

Super-area breakdown of West Coast rock lobster confiscations and policing records

S.J. Johnston¹

Introduction

Pedro Goosen (Compliance, DAFF) provided statistics on both west coast rock lobster confiscations and policing effort (Johnston and van Zyl 2011). Data are reported for three-month periods from April 2008 to March 2011. Where data have been summed, they have been summed over this data period.

Note: In FISHERIES/2011/April/SWG-WCRL18 the confiscations and police effort data for Feb and Mar 2011 were in fact not available and appeared as zero's in the database. The database has now been updated to capture these statistics for these two months. The appendix reports the resultant updated results that were reported in FISHERIES/2011/April/SWG-WCRL18.

This document reports the following *confiscations* statistics:

- 1) Total monthly confiscations over all stations
- 2) Total confiscations per station over the time period above
- 3) Total confiscations per super-area over the time period above
- 4) Confiscations per super-area per month.

This document also reports the following *policing effort* statistics:

- 1) Total policing effort recorded per month over the time period above for each of the policing effort statistics.
- 2) Total policing effort recorded per station over the time period above for each of the policing effort statistics.
- 3) Percentage of total policing effort for each super-area – reported separately for each of the policing effort statistics.

¹ MARAM, Department of Mathematics and Applied Mathematics, University of Cape Town

Results

Confiscations

Table 1 compares the percentage breakdown of confiscations across super-area, with the current poaching breakdown per super-area assumed in the assessments and OMP.

Figure 2 reports the confiscations per month over all stations. Figure 3 reports confiscations per station over the time period stated above. Figure 4a sums these values into the five management super-areas. Figure 4b expresses these values as a percentage of the total number of confiscations over this period for each super-area.

Table 3 reports the confiscations per month per super-area.

Policing effort

Table 2 reports the various policing effort statistics (broken down as percentage of WCRL total) per super-area for the April 2008 – March 2011 period. Only the policing statistics that are available for the full period are reported in this table. Figures 5a-g report the policing effort statistics broken down per month, per stations and per super-area.

Reference

Johnston, S.J. and van Zyl, D. 2011. A summary of west coast rock lobster poaching records. FISHERIES/2011/April/SWG-WCRL/18.

Table 1: Confiscations per super-area.

Super-area	Numbers	% of total	Current OMP assumption regarding % breakdown of poaching
Area 1+2	95	0.15	1.0
Area 3+4	16161	24.97	2.5
Area 5+6	25972	40.13	2.5
Area 7		0.00	14.0
Area 8+	22492.1	34.75	80.0

Table 2: Policing effort statistics (broken down as percentage of WCRL total) per super-area for the April 2008 – March 2011 period.

Super-area	Vehicles inspected	Permit checks	Slipway inspections	Coastal Patrols	Road blocks	Sea patrols	Restaurant checks
Area 1+2	1.7	3.6	2.7	2.2	1.8	2.3	1.8
Area 3+4	5.8	6.5	7.0	6.0	9.3	4.5	2.1
Area 5+6	31.1	21.6	27.7	16.6	39.4	47.1	34.0
Area 7	0	0	0	0	0	0	0
Area 8+	61.4	68.2	62.6	75.2	49.5	46.0	62.1

Table 3: Confiscations per month per super-area.

	A1+2	A3+4	A5+6	A8+
April 08	0	0	0	507
May 08	0	0	0	217
June 08	0	0	0	1510
July 08	0	0	0	14
Aug 08	0	0	0	44
Sep 08	0	0	0	475
Oct 08	0	0	0	513
Nov 08	0	0	0	47
Dec 08	0	0	0	354
Jan 09	0	0	0	269
Feb 09	0	0	0	129.1
Mar 09	0	0	0	516
April 09	0	614	1163	322
May 09	0	14	287	228
June 09	0	38	6	1004
July 09	0	81	0	10
Aug 09	0	76	4	184
Sep 09	0	0	14	0
Oct 09	25	14	56	8
Nov 09	4	79	343	546
Dec 09	11	197	31	239
Jan 10	31	594	8491	110
Feb 10	0	2823	1	5445
Mar 10	0	7191	6268	270
Apr 10	0	2151	3826	2421
May 10	0	0	54	527
Jun 10	0	0	0	207
July 10	0	35	77	26
Aug 10	0	945	211	3
Sep 10	0	12	50	24
Oct 10	0	61	731	240
Nov 10	24	34	845	1026
Dec 10	0	1202	3514	554
Jan 11	0	0	0	724
Feb 11	0	0	0	1727
Mar 11	0	0	0	1524

Figure 1: Comparison between the reported confiscations per super-area over the last few years, with the percentage breakdown of the total poaching level assumed in the current OMP.

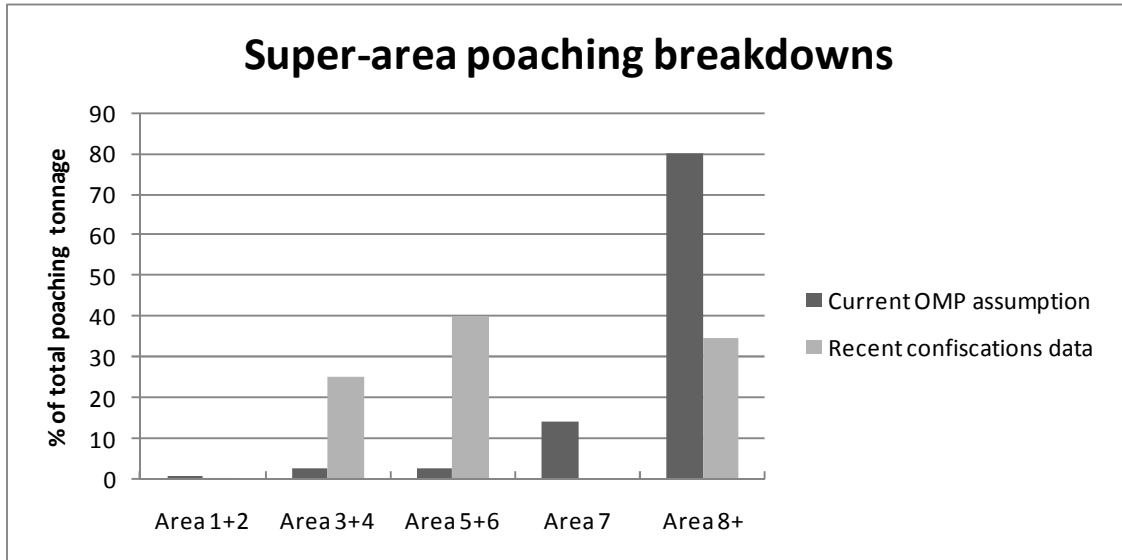


Figure 2: Confiscations reported over all WCRL stations for the April 2008-March 2011 period.

