

This report contains information on UK Fleet Capacity in 2016. It has been prepared as required by Article 22 of EC Regulation 1380/2013. The guidelines issued within Commission Communication COM (2014) 545 have been followed. The data presented are based on analysis of data submitted to the Scientific, Technical and Economic Committee for Fisheries (STECF) for the fleet economic report, ensuring a consistent approach. These data are based on UK fleet size as of 1<sup>st</sup> January 2016, with activity data including vessels joining the UK fleet after this date.

Section F includes details of the biological balance indicators produced by the Joint Research Council (JRC) in 2016 and 2017 on behalf of the Commission as approved by the STECF and released via the reports section of the STECF web-site. In addition to the biological indicators produced by the JRC section F also includes economic and technical indicators produced by the Marine Management Organisation using data submitted for the call for fleet economic scientific data concerning 2008-2016 as per Article 20 of Council Regulation (EC) No 199/2008. The indicators have been checked and verified before use to the extent possible given the information supplied. It is requested that the Commission make available the full data processes for all the balance indicators to allow a full validation of processes.

## **Section A. UK Fishing Fleets**

### **A1. Description of fleets**

As of 1<sup>st</sup> January 2016, the UK fleet contained 6,225 vessels (including active and inactive vessels); 51 fewer vessels than at the same time in 2015. In terms of active vessels, the UK fleet contained 4,604 vessels as of 1<sup>st</sup> January 2016, 68 more than at the same time in 2015. Of these active vessels, 74 per cent were 10m and under in length. Active fleet capacity has increased by 3,026 kW from 2015 to 2016. Since 2015, the less than 10m active vessel group increased by 76 vessels and 4,488kW. Other active vessel groups saw smaller changes with 10 -12m and 24 – 40m active vessels increasing by 7 and 3 respectively. Vessel length groups 12-18m, 18-24m and 40+m decreased by 9, 7 and 2 vessels respectively.

With regards to gear types employed throughout 2016, potting vessels comprise 45 per cent of the active fleet by number in 2016, while accounting for 23 per cent of active engine capacity. Similarly netters account for 13 per cent of active vessel numbers, but only 6 per cent of engine capacity. Demersal trawlers and seiners on the other hand account for 17 per cent of active fleet numbers and 31 per cent of total fleet engine capacity.

**Table 1: Vessel numbers (both active and inactive) by gear type and length United Kingdom, 2016**

As of 01/01/2016:												As of 01/01/2017:					
	DFN	DRB	DTS	FPO	HOK	MGP	PGP	PMP	PS	TBB	TM	Total active vessels	Total inactive vessels	Total fleet	Total fleet	Difference from 01/01/2016 to 01/01/2017	
<b>2016 totals</b>		<b>619</b>	<b>308</b>	<b>786</b>	<b>2,072</b>	<b>560</b>	<b>19</b>	<b>87</b>	<b>9</b>	<b>5</b>	<b>105</b>	<b>34</b>	<b>4,604</b>	<b>1,621</b>	<b>6,225</b>	<b>6,233</b>	<b>8</b>
VL0010	589	113	237	1,800	526	13	87	9			20	3	3,397	1,496	4,893	4,913	20
VL1012	10	31	85	177	19						11		333	55	388	384	-4
VL1218	6	110	201	80	1	6			5	24	3		436	34	470	470	0
VL1824	7	24	167	13						17			228	16	244	239	-5
VL2440	7	27	87	2	13					25	1		162	17	179	179	0
VL40XX		3	9		1					8	27		48	3	51	48	-3

<sup>a</sup> An active vessel is defined as a registered vessel that has undertaken fishing activity in the reference year.

Note: DCF gear codes are included in Appendix C for reference.

**Table 2: Vessel engine capacity (kW) by gear type and length United Kingdom, 2016**

As of 01/01/2016:												As of 01/01/2017:				
	DFN	DRB	DTS	FPO	HOK	MGP	PGP	PMP	PS	TBB	TM	Total active vessels	Total inactive vessels	Total fleet	Total fleet	Difference from 01/01/2016 to 01/01/2017
<b>2016 totals</b>	<b>39,699</b>	<b>62,182</b>	<b>214,742</b>	<b>157,184</b>	<b>36,329</b>	<b>1,905</b>	<b>5,076</b>	<b>373</b>	<b>1,176</b>	<b>39,312</b>	<b>132,409</b>	<b>690,387</b>	<b>82,903</b>	<b>773,290</b>	<b>769,404</b>	<b>-3,886</b>
VL0010	30,256	9,391	24,606	110,989	25,458	1,096	5,076	373	1,176	1,778	341	209,363	63,109	272,473	274,773	2,301
VL1012	1,515	4,749	11,376	24,469	3,087					1,378		46,573	8,081	54,654	54,232	-423
VL1218	1,226	21,463	41,401	17,032	130	809			1,176	4,953	630	88,819	5,383	94,202	94,853	651
VL1824	2,521	7,926	64,883	3,656						3,975		82,961	4,291	87,252	86,228	-1,024
VL2440	4,181	16,080	52,284	1,038	6,934					15,511	3,000	99,028	8,716	107,745	107,780	36
VL40XX		2,574	20,193	720						11,717	128,438	163,642	6,678	156,964	151,538	-5,426

Note: DCF gear codes are included in Appendix C for reference.

**Table 3: Vessel tonnage capacity (GT) by gear type and length United Kingdom, 2016**

As of 01/01/2016:												As of 01/01/2017:				
	DFN	DRB	DTS	FPO	HOK	MGP	PGP	PMP	PS	TBB	TM	Total active vessels	Total inactive vessels	Total fleet	Total fleet	Difference from 01/01/2016 to 01/01/2017
<b>2016 totals</b>	<b>5,665</b>	<b>14,892</b>	<b>72,629</b>	<b>14,348</b>	<b>5,186</b>	<b>250</b>	<b>272</b>	<b>22</b>	<b>181</b>	<b>11,366</b>	<b>57,206</b>	<b>182,017</b>	<b>5,713</b>	<b>187,730</b>	<b>185,993</b>	<b>-1,737</b>
VL0010	1,773	775	2,293	6,473	1,137	96	272	22		144	37	13,021	3,529	16,550	16,554	4
VL1012	180	615	1,504	2,852	219					182		5,552	656	6,208	6,193	-15
VL1218	424	4,180	9,917	3,045	21	154			181	692	107	18,721	813	19,534	19,585	51
VL1824	1,029	2,842	23,050	1,441						2,197		30,559	1,442	32,001	31,663	-338
VL2440	2,260	5,434	23,986	537	3,341					4,294	850	40,702	2,572	43,274	43,794	520
VL40XX		1,047	11,878	468						3,857	56,212	73,462	-3,299	70,163	68,204	-1,959

Note: DCF gear codes are included in Appendix C for reference.

## A2. Fishing fleets in relation to fisheries

Vessels using demersal and pelagic trawls account for the greatest proportion of UK demersal landings (by weight and value) with the bulk of landings by vessels of 18m or over. Demersal trawlers also account for a significant proportion of crustacean landings (41 per cent by weight), slightly less than potting vessels (56 per cent by weight). Unlike demersal, the majority of crustacean landings are by the under 24m fleet, with under 10m vessels accounting for 26 per cent of the catch by weight, and 10 to 24m vessels accounting for a further 70 per cent by weight.

