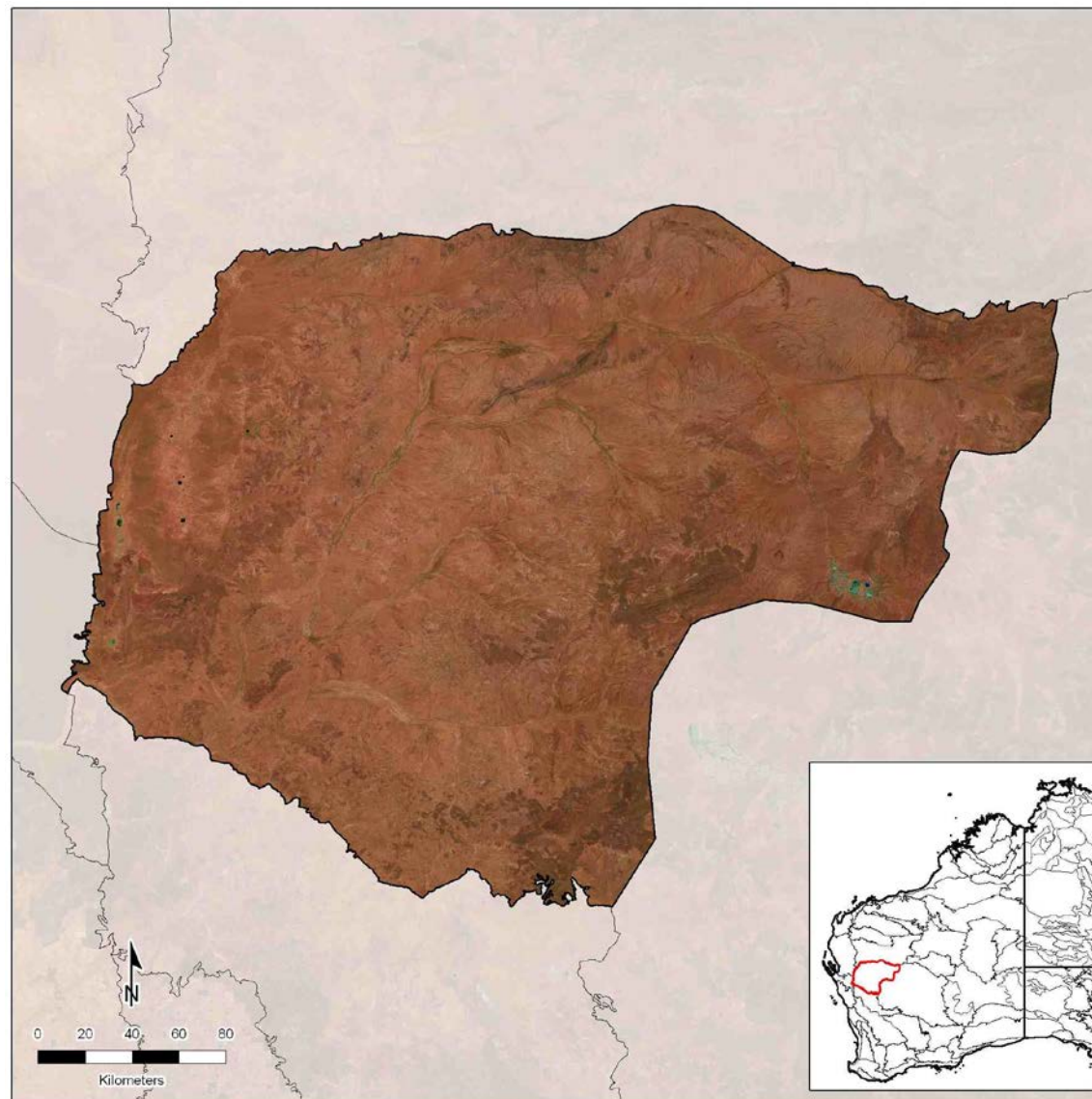


Murchison 2 Sub-region



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) (%)
6,985,512	2.76	100	99.90	0.06