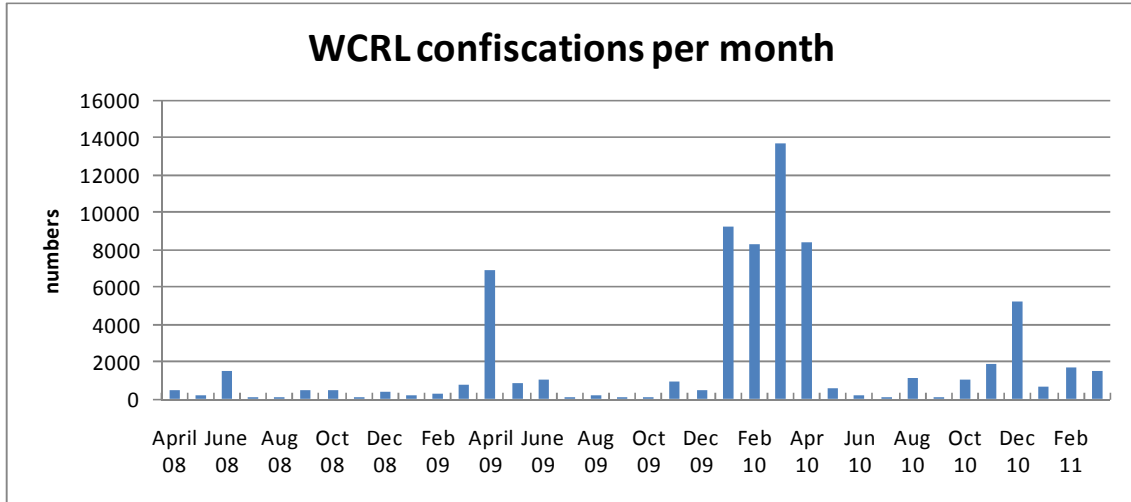


Figure 3: Confiscations reported per station for the April 2008-March 2011 period.

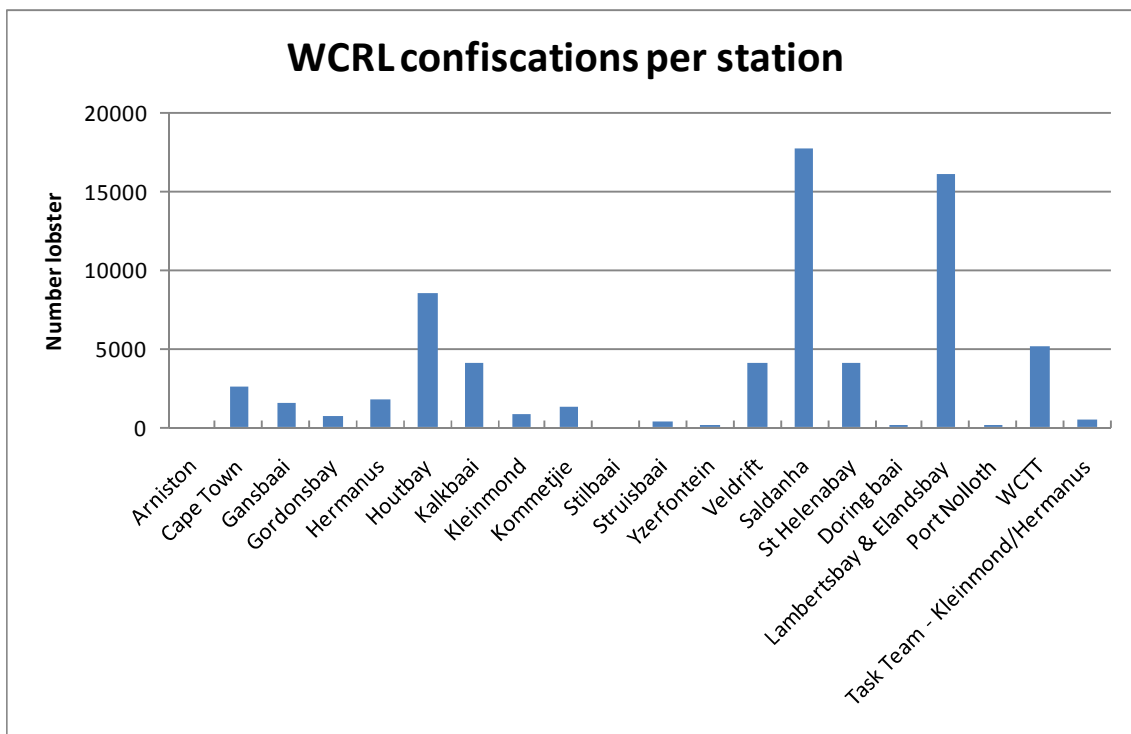


Figure 4a: Total confiscations reported per super-area.

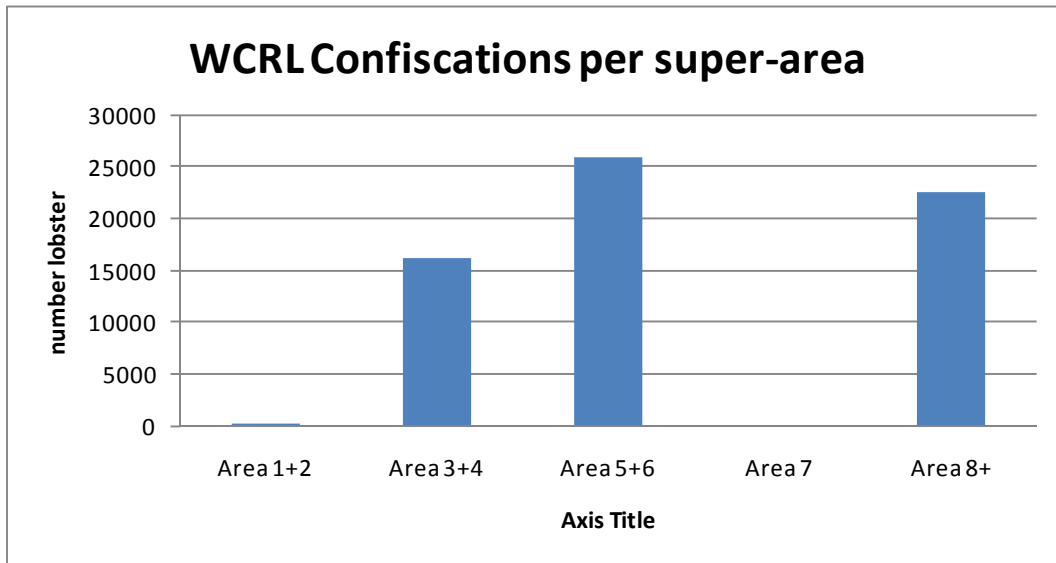


Figure 4b: Percentage of total confiscations reported over WCRL for each super-area.