Dredges account for the majority of molluscs caught (54 per cent by weight), with 63 per cent of landings (by weight) by vessels between 12 and 40m in length. Under 10m vessels account for a further 21 per cent of mollusc landings by weight.

In terms of pelagic landings, pelagic trawlers account for 98 per cent of pelagic landings by value and 96 per cent by weight. Vessels of over 40m account for 96 per cent of pelagic landings by value and 94 per cent by weight.

Between 2015 and 2016 the average value of pelagic (including mackerel and herring) and shellfish species per tonne has increased, this is reflected in the increase in total value (table 4) and decrease in total weight (table 5) when compared to 2015 (1,008,329,749 total value (euro) and 705,714,384 total weight (kg) respectively). A weakening of sterling against the Euro (11%) has partially offset this increase in average value in the tables below.

**Table 4:** Proportion of fishery landings by value (Euros) accounted for by different gear types  
United Kingdom, 2016

<b>Gear:</b>	Crustacean	Demersal	Mollusc	Pelagic	Total value (€)
DFN	1%	7%	1%	0%	33,012,131
DRB	0%	0%	53%	0%	91,924,555
DTS	45%	68%	19%	1%	422,248,945
FPO	52%	2%	17%	0%	163,572,119
HOK	0%	8%	3%	1%	40,380,215
MGP	0%	0%	0%	0%	1,579,617
PGP	0%	0%	0%	0%	1,742,500
PS	0%	0%	0%	0%	30,262
PMP	0%	0%	0%	0%	1,027,040
TBB	1%	15%	7%	0%	74,400,484
TM	0%	0%	0%	98%	292,386,715
<b>Total value (€)</b>	<b>246,542,106</b>	<b>409,476,851</b>	<b>168,183,102</b>	<b>298,102,523</b>	<b>1,122,304,583</b>

Note: Data are based on annual landings for all vessels included in the fleet as of 1<sup>st</sup> January 2016, and includes vessels joining after this date.

**Table 5:** Proportion of fishery landings by weight (kg) accounted for by different gear types  
United Kingdom, 2016

<b>Gear:</b>	Crustacean	Demersal	Mollusc	Pelagic	Total weight (kg)
DFN	1%	5%	1%	1%	12,019,798
DRB	1%	0%	54%	0%	43,621,627
DTS	41%	78%	9%	1%	180,561,205
FPO	56%	0%	29%	0%	63,681,290
HOK	0%	5%	2%	0%	12,273,275
MGP	0%	0%	1%	0%	1,837,837
PGP	0%	0%	0%	0%	576,437
PMP	0%	0%	0%	0%	10,877
PS	0%	0%	0%	1%	4,533,067
TBB	1%	10%	5%	0%	22,959,712
TM	0%	0%	0%	96%	356,486,865
<b>Total weight (kg)</b>	<b>71,417,361</b>	<b>178,744,292</b>	<b>78,714,225</b>	<b>369,686,112</b>	<b>698,561,991</b>

Note: Data are based on annual landings for all vessels included in the fleet as of 1<sup>st</sup> January 2016, and includes vessels joining after this date.

**Table 6:** Proportion of fishery landings by value (Euros) accounted for by different vessel length groups  
United Kingdom, 2016

	Crustacean	Demersal	Mollusc	Pelagic	Total value (€)
<b>Length:</b>					
VL0010	31%	6%	17%	1%	131,817,178
VL1012	11%	1%	9%	0%	49,207,314
VL1218	28%	4%	28%	1%	137,021,398
VL1824	26%	19%	18%	0%	173,345,704
VL2440	4%	56%	20%	2%	274,770,355
VL40XX	0%	14%	8%	96%	356,142,633
<b>Total value (€)</b>	<b>246,542,106</b>	<b>409,476,851</b>	<b>168,183,102</b>	<b>298,102,523</b>	<b>1,122,304,583</b>

Note: Data are based on annual landings for all vessels included in the fleet as of 1<sup>st</sup> January 2016, and includes vessels joining after this date.

**Table 7:** Proportion of fishery landings by weight (kg) accounted for by different vessel length groups  
United Kingdom, 2016

	Crustacean	Demersal	Mollusc	Pelagic	Total weight (kg)
<b>Length:</b>					
VL0010	26%	3%	21%	1%	43,541,168
VL1012	11%	1%	10%	0%	19,551,899
VL1218	34%	4%	29%	3%	63,704,462
VL1824	26%	19%	17%	0%	65,720,223
VL2440	4%	53%	17%	2%	117,552,078
VL40XX	0%	20%	6%	94%	388,492,160
<b>Total weight (kg)</b>	<b>71,417,361</b>	<b>178,744,292</b>	<b>78,714,225</b>	<b>369,686,112</b>	<b>698,561,991</b>

Note: Data are based on annual landings for all vessels included in the fleet as of 1<sup>st</sup> January 2016, and includes vessels joining after this date.

### **A3. Development(s) during the previous year, including fisheries covered by multiannual management or recovery plans**

The number of dredgers in the UK fishing fleet increased from 2015 to 2016 by 1 vessel (see table 8), however over 15 metre vessels are currently managed under a strict days at sea regime which will act to restrict the overall activity of these vessels in area VII (see Appendix A). Latent capacity in the fleet caused by inactive vessels with shellfish permits, combined with high effort uptake by the scalloping sector, has led to more active and tightly regulated management of scalloping vessels operating in Western Waters since 2012. In comparison, the number of potting vessels has increased by 72 from 2015 to 2016 in a reversal to an overall trend of decline since 2008. Nevertheless, in 2013, UK fisheries administrations introduced active management of crabbing effort in ICES area VII under the Western Waters regime. During 2015 the UK also introduced the monitoring and management of fishing activity related to Sea Bass as required by Council Regulation 2015/960.

The number and capacity of demersal trawlers and seiners has been declining since 2008 and this pattern continued between 2015 and 2016. This has resulted in a reduced fishing fleet observed in UK demersal fisheries, particularly in the Cod Recovery Zone (see table 9). UK administrations have continued to incentivise the use of selective gears amongst vessels operating in the Cod Recovery Zone. The number and capacity of pelagic trawlers has declined since 2012, with 7 less vessels operating in 2016 compared with 2012.