*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)	3,951	0.06	0	0.00	3,951	0.06
	DEC-managed lands proposed for conservation	444,145	6.36	0	0.00	444,145	6.36
	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		201,793	2.89	0	0.00	201,793	2.89
Native vegetation on leasehold lands		6,324,406	90.54	0	0.00	6,324,406	90.54
Native vegetation on freehold lands		4,558	0.07	0	0.00	4,558	0.07
Native vegetation with no tenure category assigned		0	0.00	0	0.00	0	0.00
Cleared areas		-	-	-	-	6,647	0.10
Total		6,978,853	100	0	0	6,985,500	100

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)		3,951	3,951	0	0.06	0.06	0.00	1	1	0
	DEC-managed lands proposed for conservation		187,114	444,145	257,031	2.68	6.36	3.68	2	10	8
	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		3,004	2,874	-130	0.04	0.04	0.00	-	-	-
	Other crown reserves		201,897	195,755	-6,142	2.89	2.80	-0.09	-	-	-
		Crown reserves vested in Aboriginal Lands Trust*	-	24,510	-	-	0.35	-	-	-	-
	Pastoral leases^		6,547,003	6,314,139	-232,864	93.72	90.39	-3.33	-	-	-
		Pastoral leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Other leasehold lands^		0	12,808	12,808	0.00	0.18	0.18	-	-	-
		General purpose leases held by Aboriginal Lands Trust*	-	0	-	-	0.00	-	-	-	-
	Freehold lands		35,484	5,081	-30,403	0.51	0.07	-0.44	-	-	-
		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)		176	6,747	6,571	0.00	0.10	0.10	-	-	-
	No tenure category assigned†		6,869	0	-6,869	0.10	0.00	-0.10	-	-	-
Total			6,985,498	6,985,500	-	100	100	-	3	11	-

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	179	N/A	260	N/A	81	0	0	0	0	9	9	0	0	0	0	0	0
	Exploration	94	N/A	281	N/A	187	0	1	1	8	20	12	0	0	0	0	0	0
	Mining	202	N/A	194	N/A	-8	0	0	0	5	2	-3	0	0	0	0	0	0
	Other	1	N/A	1	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	435,869	6.24	2,199,045	31.48	25.24	0	113	113	34,298	106,615	72,317	0	0	0	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*	435,869	6.24	2,199,045	31.48	25.24	0	113	113	34,298	106,615	72,317	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	6,718,556	6,618,917	-99,639	96.18	94.75	-1.43
Miscellaneous (non-intensive use)*	194,804	292,355	97,551	2.79	4.19	1.40
Water (not classified)	44,531	43,900	-631	0.64	0.63	-0.01
Traditional indigenous use	19,992	19,600	-392	0.29	0.28	-0.01
Conservation	4,554	4,488	-66	0.07	0.06	-0.01
Agriculture (intensive use)	0	3,560	3,560	0.00	0.05	0.05
Mining	2,205	2,200	-5	0.03	0.03	0.00
Native forestry	545	500	-45	0.01	0.01	0.00
Urban	332	0	-332	0.00	0.00	0.00
Plantation 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	0	0	0	0.00	0.00	0.00
Total	6,985,519	6,985,520	-	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)	15,362	6,985,512	0.0022
Roads (Strategic Survey Roads in national parks, conservation parks and nature reserves)	6	3,951	0.0015
Railways (sub-region)	0	6,985,512	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	0	0	0	0.00	0.00	0.00
	On all other lands	34,379	34,379	0	0.49	0.49	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)	16.97	18.75	20.84	1.65	3.43	5.52	1.40 - 1.84	2.90 - 3.82	4.67 - 6.15
Maximum Temperature (degrees C)	31.55	33.57	35.95	1.88	3.90	6.28	1.57 - 2.09	3.26 - 4.37	5.25 - 7.02
Precipitation (mm)	184.18	156.50	133.51	-36.87	-64.54	-87.53	-47.50 - -30.90	-82.90 - -53.60	-113.10 - -71.00
	Medium impact scenario								
Minimum Temperature (degrees C)	16.63	17.55	18.45	1.32	2.23	3.13	1.11 - 1.46	1.89 - 2.49	2.64 - 3.48
Maximum Temperature (degrees C)	31.16	32.21	33.22	1.49	2.54	3.55	1.25 - 1.67	2.13 - 2.84	2.97 - 3.98
Precipitation (mm)	190.59	174.02	160.62	-30.44	-47.02	-60.42	-39.30 - -25.60	-60.40 - -39.40	-77.60 - -50.40