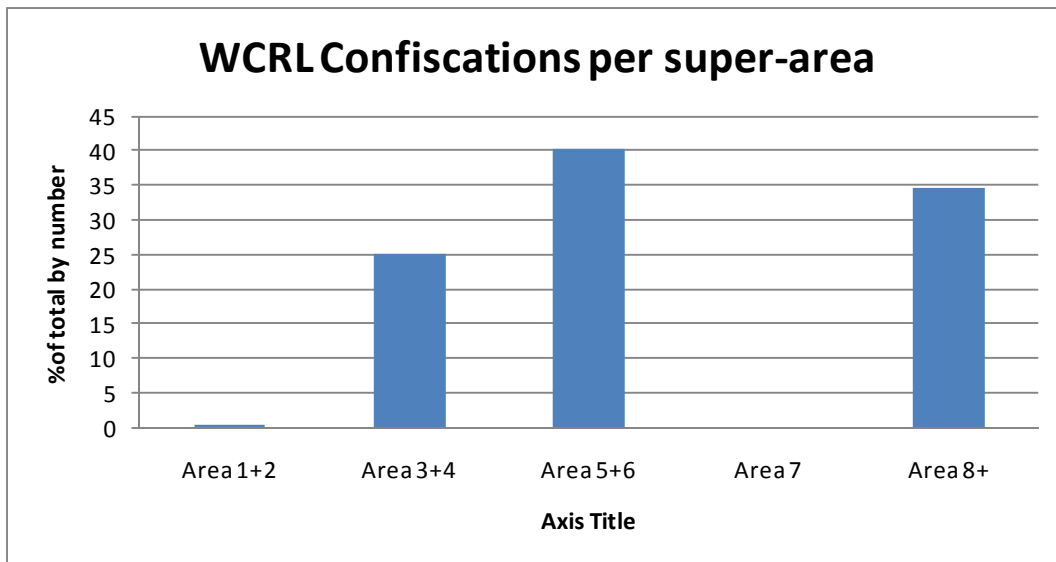


Figure 5a: Vehicles inspected policing effort statistics.

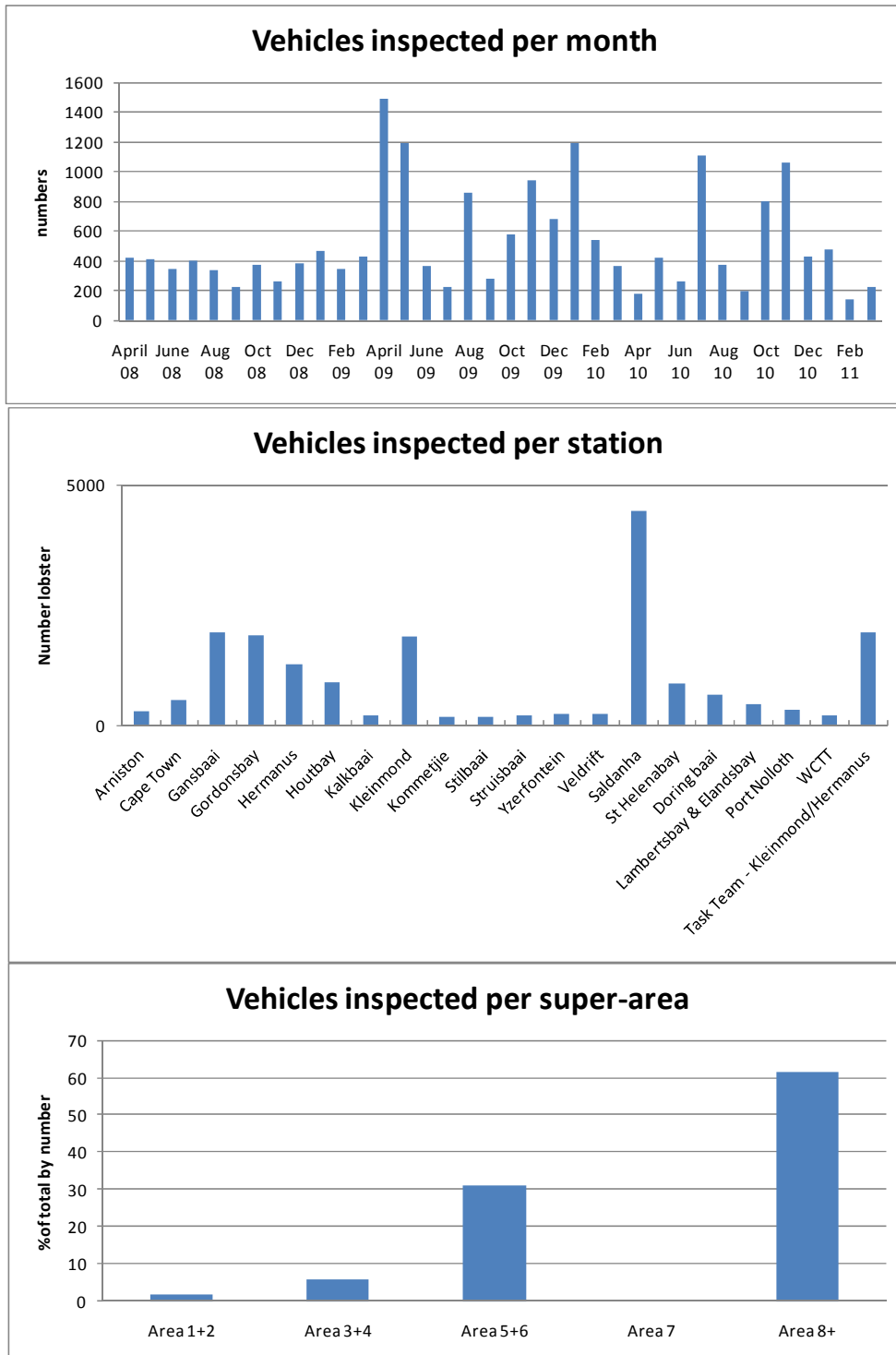


Figure 5b: Permit checks policing effort statistics.