**Table 8:** Developments in fleet capacity and composition  
United Kingdom, 2012 - 2016

	DRB		DTS		FPO		TM	
	No. of vessels	Capacity kW	No. of vessels	Capacity kW	No. of vessels	Capacity kW	No. of vessels	Capacity kW
<b>2012 totals</b>	<b>267</b>	<b>56,015</b>	<b>889</b>	<b>236,015</b>	<b>2,053</b>	<b>145,660</b>	<b>41</b>	<b>148,226</b>
VL0010	106	9,106	280	28,896	1,797	105,595	3	299
VL1040	158	44,533	597	184,781	256	40,065	6	1,960
VL40XX	3	2,376	12	22,338			32	145,968
<b>2013 totals</b>	<b>294</b>	<b>62,816</b>	<b>854</b>	<b>224,615</b>	<b>2,026</b>	<b>149,016</b>	<b>37</b>	<b>141,673</b>
VL0010	104	9,395	267	27,309	1,760	106,390	3	299
VL1040	187	50,846	578	178,713	266	42,626	4	937
VL40XX	3	2,574	9	18,593			30	140,438
<b>2014 totals</b>	<b>305</b>	<b>64,265</b>	<b>830</b>	<b>218,127</b>	<b>2,019</b>	<b>148,820</b>	<b>37</b>	<b>138,909</b>
VL0010	109	10,035	257	26,081	1,753	105,595	3	560
VL1040	193	51,657	564	173,452	266	43,224	4	3,630
VL40XX	3	2,574	9	18,593			30	134,719
<b>2015 totals</b>	<b>307</b>	<b>63,591</b>	<b>821</b>	<b>220,781</b>	<b>2,000</b>	<b>149,275</b>	<b>33</b>	<b>131,912</b>
VL0010	105	9,530	257	26,062	1,739	105,794	2	224
VL1040	200	52,231	554	172,126	261	43,481	4	3,630
VL40XX	2	1,830	10	22,593			27	128,058
<b>2016 totals</b>	<b>308</b>	<b>62,182</b>	<b>786</b>	<b>214,742</b>	<b>2,072</b>	<b>157,184</b>	<b>34</b>	<b>132,409</b>
VL0010	113	9,391	237	24,606	1,800	110,989	3	341
VL1040	192	50,218	540	169,943	272	46,195	4	3,630
VL40XX	3	2,574	9	20,193			27	128,438

Note: Data are based on annual landings for all vessels included in the fleet as of 1<sup>st</sup> January 2016, and includes vessels joining after this date.

## Section B. Effort reduction Schemes

### **B1. Statement on effort reduction schemes**

The UK Devolved Authorities (DAs) administer four distinct effort management schemes. Effort reduction schemes include the Cod Recovery Zone (CRZ) (covering the North Sea, West of Scotland and Irish Sea), and the Sole Recovery Zone (SRZ) (ICES sub-area VIIe). Furthermore, two schemes exist to manage the uptake of effort, rather than actively reduce it. These cover Western Waters scalloping effort and Western Waters crabbing effort (both covering effort in ICES sub-area VII) (see appendix A for more information on the Western Waters scheme). Under each scheme, key fleet segments are targeted and control measures taken to limit or reduce the number of vessels active and/or the effort they exert on the fishery.

#### Cod Days at Sea Scheme:

This scheme applies control totals in order to restrict the number of vessels active and their effort in eight fleet segments, of these the key ones use TR1 and TR2 gears. Furthermore, the UK has been buying back effort to baseline levels (as permitted under the EU Regulations) for use by vessels that engage in conservation measures. This double pronged approach has reduced overall effort exerted in CRZ areas while simultaneously encouraging uptake of conservation measures. These include the use of highly selective gears in fisheries where discards of cod have been habitually high (e.g. TR2 nephrop fisheries) or participation in Catch Quota schemes (which have been shown to virtually eliminate discards and reduce the capture of non-marketable species to around 1 per cent of the total catch).

Compared to 2002, the year prior to implementation of the CRZ scheme, the number of vessels using gear type TR1 has decreased by 64 per cent and effort (kW days) by 59 per cent (see figure 1), although this trend has flat lined in more recent years. UK fisheries administrations ran a targeted decommissioning scheme during 2003-2014 which resulted in a total of 105 UK vessels (16,454 GT / 44,371 KW of capacity) being removed from the UK fleet. Similarly, the number of vessels using gear type TR2 has decreased by 58 per cent and effort (kW days) decreased by 52 per cent (see figure 2).

The cod days at sea scheme implemented under the fishing effort regime set out in Regulation (EC) No 1342/2008 resulted in a number of achievements concerning selectivity and other measures to avoid catching cod, but it has become an obstacle to the implementation of the landing obligation, as it hampers further adaptation of fishing patterns, such as the choice of area and gear. The fishing effort regime is therefore to be discontinued in 2017 to remove any interference the scheme may have had on the application of the multi annual plan and the landing obligation for demersal species.

New multiannual plans for multi-species fisheries in various Atlantic regions, based on Regulation (EU) No 1380/2013, are currently being prepared. Regulation (EC) No 1342/2008 will eventually be superseded, for each relevant area, by those new multiannual plans for multi-species fisheries. Regulation (EC) No 1342/2008 will therefore continue to apply for only a short period of time.

Figure 1: Fleet size and effort of vessels using gear type TR1 in the Cod Recovery Zone: 2002 to 2015

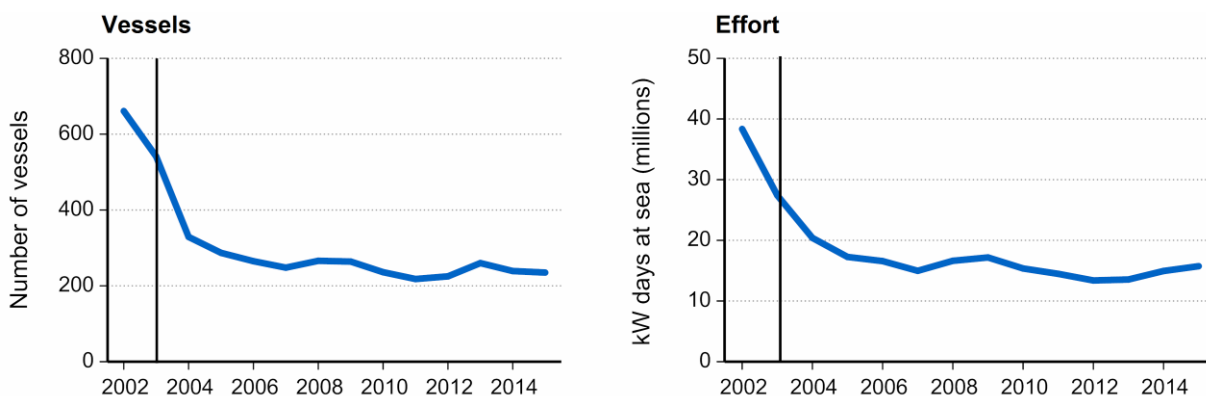
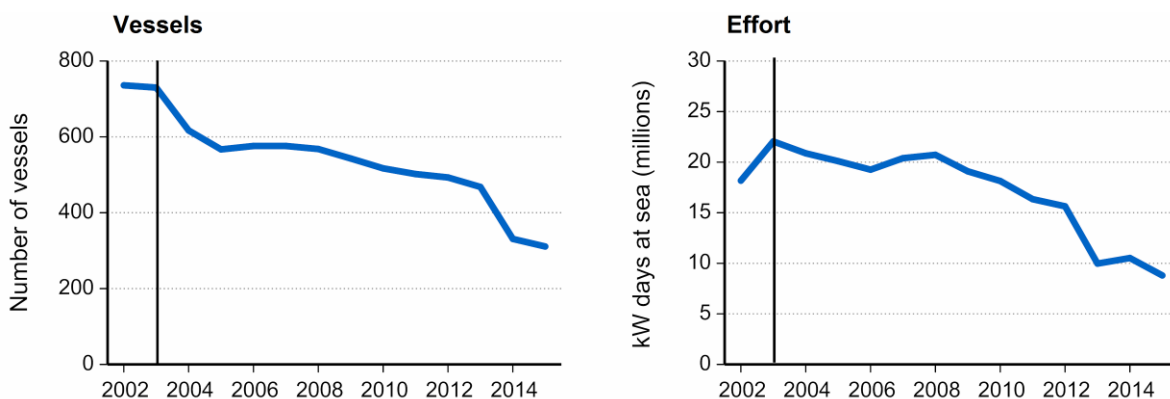


Figure 2: Fleet size and effort of vessels using gear type TR2 in the Cod Recovery Zone: 2002 to 2015



Note: The data presented here have been compiled for Sea Fisheries Statistics 2015 published in September 2016. The 2016 publication is due in September 2017.

