Desert Diamond CPUE series to be used in updating the horse mackerel assessment in 2016

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Table 1 reports the Standardised CPUE for the period 2003-2014 (the agreed delta log normal series which takes area effects into account) – column **a**. The nominal Desert Diamond CPUE series (column **e**) is also available, where data for the Jan-Mar period is reported/utilized for the 2004-2015 period i.e. some information from the most recent 2015 season is available.

The idea is that the Standardised CPUE series can be extended to 2015 using a scaling parameter obtained from comparing the renormalized nominal series using either all the common data (column **f**), only the years 2007-2014 (column **g**) or only the years 2011-2014 (column **h**), and then using the same scaling factors (between the standardized and nominal series) for extrapolation to produce a 2015 value for the standardized series, i.e. producing columns **b**, **c,** and **d** respectively.

Figures 1a-c plot the Standardised CPUE series with the extrapolated 2015 value for all three methods described above.

Series **h** (i.e. using nominal data from 2011+ for renormalization) is recommended to be used for the Reference Case assessment, as trends in the nominal and Standardised series match well over this period, which is also the closest (and therefore likely most representative) of the three to the year (2015) to which extrapolation is required.. Series **g** (i.e. using 2007+ data for renormalizing) will be used as a sensitivity, but not series **f** as Figure 1a indicates as systematic difference in trend between the two series.

Table 1: The standardised CPUE series with the various nominal CPUE series used for extrapolating the 2015 CPUE value.

	a	**b**	**c**	**d**	**e**	**f**	**g**	**h**
	Standardised CPUE (with area)	Standardised CPUE with 2015 extrapolated using the all the nominal data	Standardised CPUE with 2015 extrapolated using only the 2007-2014 nominal data	Standardised CPUE with 2015 extrapolated using only the 2011-2014 nominal data	Nominal	Nominal renormalised (all years)	Nominal renormalised (07-14)	Nominal renormalised (11-14)
2003	0.721	0.721	0.721	0.721				
2004	0.637	0.637	0.637	0.637	0.863	0.082		
2005	0.896	0.896	0.896	0.896	7.973	0.756		
2006	0.945	0.945	0.945	0.945	4.564	0.433		
2007	1.482	1.482	1.482	1.482	19.219	1.823	1.603	
2008	1.020	1.020	1.020	1.020	8.372	0.794	0.698	
2009	1.072	1.072	1.072	1.072	4.103	0.389	0.342	
2010	1.276	1.276	1.276	1.276	6.059	0.575	0.505	
2011	1.472	1.472	1.472	1.472	23.596	2.238	1.968	1.375
2012	0.633	0.633	0.633	0.633	16.691	1.583	1.392	0.973
2013	1.456	1.456	1.456	1.456	21.236	2.014	1.771	1.238
2014	0.390	0.390	0.390	0.390	6.234	0.591	0.520	0.363
2015		0.295	0.259	0.181	3.106	**0.295**	**0.259**	**0.181**
Ave(04-14)	1.025	1.025			10.810	1.025		
Ave (07-14)	1.100	1.100	1.100		13.189	1.251	1.100	
Ave (11-14)	0.987	0.987	0.987	0.987	16.939	1.607	1.413	0.987

Figure 1a: Standardised CPUE series compared with renormalized nominal series where normalization is over all common years (2004-2014). The Standardised 2015 point (series **f**) is extrapolated using the same scaling factor.