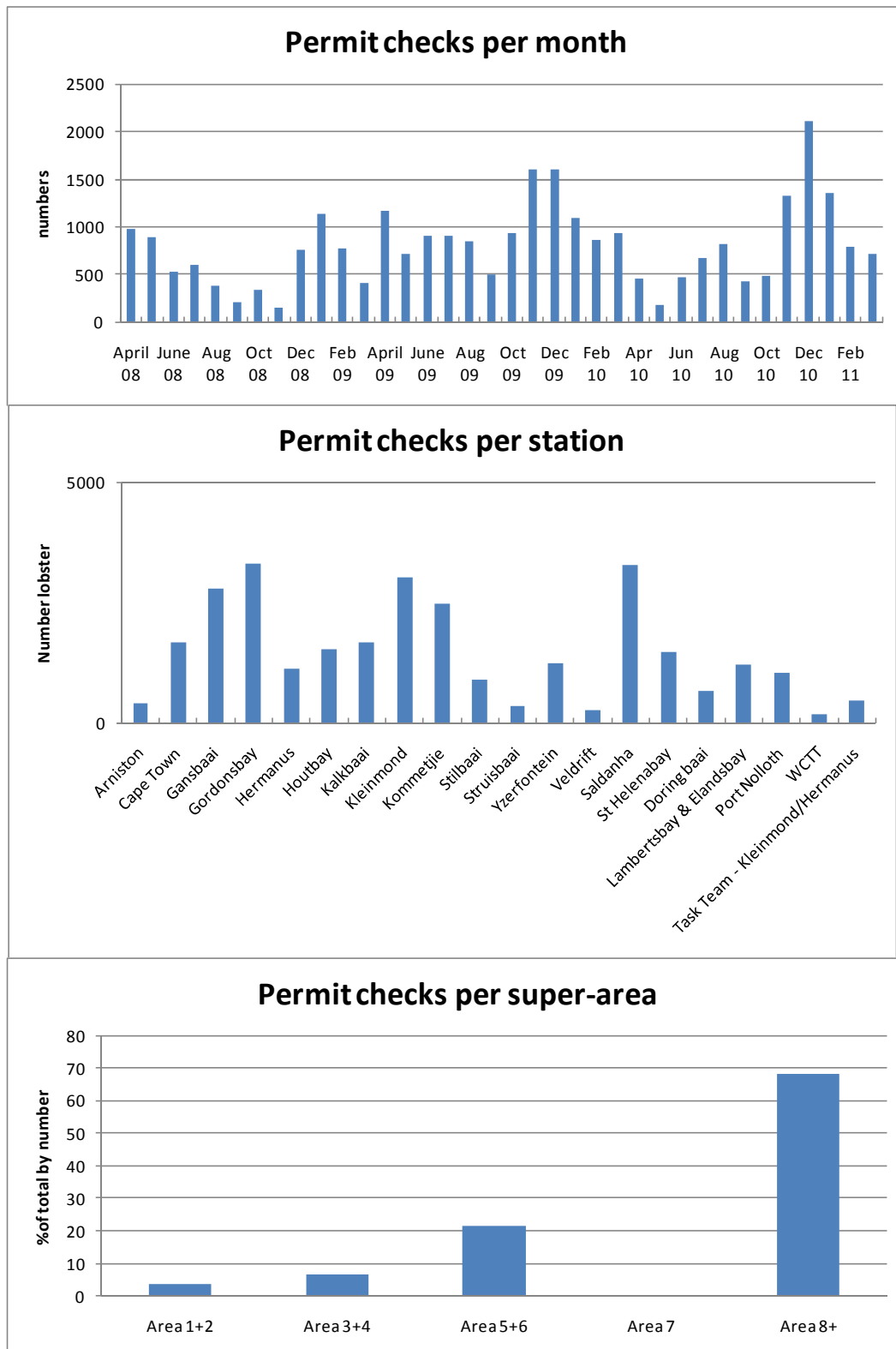


Figure 5c: Slipway inspections policing effort statistics.