Looking at more recent data (see table 9) we can see that the number of vessels using all regulated gear types active across the whole of the CRZ, as well as the effort exerted, has declined as a whole between 2012 and 2016.

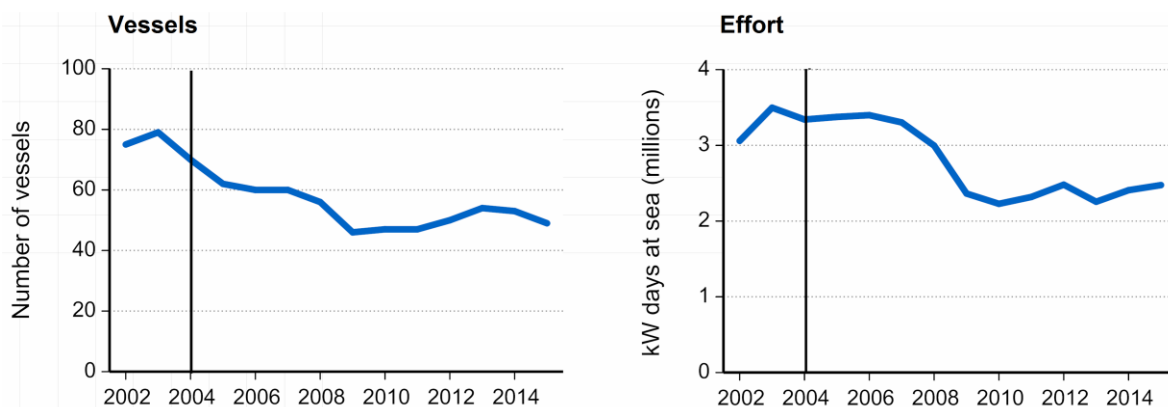
**Table 9:** Changes in fleet capacity and effort in the Cod Recovery Zone United Kingdom, 2012 – 2016

	2012	2013	2014	2015	2016
<b>All CRZ areas:</b>					
No. of active vessels	576	547	516	486	494
Days effort	71,658	68,052	67,663	64,832	68,143
kW days effort	30,851,011	29,847,849	29,922,277	29,250,859	30,181,461
<b>North sea:</b>					
Days effort	42,784	41,164	42,134	39,680	41,501
kW days effort	22,103,907	21,898,787	21,959,068	21,076,863	21,728,759
<b>West of Scotland:</b>					
Days effort	16,711	14,757	14,494	14,398	16,476
kW days effort	5,754,088	4,894,229	5,079,927	5,284,978	5,803,897
<b>Irish Sea:</b>					
Days effort	12,163	12,131	11,035	10,754	10,165
kW days effort	2,993,016	3,054,834	2,883,282	2,889,018	2,648,805

### Sole Days at Sea Scheme:

The sole regime limits the number of days spent at sea by vessels fishing with beam trawls of mesh size greater than or equal to 80mm and by vessels using static nets (including gill nets, trammel nets and tangle nets) with mesh size less than 220mm. Similar to the cod regime, the introduction of the sole management scheme in 2004 has reduced the number of vessels active and the effort exerted in SRZ areas. Since the year prior to implementation of the SRZ (2003), the number of vessels beam trawling in the Western Channel has decreased by 38 per cent and effort (kW days) has decreased by 29 per cent (see figure 3).

**Figure 3:** Fleet size and effort of vessels using beam trawls in the Sole Recovery Zone: 2002 to 2015



Note: The data presented here have been compiled for Sea Fisheries Statistics 2015 published in September 2016. The 2016 publication is due in September 2017.

Looking at more recent data (see table 10) we can see that the number of vessels active and the effort (kW days) in the SRZ has remained relatively stable between 2013 and 2016.

**Table 10:** Changes in fleet capacity and effort in the Sole Recovery Zone United Kingdom, 2012 – 2016

	2012	2013	2014	2015	2016
No. of active vessels	50	54	53	49	50
Days effort	6,652	6,121	6,116	6,246	6,786
kW days effort	2,480,724	2,255,310	2,407,901	2,485,062	2,859,242

## **B2. Impact of effort reduction schemes on fleet capacity**

Fleet capacity and effort have notably declined since the implementation of the CRZ and SRZ schemes (across all areas and all gear types)<sup>1</sup>. The declines in CRZ and SRZ fleet capacity observed since the introduction of the schemes may be the result of an actual decline in capacity, or may be the result of a shift in activity, but at the same time, an overall decline in fleet capacity has been observed.

It is important to note that the UK fleet is involved in a wide variety of fishing activities, many outside of the CRZ and SRZ schemes. Furthermore, effort reduction schemes have been run in parallel with other fleet management schemes, notably quota and licensing controls, as well as national decommissioning schemes, therefore reduction in fleet capacity and effort cannot be attributed to a single causal factor.

The UK has operated several decommissioning schemes from the mid-1990s through to the last such scheme operated in 2010/11. Such schemes are difficult to structure so that they are targeted sufficiently to deliver value for money. Consequently, the emphasis in the UK in recent years has been on the use of alternative management measures such as quota limits to manage fleet activity.

### **Section C. Entry/Exit Schemes**

#### **C1. Statement of compliance with entry/exit schemes with level of reference**

An Entry/Exit regime has been in place since 1993 as part of the UK licensing system, so that any new vessel can only be brought into the fleet if a corresponding exit of vessel capacity has already occurred. Furthermore, reductions in reference levels downwards has since occurred to take account of fleet exits funded with public aid through official decommissioning schemes. Exits under such schemes occurred in 2003 and 2004 (schemes related to the need to reduce fishing effort under the Cod Recovery regime), in 2007 (a limited scheme focussed on reducing effort related to Western Channel Sole), and in 2008/9 (a scheme focussed on the English inshore fleet). It is important to note that the UK has been fully compliant with fleet ceilings across the whole period.

