

Investigation of the comparability of the West Coast rock lobster compliance databases (“new” and “old”)

A. Brandão and D.S. Butterworth

Marine Resource Assessment & Management Group (MARAM)
Department of Mathematics and Applied Mathematics
University of Cape Town
Rondebosch 7701, Cape Town

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Abstract

The “old” and “new” compliance databases are compared, especially in the context of inferring the number of unsuccessful (“zero”) instances of detecting illegally caught west coast rock lobster. A proposal is made for the proportion of such instances to be assumed when computing the area-specific relative efficiencies of different types of compliance effort.

Introduction

In discussions at a WCRL SWG Poaching TT meeting, it became evident that it was important to establish the number of compliance instances where an inspection event had yielded zero illegally caught rock lobster to be able to account correctly for the relative efficiency (by area) of different types of compliance effort. A method of “subtraction” of new database entries (which do not include such “unsuccessful” events from the old database entries (which do) was suggested.

This paper reports the outcomes from such an approach.

Data

Monthly data on confiscations and policing effort obtained from one of the Directorates within the CD (Directorate: Compliance) for the period of April 2008 to December 2017 form the “old” database. Data for the period 2012 to 2017 on rock lobster confiscations that are linked to a policing effort type form the “new” database.

Results

Table 1 summarises the data in the two databases by year and by compliance effort type, while Table 2 reports the inferred numbers of unsuccessful events as well as the proportions of successful to total events.

Table 3 compares the number of confiscations in the “old” database and in the “new” database when only the common policing types are considered as well as when all policing effort types (including blanks) are included. Some discrepancies are evident whose sizes are non-trivial but nevertheless not too large.

Conclusions

It is proposed that the averages over years of proportionate successful events (as shown in Table 2) be used in recalculating the relative efficiencies of the different compliance effort types.

Table 1. Number of observations in the “old” and the “new” databases available for analyses by common policing effort types and Super-areas.

“Old” database				“New” database		
Northern Super-areas 3+4+5+6+7						
	Coastal Patrols	Slipway inspections	Vehicle inspections	Coastal Patrols	Slipway inspections	Vehicle inspections
2008	—	—	—	—	—	—
2009	1822	1939	3724	—	—	—
2010	2510	3287	3587	—	—	—
2011	3223	4197	3953	—	—	—
2012	2940	3537	7085	5	0	17
2013	2520	2922	6508	7	20	44
2014	2671	2762	4203	25	36	29
2015	2755	3031	3581	13	34	30
2016	2638	3141	2445	15	7	3
2017	2568	2791	1845	20	10	4
Average	2627	3067	4103	14	18	21
Southern Super-area 8+						
2008	3923	2585	3179	—	—	—
2009	4857	3766	3951	—	—	—
2010	5540	3507	3847	—	—	—
2011	7722	4876	2604	—	—	—
2012	5992	4573	3367	1	26	1
2013	4970	4310	2966	39	19	0
2014	4243	3874	1807	35	26	1
2015	5706	4656	2594	50	35	1
2016	5605	3697	3541	26	36	2
2017	6200	4568	4567	39	34	0
Average	5476	4041	3242	32	29	1

Table 2. Difference between the number of observations in the “old” and the “new” databases that might be assumed to be the number of “zero” confiscations in the “new” database. Results are shown by common policing effort types and Super-areas. Percentage of observations in the “new” database that would constitute non-zero confiscations are also shown.

Difference in number of observations between “old” and “new”				Percentage of observations that would constitute non-zero confiscations in the “new” database		
Northern Super-areas 3+4+5+6+7						
	Coastal Patrols	Slipway inspections	Vehicle inspections	Coastal Patrols	Slipway inspections	Vehicle inspections
2008	—	—	—	—	—	—
2009	1822	1939	3724	—	—	—
2010	2510	3287	3587	—	—	—
2011	3223	4197	3953	—	—	—
2012	2935	3537	7068	0.17%	0.00%	0.24%
2013	2513	2902	6464	0.28%	0.68%	0.68%
2014	2646	2726	4174	0.94%	1.30%	0.69%
2015	2742	2997	3551	0.47%	1.12%	0.84%
2016	2623	3134	2442	0.57%	0.22%	0.12%
2017	2548	2781	1841	0.78%	0.36%	0.22%
Average	2618	3056	4089	0.54%	0.61%	0.47%
Southern Super-area 8+						
2008	3923	2585	3179	—	—	—
2009	4857	3766	3951	—	—	—
2010	5540	3507	3847	—	—	—
2011	7722	4876	2604	—	—	—
2012	5991	4547	3366	0.02%	0.57%	0.03%
2013	4931	4291	2966	0.78%	0.44%	0.00%
2014	4208	3848	1806	0.82%	0.67%	0.06%
2015	5656	4621	2593	0.88%	0.75%	0.04%
2016	5579	3661	3539	0.46%	0.97%	0.06%
2017	6161	4534	4567	0.63%	0.74%	0.00%
Average	5457	4024	3242	0.60%	0.69%	0.03%

Table 3. Number of confiscations in the “old” database and in the “new” database when only the common policing types are considered as well as when all policing effort types (including blanks) are included. Percentage of the number of confiscations for several comparisons are also shown. Results are shown by Super-areas.

“Old” database		“New” database		Percentage of number of confiscations		
Northern Super-areas 3+4+5+6+7						
		Common policing effort types	All policing effort types (including blanks)	“new” common /”old”	“new” all/”old”	“new” common/”new” all
2008	—	—	—			
2009	18116	—	—			
2010	40885	—	—			
2011	20198	—	—			
2012	11341	476	24030	4%	212%	2%
2013	13087	1390	9655	11%	74%	14%
2014	18452	8867	11263	48%	61%	79%
2015	17342	7908	13044	46%	75%	61%
2016	2667	902	1496	34%	56%	60%
2017	5060	4132	5971	82%	118%	69%
Southern Super-area 8+						
2008	3752	—	—			
2009	5416.1	—	—			
2010	10957	—	—			
2011	17212	—	—			
2012	7322	314	4836	4%	66%	6%
2013	33949	12569	23699	37%	70%	53%
2014	16280	2632	23759	16%	146%	11%
2015	22649	13867	23428	61%	103%	59%
2016	22367	1250	10449	6%	47%	12%
2017	24052	1203	43416	5%	181%	3%