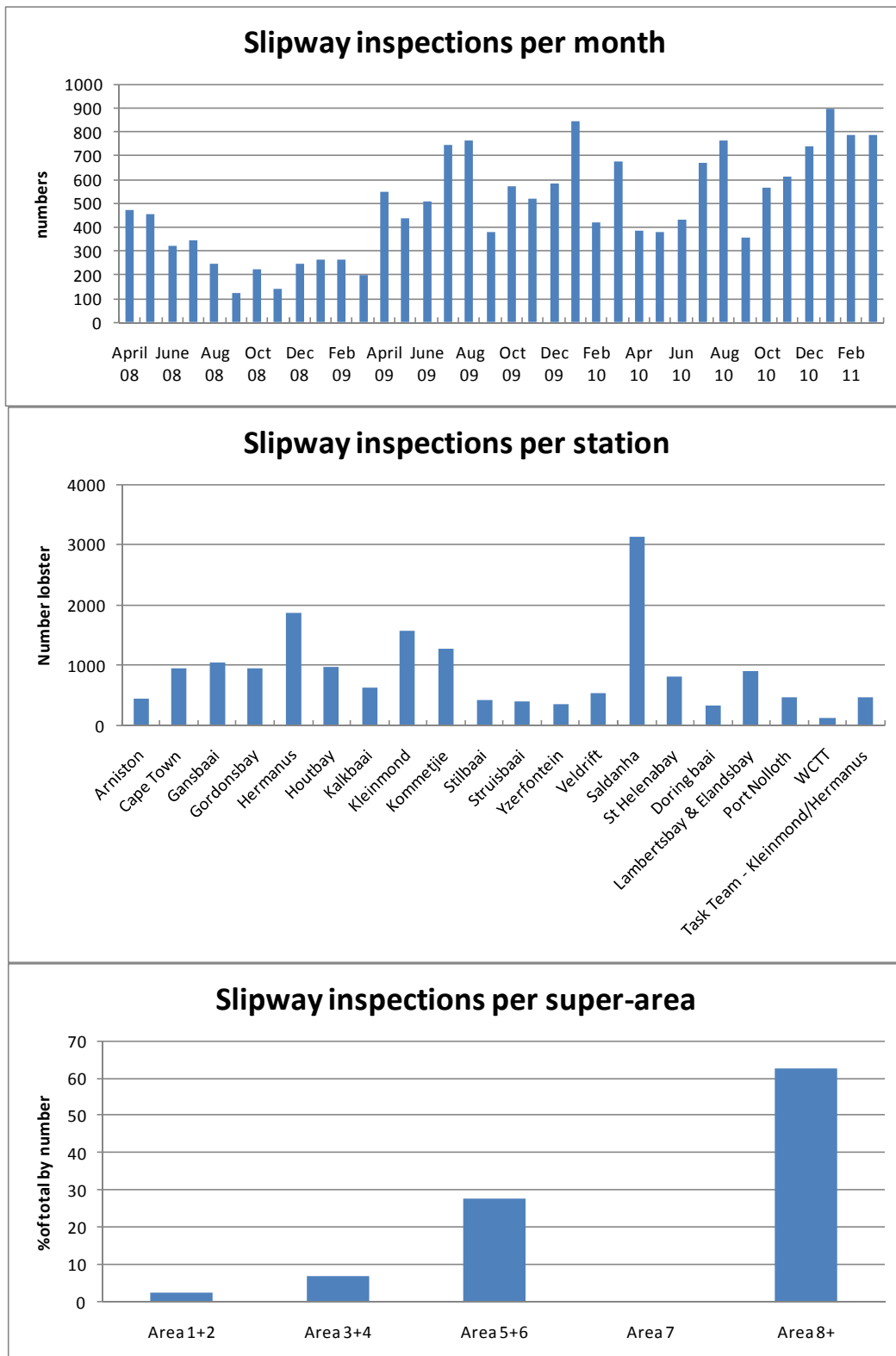


Figure 5d: Coastal patrols inspected policing effort statistics.

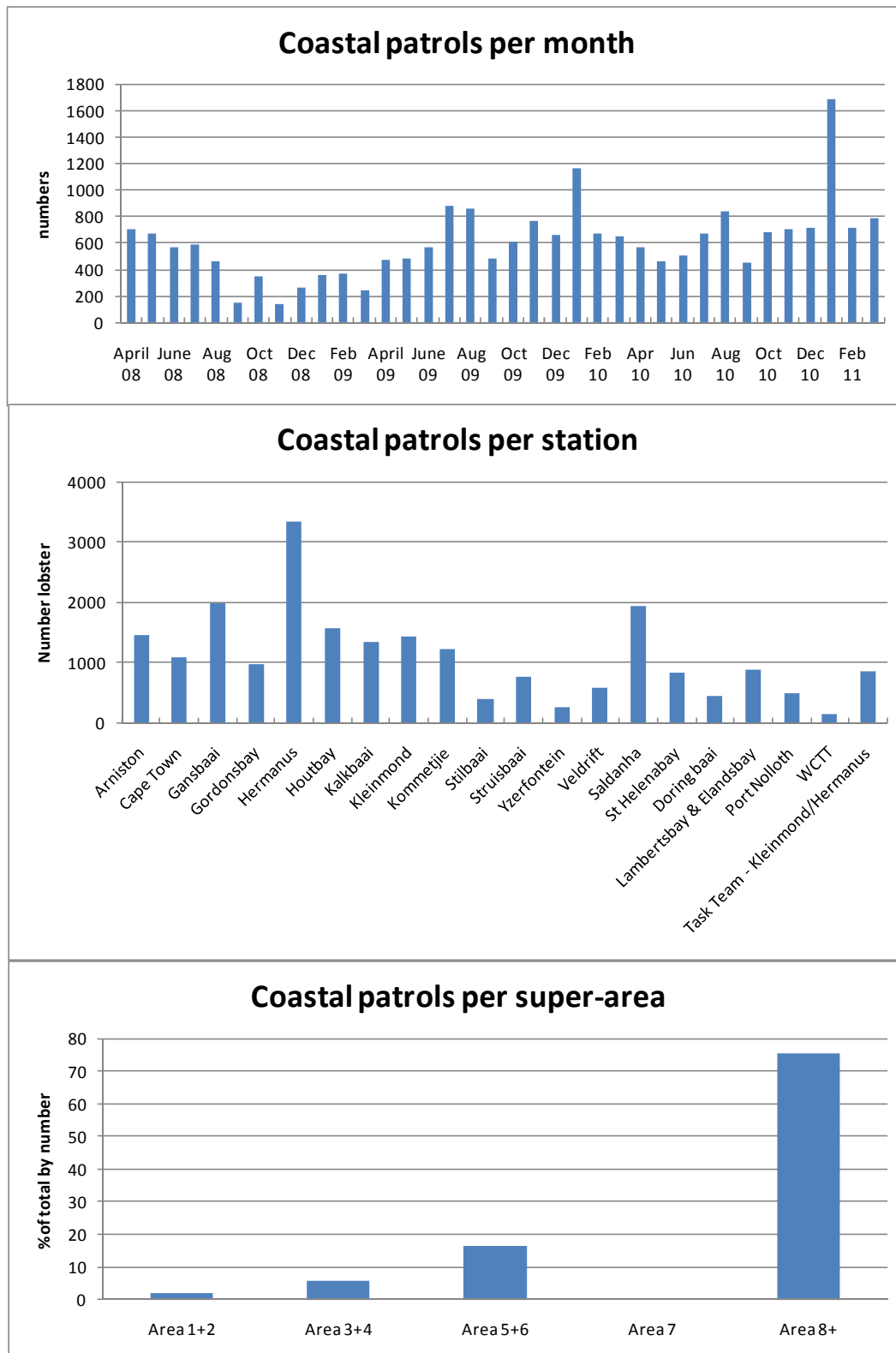


Figure 5e: Road blocks inspected policing effort statistics.