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<sup>1</sup> Please see our annual Sea Fisheries Statistics publication for further details <https://www.gov.uk/government/collections/uk-sea-fisheries-annual-statistics>



**Table 11:** The impact of entry/exit schemes on fleet capacity  
United Kingdom, 2003 - 2016

		GT		KW	
1	Capacity of the fleet on 01/01/2003	GTFR	241001	KWFR	942376
2	Capacity level for the application of the entry-exit regime (incorporates GT3 adjustments above)	GT03	254291	KW03	981757
3	Entries of vessels of more than 100GT financed with public aid	GT100	0	KW100	0
4	Other entries or capacity increases (not included in 3 or 4)		120317		448436
5	Increases in tonnage GT for safety reasons	GTS	0		0
6	<b>Total Entries (3+4+5)</b>		<b>120317</b>		<b>448436</b>
7	Exits before 1/1/2007 financed with public aid	GTa1	16454	KW a	44371
8	Exits after 1/1/2007 financed with public aid	GTa2	5989		23966
9	Other exits (not included in 7 and 8)		143843		559127
10	<b>Total exits (7+8+9)</b>		<b>166286</b>		<b>627464</b>
11	Other net changes to vessel capacity (i.e. modifications to data)		1135		6055
12	Power of engines replaced with public aid conditional to power reduction		0	KW r	0
13	<b>Capacity of the fleet on 01/01/2017 (1+6-10+11)</b>	<b>GTt</b>	<b>196167</b>	<b>KWt</b>	<b>769404</b>
14	<b>Fleet Ceiling on 01/01/2017</b>		<b>233539</b>		<b>913420</b>

Note: Data are extracted from the European Community Fleet Register and Appendix B contains a more detailed look at UK compliance with fleet ceilings from January 2003 to January 2017.

## Section D. General Fleet Management

### **D1. Summary of weaknesses and strengths of the management system**

Effort management systems administered by the UK administrations are multi-faceted in their approach to controlling effort while simultaneously promoting conservation and sustainable behaviours. Through the use of buybacks, the CRZ system promotes adherence to real-time closures, whereby specific areas are closed at specified times of year in line with biological recommendations. Similarly, the allocation of additional effort through buybacks encourages vessels to commit to catching less than 5 per cent cod per trip (through sustainable fishing strategies or gears) and use or test highly selective gears.

The process by which vessels receive additional effort for catching less than 5 per cent cod has become more rigorous in recent years. Furthermore, the 2015/16 cod rules stipulate that all TR2 vessels fishing in the Irish Sea must use one of a number of highly selective gears. Similarly, vessels using TR2 gears in the North Sea are encouraged to adopt the highly selective net grid (or a net grid variant), which helps minimise cod by-catch. Other gear options available to the TR1 fleet in exchange for extra days at sea include the Eliminator Trawl and the 130 mm cod end. It is anticipated that further selective gears will be added to this list once UK trials have been completed.

Both SRZ and CRZ management schemes offer incentives to vessels committed to Fully Documented Fisheries (FDF), in the form of Catch Quota schemes. Vessels signed up to FDF schemes, and therefore carrying cameras on board, benefit from the receipt of extra effort allocation when fishing in these areas.

The primary challenge to these schemes is their enforcement. Once extra days have been granted for use of selective gears or for sustainable fishing strategies, UK fishing administrations are unlikely to be able to inspect every vessel. However UK administrations do closely monitor landings of these vessels, for instance 5 per cent cod vessels where checks are carried out to ensure that vessels remain compliant with the landings threshold.

While the incentive of additional buyback effort has demonstrated that more selective fishing methods can be brought about if vessels are able to fish for longer, the UK considers that it also shows that by restricting the number of days vessels can operate at sea, the current Cod Recovery Plan has not delivered its objective of the recovery of cod stocks. Effort restrictions are not supported by science and are counter-productive to fisheries conservation.

The UK considers the move away from traditional effort (days at sea) for Cod and the implementation of regional multi-annual management plans and the landing obligation for demersal species in 2017 as a positive move for fisheries management.

## **D2. Plan for improvement in fleet management system**

On 2<sup>nd</sup> May 2012, following discussions between all four Fisheries Ministers within the UK, a revised concordat was agreed to realign the relationship and division of responsibilities between the administrations. The introduction of the concordat has increased the devolution of fisheries and fleet management to the respective fisheries administrations. Under the concordat, Defra, the Northern Ireland Executive, the Scottish Government and the Welsh Government are allocated annually agreed shares of UK quotas for distribution to their fleets. The concordat also rationalises arrangements for the licensing and administration of fishing vessels, and formalises existing arrangements for the management of the UK's fishing effort (days at sea) under the EU Cod Recovery Plan. This devolution of powers results in the increased ability for fishing administrations to manage the vessels within and capacity of their respective fleets, by allowing each administration to take forward changes that suit the particular situations prevalent within their fishing fleets and to provide new opportunities to better support fishing communities on a sustainable basis.

The UK government ran a consultation on proposed changes to the Concordat from 7 December 2016 to 28 February 2017. The UK government is currently reflecting on the responses and will set out next steps in due course.

This is being supported by the ongoing sample testing of vessel engines across the UK fleet to confirm that the engine power of the vessel is as reported.

More recent work to improve fleet management and the capacity of the UK fleet includes several licence capping schemes by Scottish and English Fisheries Administrations. In England, this has occurred in 2 tranches, the first in 2008-09 in line with the decommissioning of vessels within the English inshore fleet and the second in 2016 where a review of the uncapped licences was undertaken. The scheme entails capping the licences of under 10m vessels that have not caught more than 300kg of quota between pre-defined dates, and removing shellfish entitlements where vessels have caught less than 1kg of shellfish during a pre-defined period.

In total there are 2,833 active English under 10m licences, 987 licences of these licences are capped at 350kgs following the 2009 and 2016 capping exercises with 106 of these licences have their shellfish permit temporarily suspended. This is intended to address some of the latent capacity existent in the under 10m fleet. In 2015 the Scottish Government, in light of scientific evidence, suspended indefinitely latent king scallop dredge entitlements, where they had not been utilised in the preceding six years. This cap was introduced to prevent over-exploitation of the stocks and applies to the use of mechanical dredges.

### **D3. Information on the general level of compliance with fleet policy instruments**

The UK has operated a licensing system since the mid-1990s under the principle that the total UK fleet capacity available has been ring-fenced to the levels seen at the creation of the UK licensing regime (i.e. no new capacity has been created since then). As such, the UK has been operating a fleet Entry:Exit regime in line with EU guidelines before they came into force in 1/1/2003. This has helped ensure that the UK has been able to operate within the EU level fleet Entry:Exit provisions as introduced from 1/1/2003 with only minimal transitional effects, and has operated within the fleet reference levels and capacity ceilings set for UK across the whole period of 1/1/2003 to 31/12/2016.

Fleet entries can only take place when an associated fleet exit of capacity equal to or greater than the new vessel has already taken place or will take place as part of any licence transaction associated with the fleet entry. The licensing system includes what are known as “entitlements” to licences to cover cases where there is an interval between the exit of one vessel and the entry of a replacement to the UK fleet. They can thus be used in the same way as an actual licence in transfers and aggregations. These represent the practical situation that there is a certain level of capacity always present within this holding state; this virtual capacity means that the physical capacity of the UK fleet will be consistently below the level of the fleet capacity ceilings.

Unused capacity, including safety capacity and the capacity premium for decommissioning (where only 96 per cent of the tonnage of vessels decommissioned is removed from the UK fleet ceilings), is not reallocated.

## **Section E. General Administrative Procedures**

### **E1. Information on changes of the administrative procedures relevant to fleet management**

Fleet management measures in the UK are carried out primarily through the licensing regime administered by Fisheries Administrations in the UK. This seeks to control both the capacity of the UK fishing fleet and, critically, access to the various fishing opportunities available to UK vessels. The quota and effort uptake by industry groups is monitored on a regular basis through the use of internal management reports in the UK. These are similar in nature to the monthly quota uptake reports operated by the Commission, but are carried out on a weekly basis (or daily if needed). Since the introduction of electronic logbooks, monitoring reports and management decisions have been based on real-time fleet data.