* Base Climate is 1990

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

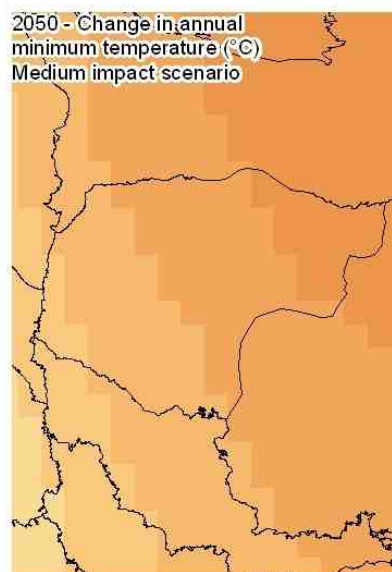
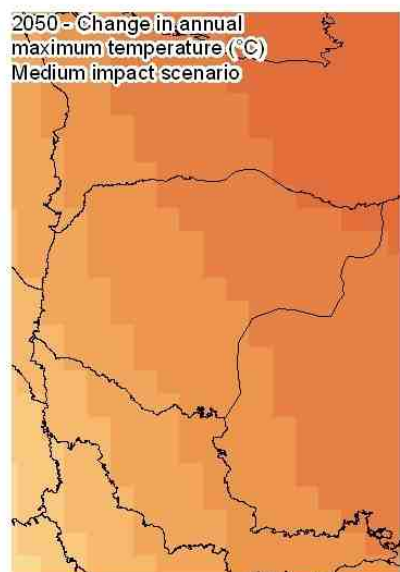
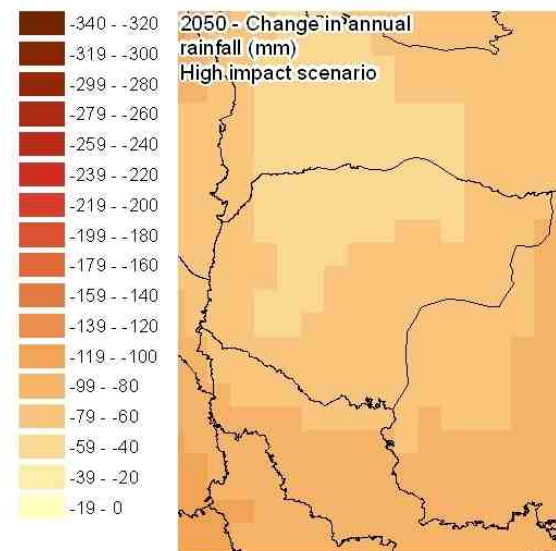
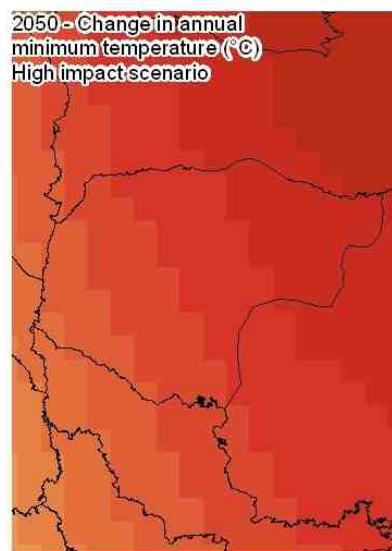
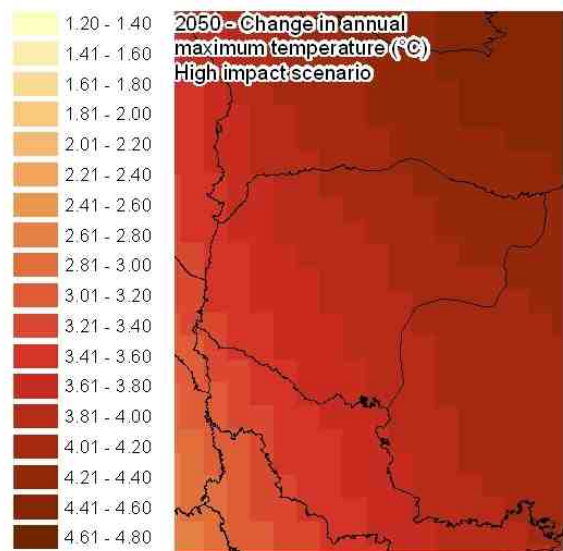
For more information see <https://wiki.csiro.au/confluence/display/ozclim/Science#Science-CSIRO35>