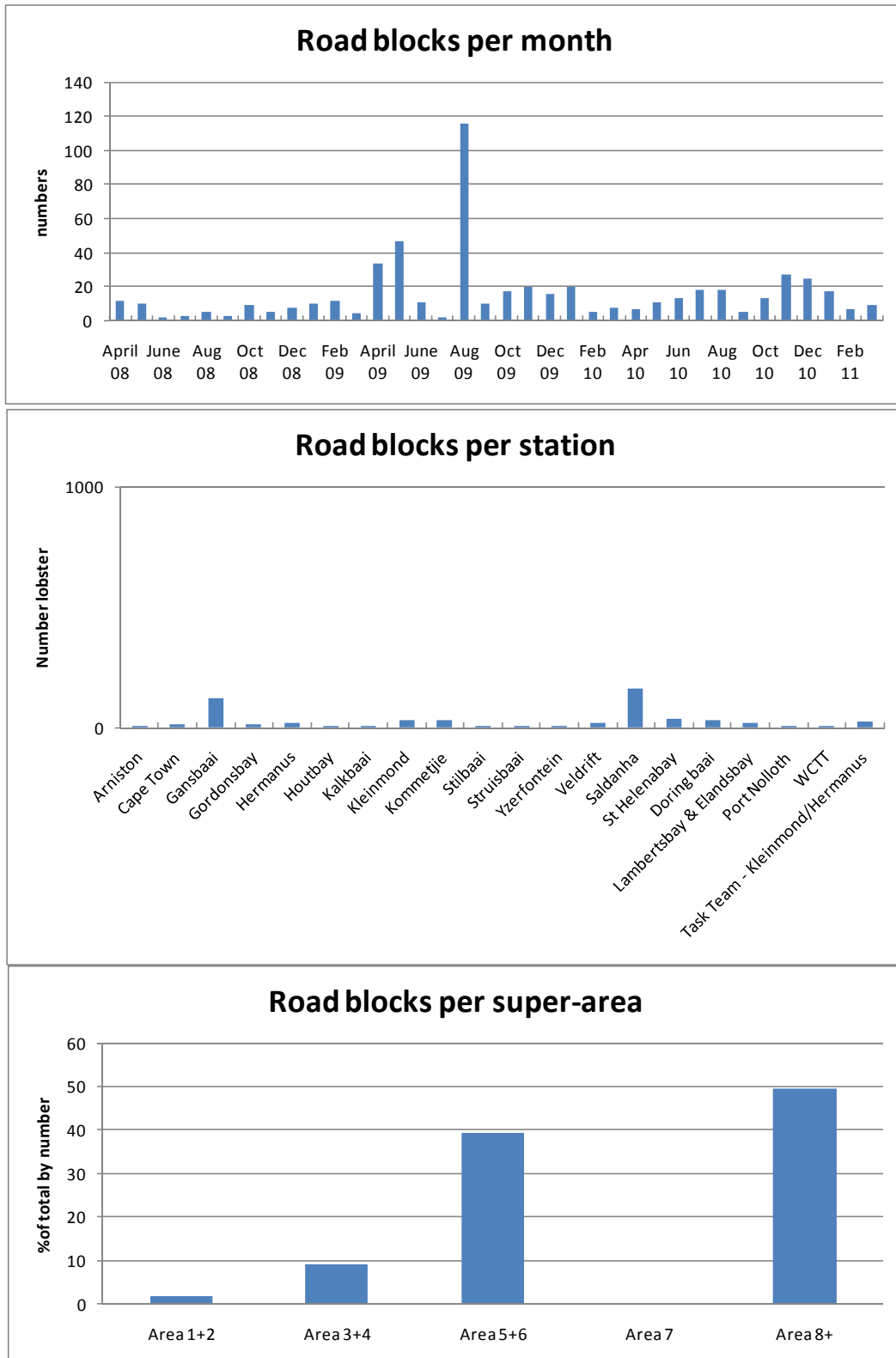


Figure 5f: Sea patrols inspected policing effort statistics.