Under the concordat, many administrative procedures have become devolved and subsequently more localised, nevertheless fisheries administrations continue to work very closely to unify procedures and ensure clarity for industry. As part of this, devolved authorities’ frequently conduct detailed reviews of operations and compliance systems.

## **Section F. Balance Indicators**

This section contains a summary of the background for each indicator, the key threshold levels relevant for the use of the indicator and details of those fleet segments where the thresholds appear to have been exceeded. Appendices E and G include where appropriate the fuller details of fleet segments where the indicator results are available. Where fleet segments are not included it is because the appropriate information has not been available to produce indicator values for that fleet segment.

It should be noted for the balance indicators included below that the biological balance indicators have been produced by the JRC on behalf of the Commission as approved by the STECF and released via the reports section of the STECF web-site. Biological indicators have been checked and verified before use to the extent possible given the information supplied. This includes checks as possible on detailed information on the compilation processes for the SHI and SAR indicators provided by staff at the JRC and accessed via:

[http://halieut.agrocampus-ouest.fr/sirs\\_cstep/](http://halieut.agrocampus-ouest.fr/sirs_cstep/)

This information was needed to allow identification of the specific fisheries that were involved for the fleet segments highlighted as operating outside the balance thresholds, which is needed to allow Member States to identify potential fishery-specific actions that might be possible to deal with any potential imbalance. The UK found the resources available within the Atlas very useful and would be grateful for the JRC to consider delivering a tutorial on the full contents and functionality of the Atlas.

Clarification was sought from the commission on the period indicators should be produced for. The commission is requests indicators to be calculated using the most recent data available with a reference year for this report of 2015. In accordance with these instructions the UK has produced Economic and technical indicators using data submitted for the Call for fleet economic scientific data concerning 2008-2016 as per Article 20 of Council Regulation (EC) No 199/2008. These indicators are calculated for the most recent 3 years up to the reference year of 2015.

Within the guidelines for the production of the report related to assessing the balance between fleet capacity and fishing opportunity, it states that the indicators are intended to be used in combination to draw conclusions for each fleet segment, as aggregating analyses across many different fisheries in a Member State is not useful. This leads to a degree of contradiction especially for the UK, in that within each fleet segment, while vessels will be of a similar size and carrying out fishing activity with similar gears, these activities will generally be being carried out in a variety of different seas all around the UK. This means that each fleet segment can represent a complex mix of very different types of activity in terms of the fish species being targeted, as well as the ecosystems within which this is occurring.

This can lead to two contradictory situations. Firstly a fleet segment may appear by the indicators to be below thresholds, but within that segment there may be sub-sections of the segment that have exceeded individual or a combination of thresholds and where a Member State may thus want to take specific management action. Secondly there can be fleet segments where they appear to be exceeding thresholds, but that position may be driven by just one sub-section of the fleet. This is especially true for the biological indicators where a fleet segment can be regarded as exceeding the threshold if it lands a significant proportion of what can be small amounts of quota. This issue was also highlighted in STECF's report on

balance indicators 15-02 ([http://stecf.jrc.ec.europa.eu/c/document\\_library/get\\_file?uuid=69257a77-ddaf-4038-8375-ed2e5962e834&groupId=43805](http://stecf.jrc.ec.europa.eu/c/document_library/get_file?uuid=69257a77-ddaf-4038-8375-ed2e5962e834&groupId=43805)).

Consequently, as stated within the guidelines issued to Member States, it should be born in mind that where key thresholds for the indicators appear to have been exceeded, it is indicative of a **potential** imbalance between fishing capacity and fishing opportunity within the fleet segments concerned rather than a definitive conclusion.

Notwithstanding these methodological uncertainties, the UK can report that having assessed each fleet segment against the combination of indicators, as set out below, we consider that none of them can be conclusively defined as out of balance using the full range of indicators available (more detail is given in subsequent sections of the report):

Table 12: Potential Fleet Segment Imbalance

Fleet Segment as defined by JRC Indicators	AREA	Gear	Vessel Length	SAR	SHI	ROI	CRBER	VUI
GBR A27 DFN0010	AREA27	DFN	VL0010	Exceeded	Exceeded	no	Exceeded	Exceeded
GBR A27 DFN1012	AREA27	DFN	VL1012	Exceeded	no	no	no	Exceeded
GBR A27 DFN1218	AREA27	DFN	VL1218	Exceeded	no	no	no	no
GBR A27 DFN2440 °	AREA27	DFN	VL1824	Exceeded	no	no	no	no
	AREA27	DFN	VL2440	Exceeded	no			
GBR A27 DRB0010	AREA27	DRB	VL0010	Exceeded	no	no	no	Exceeded
GBR A27 DRB1012	AREA27	DRB	VL1012	Exceeded	no	no	no	Exceeded
GBR A27 DRB1218	AREA27	DRB	VL1218	Exceeded	no	no	no	Exceeded
GBR A27 DRB1824	AREA27	DRB	VL1824	no	no	no	no	no
GBR A27 DRB2440 °	AREA27	DRB	VL2440	Exceeded	no	no	no	no
	AREA27	DRB	VL40XX	Exceeded	no			
GBR A27 DTS0010	AREA27	DTS	VL0010	Exceeded	Exceeded	no	no	Exceeded
GBR A27 DTS1012	AREA27	DTS	VL1012	Exceeded	Exceeded	no	no	Exceeded
GBR A27 DTS1218 °	AREA27	DTS	VL1218	Exceeded	Exceeded	no	no	no
	AREA27	PMP	VL1218	no	no			
GBR A27 DTS1824	AREA27	DTS	VL1824	Exceeded	no	no	no	no
GBR A27 DTS2440	AREA27	DTS	VL2440	Exceeded	no	no	no	no
GBR A27 FPO0010	AREA27	FPO	VL0010	Exceeded	no	Exceeded	no	Exceeded
GBR A27 FPO1012 °	AREA27	FPO	VL1012	no	no	no	no	no
	AREA27	PMP	VL1012	no	no			
GBR A27 FPO1218	AREA27	FPO	VL1218	no	no	no	no	no
GBR A27 FPO1824 °	AREA27	FPO	VL1824	no	no	no	no	no
	AREA27	FPO	VL2440	no	no			
GBR A27 HOK0010	AREA27	HOK	VL0010	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded
GBR A27 HOK1012 °	AREA27	HOK	VL1012	no	no	Exceeded	Exceeded	Exceeded
	AREA27	HOK	VL1218	no	no			
GBR A27 HOK2440 °	AREA27	HOK	VL1824	no	no	no	no	no
	AREA27	HOK	VL2440	Exceeded	no			
GBR A27 MGP0010 °	AREA27	MGP	VL0010	no	no	no	no	Exceeded
	AREA27	TM	VL0010	no	no			
GBR A27 MGP1218 °	AREA27	MGP	VL1012	no	no	no	no	Exceeded
	AREA27	MGP	VL1218	no	no			
	AREA27	MGP	VL2440	no	no			
	AREA27	PS	VL1218	no	no			
	AREA27	PS	VL1824	no	no			
	AREA27	TM	VL1012	no	no			
	AREA27	TM	VL1218	no	no			
AREA27	TM	VL1824	no	no				
GBR A27 PGP0010 °	AREA27	PGP	VL0010	no	no	no	Exceeded	Exceeded
	AREA27	PGP	VL1012	no	Exceeded			
	AREA27	PGP	VL1218	no	no			
	AREA27	PMP	VL0010	no	no			
GBR A27 TBB0010 °	AREA27	TBB	VL0010	no	no	Exceeded	Exceeded	Exceeded
GBR A27 TBB1218	AREA27	TBB	VL1012	no	no	no	no	Exceeded
GBR A27 TBB1824	AREA27	TBB	VL1824	no	no	no	no	no
GBR A27 TBB2440 °	AREA27	TBB	VL2440	no	no	no	no	no
	AREA27	TBB	VL40XX	no	no			
GBR A27 TM40XX °	AREA27	TM	VL2440	no	no	no	no	Exceeded
	AREA27	TM	VL40XX	Exceeded	Exceeded			
GBR A27 DTS40XX °	AREA27	DTS	VL40XX	Exceeded	no	no	no	no
	OFR	DTS	VL40XX	Exceeded	no			
GBR A27 HOK2440 °	OFR	HOK	VL2440	no	no	no	no	no
	OFR	HOK	VL40XX	Exceeded	no			
GBR A27 TM40XX °	OFR	PS	VL40XX	no	no	no	no	no
	OFR	TM	VL40XX	no	no			