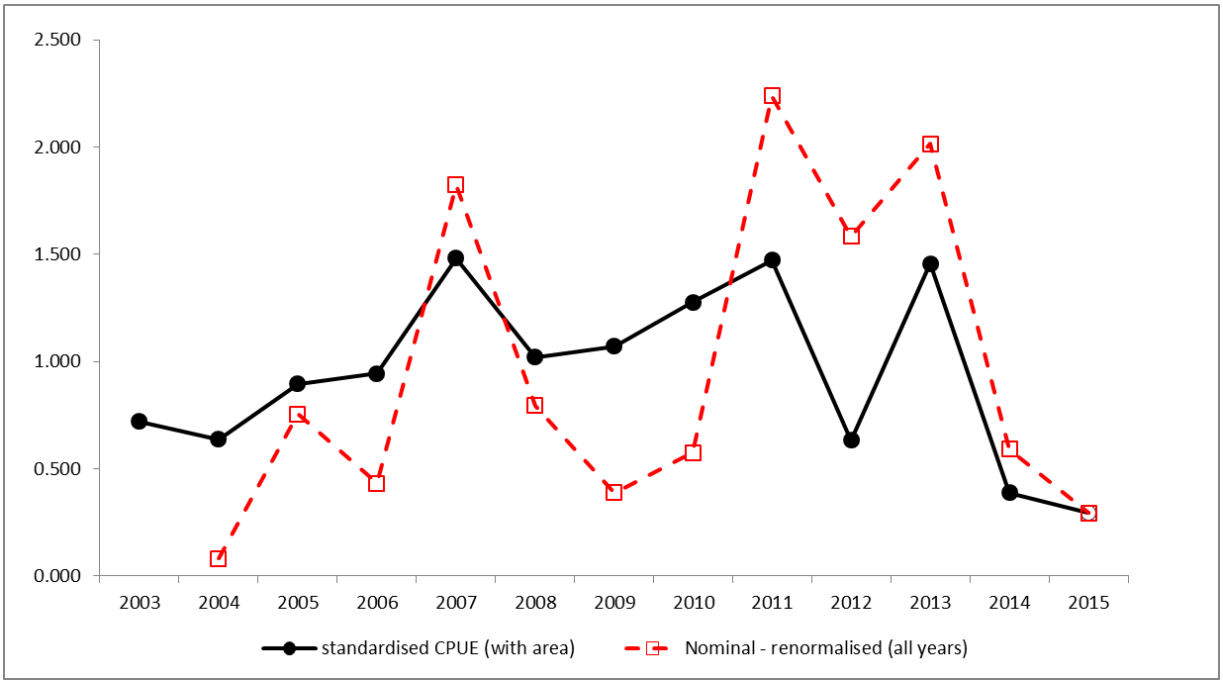

Figure 1b: Standardised CPUE series compared with renormalized nominal series where normalization is over years 2007-2014 only. The Standardised 2015 point (series **g**) is extrapolated using the same scaling factor.

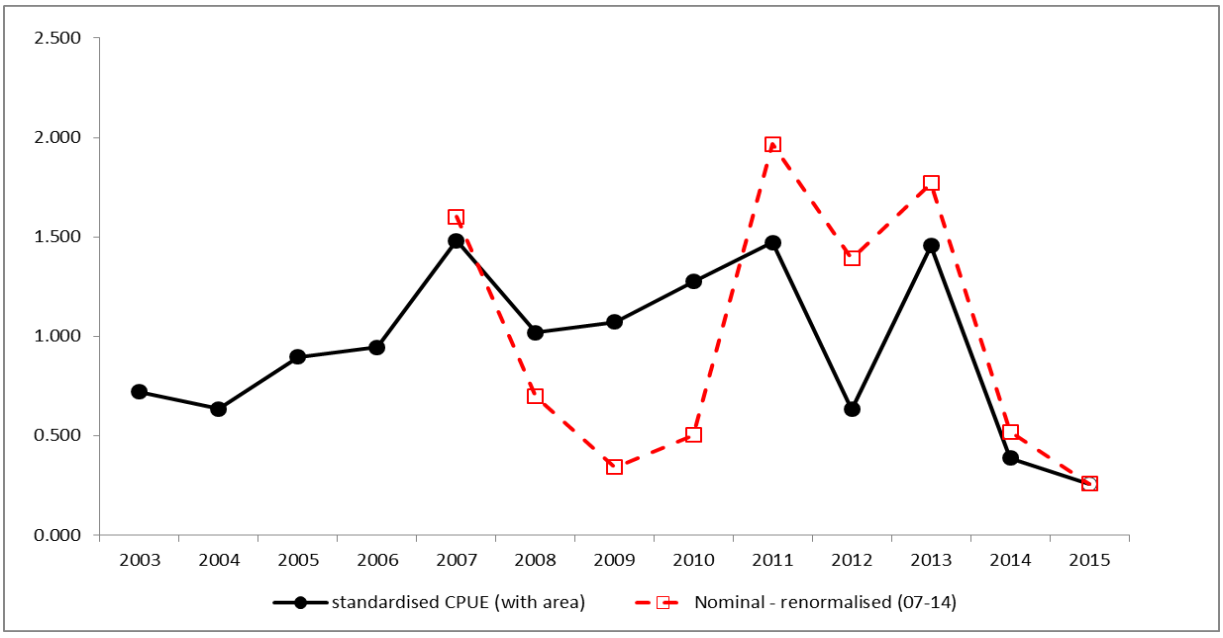

Figure 1c: Standardised CPUE series compared with renormalized nominal series where normalization is over years 2011-2014 only. The Standardised 2015 (series **h**) point is extrapolated using the same scaling factor.