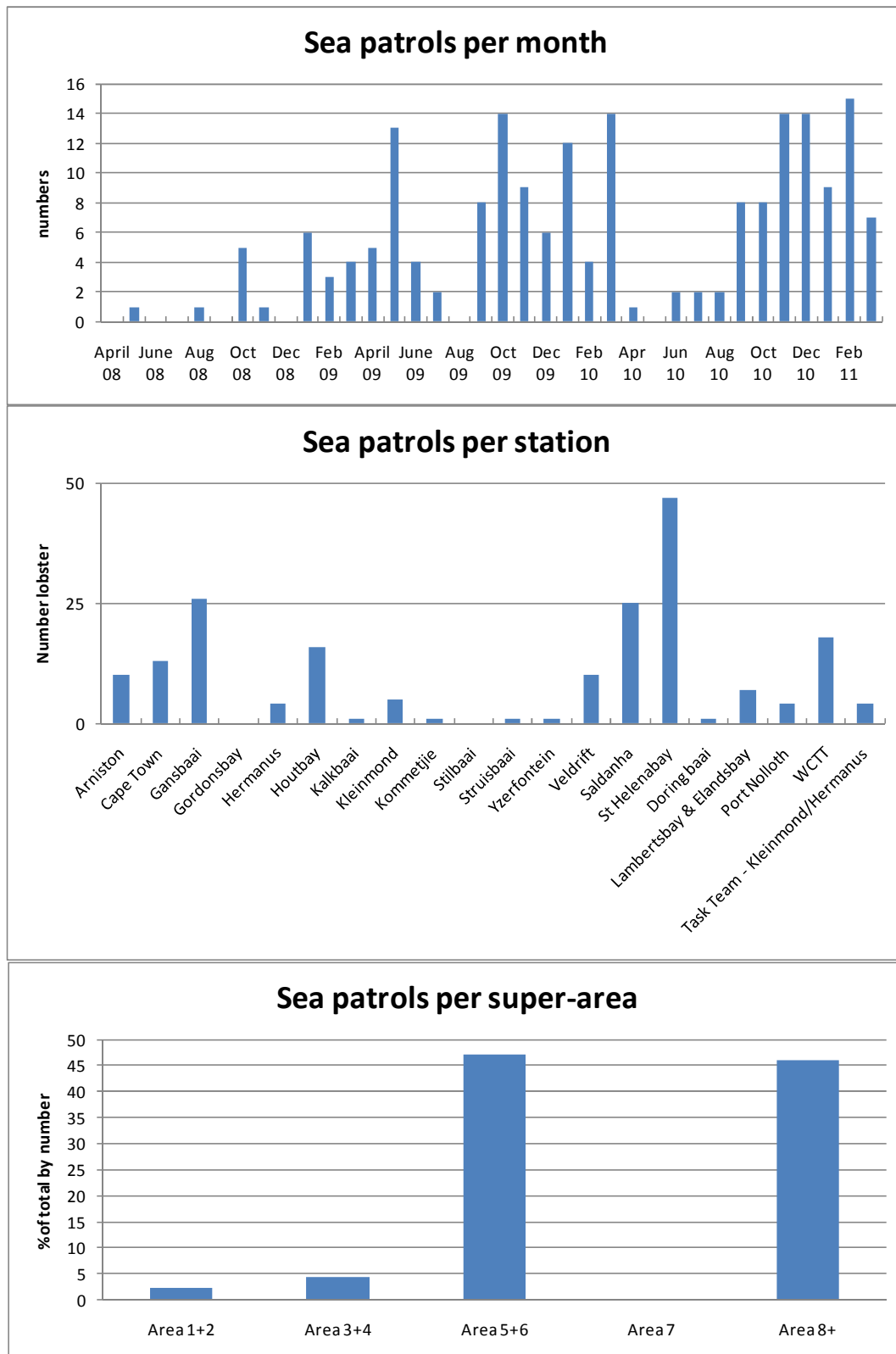
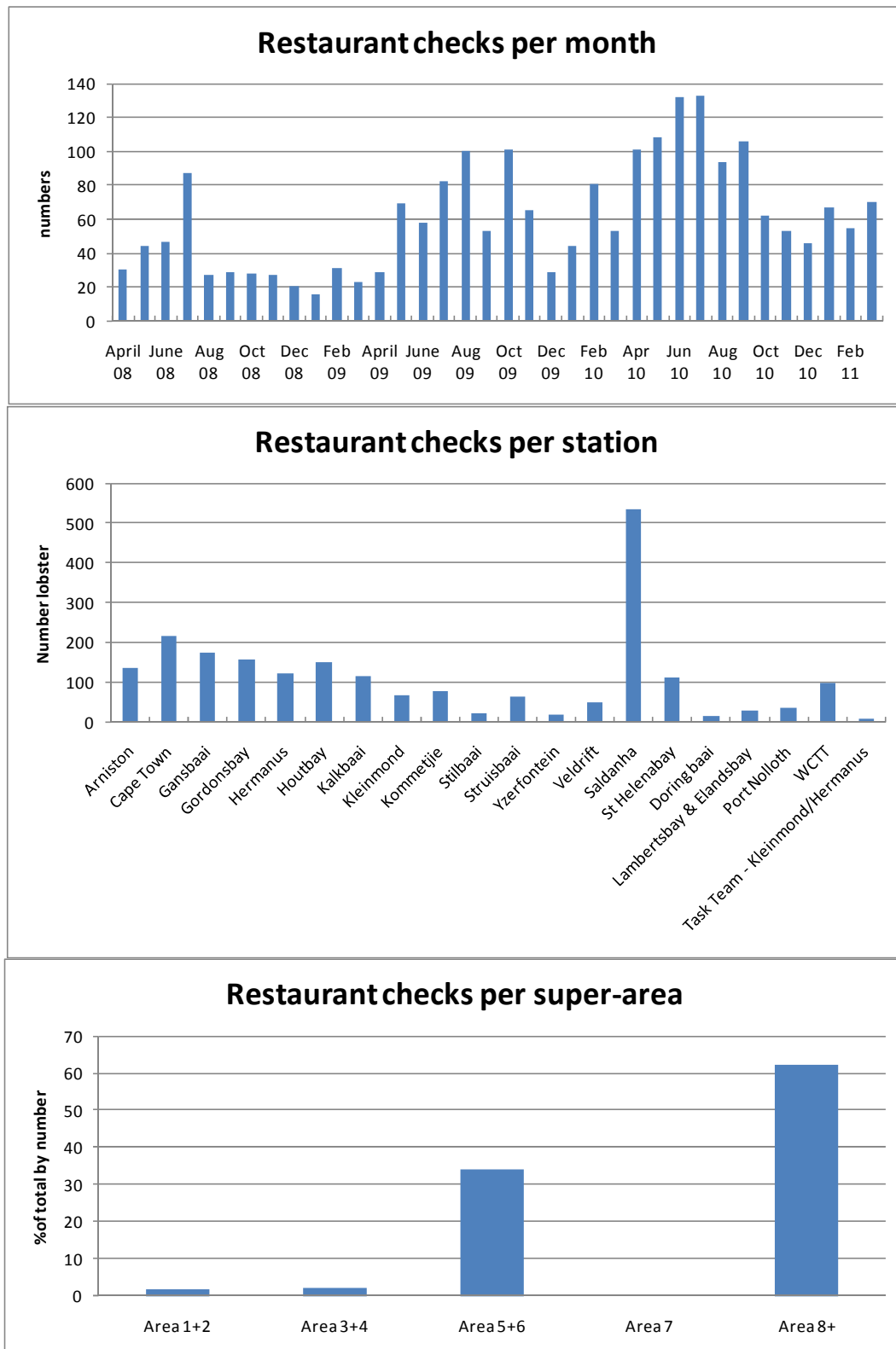


Figure 5g: Restaurant inspected policing effort statistics.



Appendix: Updated statistics for FISHERIES/April/2011/SWG-WCRL/18

Table A1 reports the confiscations and policing effort statistics for each quarterly period. The table also shows annual rates of increase in confiscations and in the various form of policing effort. These were calculated by fitting log-linear regressions to each of the quarterly data series. Overall the annual rates of increase are:

Confiscations: 74.0% (s.e. = 40.5%)

Policing effort: 29.5% (s.e. = 5.4%)

where the effort figure is an inverse variance weighted average over all of the indices which have been reported for all 12 quarters.

Together these suggest that removals from poaching have been increasing at a rate of 44.5% p.a. (s.e.=40.9%) over the last three years.

Confiscations and Policing effort

Table A1: Confiscation and policing records supplied by Pedro Goosen (Compliance, DAFF).

	Confiscations (# lobster)	Confiscations (tons lobster) [@]	Vehicles inspected	Permit checks	Slipway inspections	Coastal patrols	Road blocks	Sea patrols	Restaurant inspections	Foreign vessel inspections	Vessel inspections	Mariculture inspections	Ports/Airports /Border post checks
April-June 2008	2234	0.760	1177	2403	1252	1954	24	1	121				
July-Sep 2008	553	0.188	979	1193	721	1208	11	1	143				
Oct-Dec 2008	965	0.328	1023	1263	612	761	22	6	76				
Jan-Mar 2009	1371.1	0.466	1249	2341	728	968	26	13	70				
April-June 2009	8826	3.000	3042	3991	1487	1530	92	22	156	11	1234		
July-Sep 2009	374	0.127	1368	3821	1886	2234	128	10	235	41	1200		
Oct-Dec 2009	1553	0.528	2201	6006	1673	2040	53	29	195	29	9		
Jan-Mar 2010	31224	10.616	2096	4695	1939	2488	33	30	178	30	52		
April-June 2010	9186	3.123	867	1788	1166	1557	31	3	341	17	1394	39	39
July-Sep 2010	1383	0.470	1675	2456	1510	1825	33	12	270	26	1162	40	73
Oct-Dec 2010	8231	2.799	2291	5085	1911	2103	65	27	161	31	2336	37	109
Jan-Mar 2011	6270	2.13	845	2864	2469	3198	33	31	192	31	1896	29	68
2008*	3752	1.276	3179	4859	2585	3923	57	8	340	0	0	0	0
2009	12124	4.122	7860	16159	5774	6772	299	74	656	81	2443	0	0
2010	50024	17.008	6929	14024	6526	7973	162	72	950	104	4944	116	221
Annual change (%)	74.0	74.0	7.0	26.89	35.8	28.4	26.9	90.4	32.4	23.6	115.3	-38.7	82.7
s.e. of annual change	40.5	40.5	14.8	16.5	11.0	11.1	21.9	33.0	12.8	26.1	31.7	17.1	71.9