Table 12 highlights the segmentation used in 2016 when computing indicators. Fleet segments have been defined to combine fleet groups for which there are a low number of vessels. Technical and economic indicators are computed at this granularity. The MMO have produced indicators using the JRC segmentation in order for indicators to be comparable. For biological indicators assessments have been computed at a more detailed granularity where data permits. As an example fleet segment GBR A27 TM 40XX has an exceeding VUI value, this segment is made up of TM VL2440 and TM VL40XX of which only the latter is assessed as out of balance when looking at the biological indicators.

GBR A27 TM40XX °	AREA27	TM	VL2440	no	no	no	no	Exceeded
	AREA27	TM	VL40XX	Exceeded	Exceeded			

In the case of A27 HOK0010, the thresholds of both biological and economic indicators are exceeded. No other segments exceed thresholds across the range of biological, economic and use indicators.

Given the methodological constraints outlined above, the UK perceives that the exceedance of indicator thresholds by a fleet segment can only give information on **potential** imbalance between fishing capacity and fishing opportunity. As such, the UK has developed an associated Fleet Action Plan to address those areas of the fleet where the STECF assessment suggested that there may be some indication of imbalance, including through the provision of support for improved selectivity and any other appropriate actions under our EMFF Operational Programme. The proposed actions are aimed largely at supporting stock recovery and sustainable harvesting. It is our view that these measures, along with our quota management system and associated arrangements for quota trading are sufficient to balance fishing opportunities.

The progressive implementation of the landing obligation is a substantive change. It is possible, as a result, that this policy shift will alter the balance of particular UK fleet segments. In that event, the UK fisheries administrations may wish to take a more active approach to capacity management in order to assist fleet segments in responding to these changes. Until the landing obligation is fully implemented the scale of the challenge for any fleet segment is difficult to predict. As a result UK fisheries administrations may in the future want to consider the use of permanent and temporary cessation in addition to the existing suite of actions. These measures are not included in the current Fleet Action Plan or Operational Programme, but may be introduced in the future depending on need, as will any revisions to the action plan to incorporate any change to the guidelines to the format to be used for action plans that may occur.



## F1. Biological Indicators

### Sustainable Harvest Indicator

**Definition** This is a measure whereby the level of income that the fleet segment derives from a stock is compared to the stock's level of fishing mortality. Information is then collated for all stocks for which that segment has activity recorded to give an overall estimate of the extent the segment relies on stocks harvested above the levels set for Maximum Sustainable Yield (MSY) is available or an appropriate proxy for MSY if it is not. There are two elements involved – the Harvest Rate Indicator (HRI) itself and the significance ratio (the proportion that the total value of landings by the fleet segment is related to the quota stocks it fishes).

**Criteria** If the HRI for a segment is greater than one for three consecutive years and the significance ratio is also greater than 40%, the fleet segment could possibly be in imbalance.

**Key results** Full results are included in Appendix D. In total, four segments have the Harvest Rate Indicator above 1 and the significance ratio over 40% for three consecutive years:

Fishing tech	Vessel length group	Fleet Segment	Supra region				Number of vessels in fleet segment (2015)
				2013	2014	2015	
DTS	VL0010	GBR A27 DTS0010	AREA27	1.29	1.3	1.11	249
DFN	VL0010	GBR A27 DFN0010	AREA27	2	2.15	1.98	619
DTS	VL1012	GBR A27 DTS1012	AREA27	1.24	1.27	1.16	89
DTS	VL1218	GBR A27 DTS1218 °	AREA27	1.01	1.08	1.02	208
HOK	VL0010	GBR A27 HOK0010	AREA27	2.37	2.4	2.27	523
PGP	VL1012	GBR A27 PGP0010 °	AREA27	1.57	2.76	2.86	1
TM	VL40XX	GBR A27 TM40XX °	AREA27	1.27	1.46	1.42	27

The values in the table above appear to be broadly consistent with the evidence in the European Commission's Communication on Fishing Opportunities for 2016 about the extent to which EU stocks are being fished at Maximum Sustainable Yield (MSY).

For four of the segments there has been some improvement in the indicator between 2013 and 2015, in addition DTS VL1218 is in marginally exceedance of the SHI threshold. Two fleet segments highlighted in the 2016 indicator set are now no longer considered as potentially out of balance (HOK VL2440 and TBB VL40XX) in the 2017 indicator set.

Two fleet segments are now assessed as potentially out of balance in the 2017 indicator set that were not assessed as potentially out of balance in 2016 (PGP VL1012 and TM VL40XX). For the fleet PGP VL1012 three consecutive years of data are now available allowing an assessment to take place. Analysis of the detailed information behind the results (as provided by those in the JRC that produced the indicators - [http://halieut.agrocampus-ouest.fr/sirs\\_cstep/](http://halieut.agrocampus-ouest.fr/sirs_cstep/)) points to this change in TM VL40XX being due to the change in the ICES assessment for Mackerel in the Northeast Atlantic (combined Southern, Western and North Sea spawning components) between 2014 and 2015, the SHI assessment for this fleet segment is partially reliant on the mac-nea assessment.

The UK supports the reformed CFP objectives, for stocks to be fished at MSY by 2015 where possible and 2020 at the latest, as well as to eliminate discards, and is working to deliver this through the EU negotiations on TACs and quotas, development of regional multi-annual management plans and related technical measures, including national programmes to enable more selective fishing methods, with

assistance being made available from the EMFF. These actions will constrain the deployment of available capacity in order to achieve sustainability within agreed deadlines.

