0	0	0	0	0	0
991	100.00	305	271	88.85	232	0	0	0	0	0	39
940	99.68	260,761	113,525	43.54	52,592	0	0	0	35,314	3,333	22,285
982	98.99	1,569	804	51.24	670	0	0	0	79	0	54
38	98.79	2,444	2,444	100.00	2,444	0	0	0	0	0	0
980	98.76	160,410	69,032	43.03	30,568	9	0	0	11,665	1,654	25,135
989	98.60	8,948	7,635	85.33	1,922	0	0	0	5,363	0	350
995	98.39	3,111	3,054	98.17	2,056	0	0	0	997	0	0
986	97.74	29,713	15,853	53.35	14,030	0	0	0	112	0	1,710
50	91.44	5,578	5,493	98.48	190	0	0	0	3,920	2	1,376
934	89.64	8,320	3,873	46.55	981	12	0	0	2,425	0	455

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
31	7.43	214	202	94.39	202	0	0	0	0	0	0
2016	83.52	304	284	93.42	280	0	0	0	0	0	0
991	100.00	305	271	88.85	232	0	0	0	0	0	39
976	18.04	419	261	62.29	261	0	0	0	0	0	0
987	24.90	895	802	89.61	751	0	0	0	0	0	50
970	100.00	1,400	1,400	100.00	1,400	0	0	0	0	0	0
982	98.99	1,569	804	51.24	670	0	0	0	79	0	54
38	98.79	2,444	2,444	100.00	2,444	0	0	0	0	0	0
929	27.46	2,948	2,284	77.48	0	0	0	0	1,898	1	384
995	98.39	3,111	3,054	98.17	2,056	0	0	0	997	0	0
964	100.00	3,359	1,545	46.00	1,100	0	0	0	5	0	440
126	16.81	3,951	2,430	61.50	774	0	0	0	359	323	974
50	91.44	5,578	5,493	98.48	190	0	0	0	3,920	2	1,376
965	72.71	6,803	3,265	47.99	1,552	0	0	0	284	0	1,428
934	89.64	8,320	3,873	46.55	981	12	0	0	2,425	0	455
989	98.60	8,948	7,635	85.33	1,922	0	0	0	5,363	0	350
975	71.65	12,379	11,569	93.46	11,293	11	0	0	35	0	229