*months April-Dec only

@ average weight of lobster assumed to be 0.34kg (this is less than the normal 0.402kg assumed for legal whole lobsters, to take into account undersized lobsters and tails)

Figure A1a: Confiscations for each three-month period.

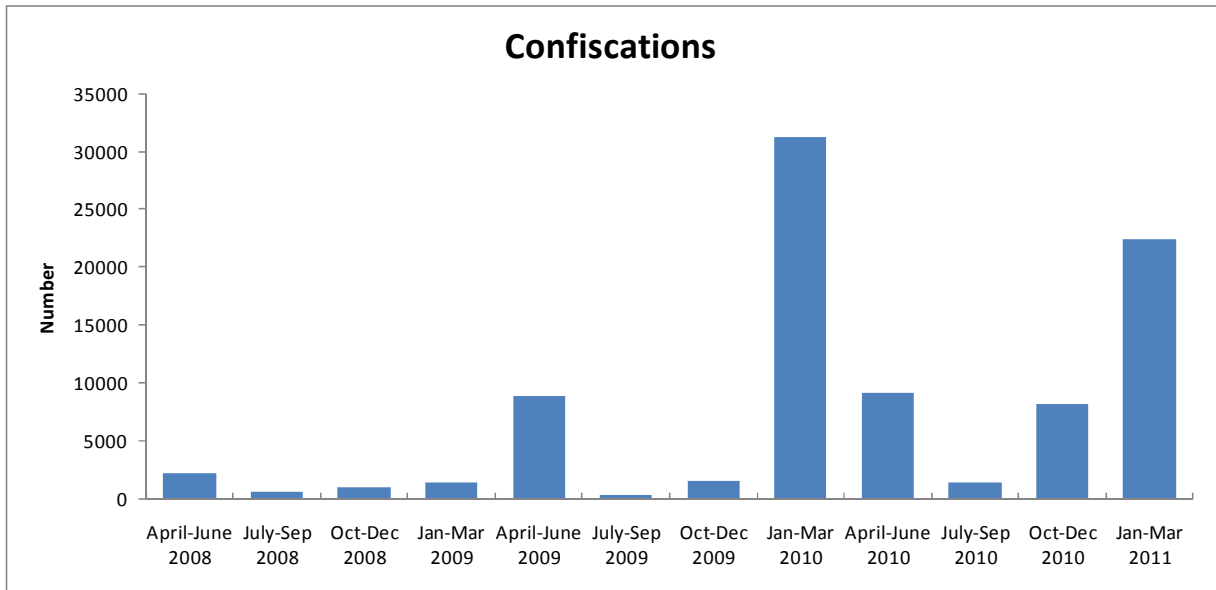


Figure A1b: Confiscations for each calendar year (no change to doc 18).

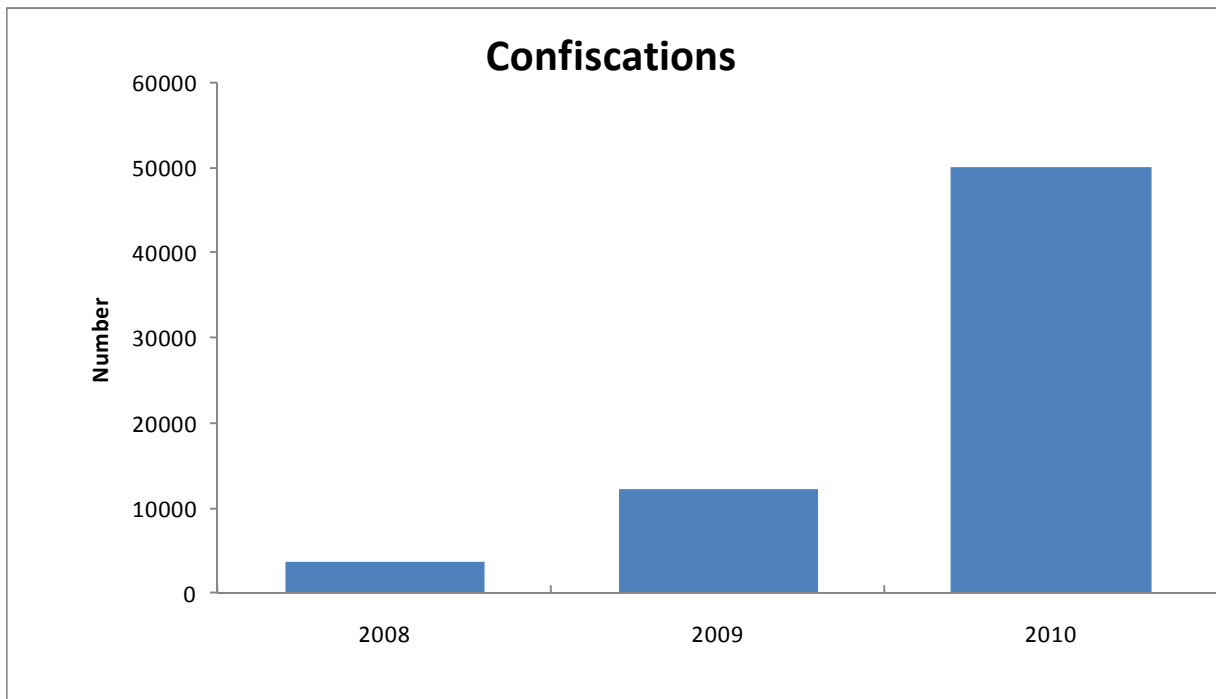


Figure A2: Policing effort for each three-month period.

