

Analyses of trends in West Coast Rock Lobster poaching and policing effort data

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Introduction

The raw poaching and policing effort data obtained from DAFF CD: Compliance have been analysed simply to check trends in the lobster abandonments and confiscations and five types of policing effort over the most recent 5 years. The purpose of this analysis is to confirm that the assumptions for future poaching in the projection period of the assessment remain reasonable since the TAC recommendation for the 2017/18 season will be based on those projections.

Data

Estimates of poaching are included in the assessment of the West Coast Rock Lobster resource and have in the past been inferred by the use of Generalized Linear Models (Brandão et al, 2016). These estimates make an important contribution to the setting of the TAC. In the absence of an update of the GLM to include the 2016/17 data, as well as an updated assessment being conducted to set the TAC of the 2017/18 season, the nominal data related to poaching confiscations and abandonments and to the associated policing effort applied have been extracted and plotted. The data cover the period 2012-2017, with the 2017 data available for the January-March period only. Consequently results are reported for all months over the period 2012-2016 and this is further split into two periods: April-December 2012-2016 and January-March 2012-2017. In the interest of confidentiality, the policing effort methods have been indicated in a generic manner.

Results and Discussion

The results are reported in Figures 1-4. The left panel reports trends per annum for the period 2012-2016, the middle panel reports for months April-December 2012-2016 and the right panel for the months January-March 2012-2017 (the only months for which 2017 data have been captured thus far). Of interest is Figure 4 which provides an index of poaching. It is evident that for the April-December 2016 period the trend in the level of poaching has remained relatively steady over the period shown. The period January-March 2017, however, indicates a drop in poaching in 2016 even though the amount of effort applied (Figure 3c) remained similar to that of other years. The reason provided for this anomaly (DAFF CD: Compliance) was that during this January-March 2016 period Operation Phakisa was inaugurated with an accompanying major increase in policing effort from other sectors (e.g SAPS) over that period. This saturation coverage led to a major drop in poaching activities because of the greatly increased possibility of being apprehended. Thus though the policing effort exerted by the Compliance sector remained similar to the past over these three months, the confiscations dropped sharply because fewer poachers were active. It should be noted that the 2016 January-March confiscation data were not taken into account in the 2016 assessment so they had no effect on future poaching estimates made at the time.

The overall conclusion from this exercise is that there is no basis to change the assumption made last year of future poaching continuing at a level of some 1500 tons in the projection period, so that the projections reported for the 2016 assessment can still be used by the Scientific Working Group to set the TAC for the 2017/18 season.

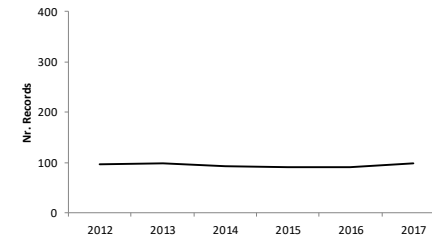
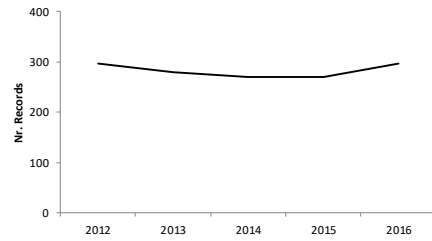
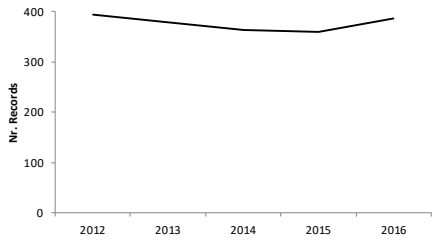
Reference

Brandão A, Johnston S, Butterworth DS. 2016. Trends in policing effort and the number of confiscations for West Coast rock lobster. Unpublished DAFF Working Group document: FISHERIES/2016/JUL/SWG-WCRL 10. 29pp.

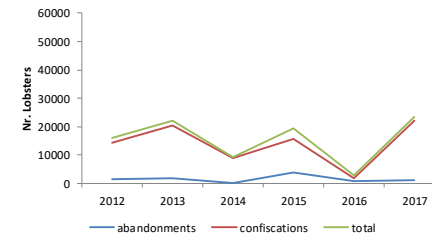
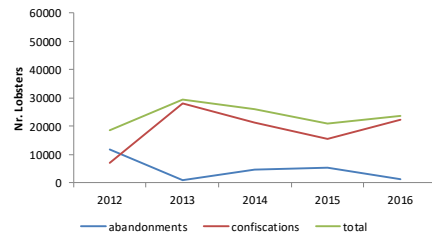
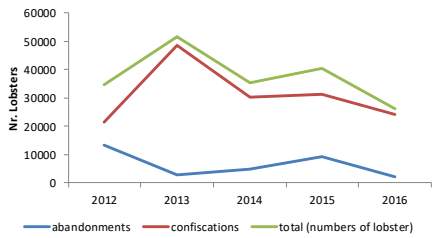
January - December: 2012-2016

April-December: 2012-2016

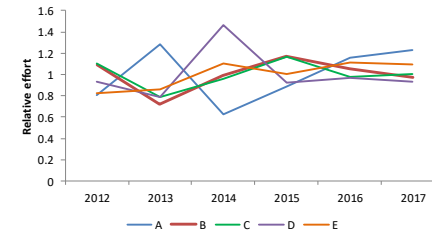
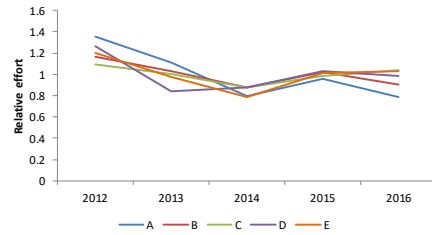
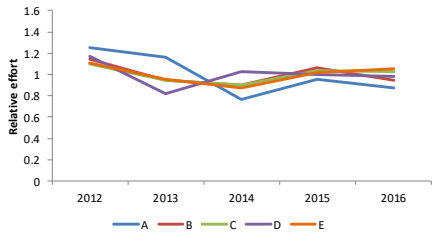
January-March: 2012-2017



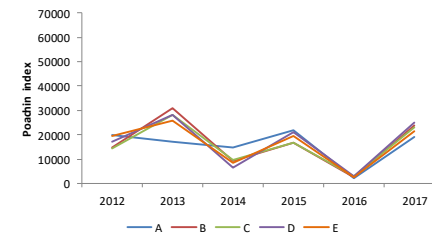
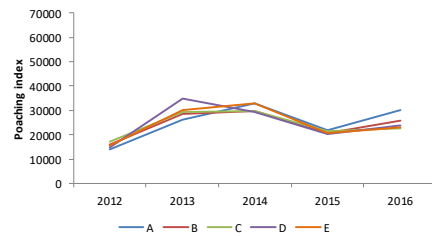
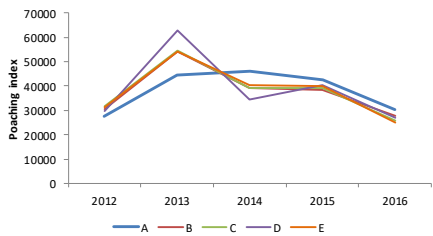
Figures 1a-c: Number of records per year



Figures 2a-c: Trends in confiscations and abandonments



Figures 3a-c: Trends in policing effort (each index normalized to its mean)



Figures 4a-c: Trends in the ratio of confiscations and abandonments to policing effort (an index of poaching)