Medium Impact Scenario:

- *Emission Scenario:* Medium 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
29	27.33	2,160,148	2,159,670	99.98	0	9,347	0	0	61,676	2,087,188	1,459
18	10.72	2,133,273	2,128,411	99.77	44	89,290	0	0	59,784	1,977,928	1,365
326	47.77	494,138	494,138	100.00	0	103,420	0	0	4,876	385,830	11
39	6.61	437,071	436,129	99.78	0	13,477	0	0	18,073	404,337	243
2081	29.12	387,778	387,778	100.00	1,221	80,624	0	0	2,855	303,078	0
183	40.32	148,869	148,869	100.00	0	0	0	0	31,502	116,844	522
169	32.47	139,791	139,779	99.99	0	0	0	0	877	138,903	0
204	55.42	110,559	110,556	100.00	0	4,858	0	0	4,118	101,579	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
1125	100.00	65,214	65,214	100.00	0	0	0	0	98	65,117	0
327	100.00	31,128	31,128	100.00	0	6,658	0	0	20	24,450	0
1128	100.00	18,658	18,349	98.34	0	0	0	0	184	18,070	95
341	100.00	10,421	10,421	100.00	0	0	0	0	14	10,406	0
261	100.00	8,850	8,850	100.00	0	2,690	0	0	9	6,151	0
305	100.00	7,209	7,209	100.00	0	0	0	0	815	6,234	160
288	100.00	6,093	6,093	100.00	0	0	0	0	22	6,071	0
187	100.00	4,354	4,354	100.00	0	0	0	0	1,016	3,338	0
1126	100.00	3,258	3,258	100.00	0	0	0	0	11	3,247	0
34	100.00	2,956	2,956	100.00	0	0	0	0	0	2,956	0
300	100.00	1,931	1,931	100.00	0	0	0	0	9	1,922	0
340	100.00	1,211	1,211	100.00	0	1,211	0	0	0	0	0
306	100.00	162	162	100.00	0	0	0	0	0	162	0
362	98.71	39,338	39,338	100.00	315	0	0	0	11	39,012	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
306	100.00	162	162	100.00	0	0	0	0	0	162	0
340	100.00	1,211	1,211	100.00	0	1,211	0	0	0	0	0
268	12.41	1,930	1,930	100.00	0	0	0	0	365	1,363	202
300	100.00	1,931	1,931	100.00	0	0	0	0	9	1,922	0
121	32.93	2,554	2,554	100.00	0	0	0	0	0	2,554	0
34	100.00	2,956	2,956	100.00	0	0	0	0	0	2,956	0
1126	100.00	3,258	3,258	100.00	0	0	0	0	11	3,247	0
188	15.77	4,044	4,044	100.00	0	0	0	0	0	4,044	0
187	100.00	4,354	4,354	100.00	0	0	0	0	1,016	3,338	0
288	100.00	6,093	6,093	100.00	0	0	0	0	22	6,071	0
305	100.00	7,209	7,209	100.00	0	0	0	0	815	6,234	160
261	100.00	8,850	8,850	100.00	0	2,690	0	0	9	6,151	0
341	100.00	10,421	10,421	100.00	0	0	0	0	14	10,406	0
1128	100.00	18,658	18,349	98.34	0	0	0	0	184	18,070	95