As mentioned previously, the fleet segments used in the capacity report do not generally correspond to specific fisheries or ecosystems, and without full access to the processes followed, it is difficult to assess how far each segment is fishing for stocks which lack full MSY assessment, as discussed in the current Commission guidance. It would also be helpful if the indicator itself could be developed to incorporate a rating similar to the significance ratio whereby the degree to which MSY was available for the stocks concerned could be provided. The UK would welcome further guidance on this point, including how far it is possible to use alternative biological indicators relating to particular species in these circumstances.

## Stocks-at-risk indicator

**Definition** The number of stocks regarded as at risk where the fleet segment landings for a stock are either more than 10% of total landings by the segment or the fleet segment accounts for more than 10% of total EU landings of that stock.

**Criteria** If a segment has any stocks at risk identified it has the potential of a biological imbalance

**Key results** Full details of the results of this indicator are provided in Appendix D. Details for those fleet segments where the stocks at risk results are greater than zero for any year in 2012 to 2014:

Fishing tech	Vessel length group	Fleet Segment	Supra region	2012	2013	2014	Number of vessels
							in fleet segment (2014)
DTS	VL0010	GBR A27 DTS0010	AREA27	2	2	0	257
DFN	VL0010	GBR A27 DFN0010	AREA27	1	4	0	632
DFN	VL1012	GBR A27 DFN1012	AREA27	2	0	1	12
DFN	VL1218	GBR A27 DFN1218	AREA27	1	1	1	11
DFN	VL1824	GBR A27 DFN2440 °	AREA27	2	1	0	7
DFN	VL2440	GBR A27 DFN2440 °	AREA27	2	1	0	9
DRB	VL0010	GBR A27 DRB0010	AREA27	1	1	0	109
DRB	VL1012	GBR A27 DRB1012	AREA27	1	0	0	29
DRB	VL1218	GBR A27 DRB1218	AREA27	1	0	0	109
DRB	VL2440	GBR A27 DRB2440 °	AREA27	1	0	0	31
DRB	VL40XX	GBR A27 DRB2440 °	AREA27	1	0	0	3
DTS	VL1012	GBR A27 DTS1012	AREA27	1	0	0	87
DTS	VL1218	GBR A27 DTS1218 °	AREA27	4	2	3	213
DTS	VL1824	GBR A27 DTS1824	AREA27	6	8	7	179
DTS	VL2440	GBR A27 DTS2440	AREA27	6	10	10	85
DTS	VL40XX	GBR A27 DTS40XX °	AREA27	2	1	1	8
FPO	VL0010	GBR A27 FPO0010	AREA27	1	1	0	1753
HOK	VL0010	GBR A27 HOK0010	AREA27	1	1	0	462
HOK	VL2440	GBR A27 HOK2440 °	AREA27	1	1	0	11
TM	VL40XX	GBR A27 TM40XX °	AREA27	0	0	1	30
DTS	VL40XX	GBR A27 DTS40XX °	OFR	2	1	1	1
HOK	VL40XX	GBR A27 HOK2440 °	OFR	1	1	0	2

As mentioned above, while each fleet segment includes vessels of similar size and using similar gears, each will include vessels fishing in very different sea areas. In addition, while for some stocks the vessels may be targeting the specific species, for others the fact that the stock is at risk and quotas are set at low levels may mean that a fleet segment as a whole can be regarded as targeting a stock at risk by the activities of only a few vessels within the fleet segment.

This means that this biological indicator is very much driven by the information used to make the scientific judgment on the state of stocks rather than the level of landings of the stocks in question for the fleet segment. It would thus be helpful to have an understanding from the Commission regarding the confidence that can be attached to the stock assessment data used to create the biological indicators. It would also be helpful if the indicator itself could be developed to incorporate a rating similar to the significance ratio within the SHI indicator whereby the degree to which MSY was available for the stocks concerned could be available.

The UK notes an increase in the number of fleet groups classified as exceeding the SAR indicator. The JRC assessment of SAR for the UK fleet in 2016 reassesses historical data resulting in new fleet segments

having at least one stock at risk recorded in the three years leading up to 2014. The change in assessment for the fleet does not change the overall assessment or conclusions on this indicator.

Despite methodological uncertainties, the UK administrations are giving close attention to the fleet segments that have been identified to target stocks at risk for three consecutive years; namely DFN – VL1218, DTS-VL1218, DTS—VL1824, DTS – VL2440, DTS – VL40XX and DTS – VL40XX (OFR). Remedial action includes the pursuit of improved sustainability through the EU TAC and quota negotiations (which encompasses all but one of the stocks covered by these fleet segments), regional management plans and related technical measures and national measures including the provision of support for improved selectivity in these segments under our EMFF Operational Programme.

## F2. Economic Indicators

### Return on Investment

**Definition** This compares the return on the investment (RoI) vessel owners make in the fishing activity against the level of income they might have had from just investing that same amount of funds elsewhere at no risk.

**Criteria** If the RoI is less than 0 it implies the vessel operators are not getting a return on their investment. If the RoI is greater than 0 but less than the average interest rate that could have been found from long-term low-risk investments (e.g. government issues bonds), it implies that the segment is not as attractive as alternative options. Either would show the fleet segment as potentially imbalance and not economically sustainable.

**Key results** Full details of the results of this indicator are provided in Appendix E. Details for those fleet segments where the ROI is consistently less than zero for all three years between 2013 and 2015:

Fleet segment - as defined by JRC indicators		2013	2014	2015	Number of vessels in fleet segment (2015)
FPO	GBR A27 FPO0010	-0.34	-0.94	-1.57	1,739
HOK	GBR A27 HOK0010	-3.93	-6.21	-4.48	527
	GBR A27 HOK1012 °	-42.73	-24.23	-10.53	17
TBB	GBR A27 TBB0010 °	-2.64	-9.45	-2.78	12

The grouping of segments of the UK fleet within the JRC indicators has altered between the 2015 set of JRC indicators and the 2016 set, for example in 2015 HOK vessels were classified as:

GBR	GBR AREA27 HOK VL0010°	AREA27	HOK	VL0010
GBR	GBR AREA27 HOK VL0010°	AREA27	HOK	VL1012
GBR	GBR AREA27 HOK VL2440°	AREA27	HOK	VL1218
GBR	GBR AREA27 HOK VL2440°	AREA27	HOK	VL1824
GBR	GBR AREA27 HOK VL2440°	AREA27	HOK	VL2440

In 2016:

GBR	GBR A27 HOK0010	AREA27	HOK	VL0010
GBR	GBR A27 HOK1012 °	AREA27	HOK	VL1012
GBR	GBR A27 HOK1012 °	AREA27	HOK	VL1218
GBR	GBR A27 HOK2440 °	AREA27	HOK	VL1824
GBR	GBR A27 HOK2440 °	AREA27	HOK	VL2440
GBR	GBR A27 HOK2440 °	OFR	HOK	VL2440
GBR	GBR A27 HOK2440 °	OFR	HOK	VL40XX

Changes such as this explain some of the changes in the range of fleet segments being assessed as out of balance in the economic and technical indicator sets.

## Current versus Break Even Revenue

**Definition** This is the ratio of the level of current revenue from the fleet segment against the level needed for break-even – i.e. does the fishing activity cover the level of costs involved.

**Criteria** If the ratio is less than 1 there is a potential imbalance as the fleet segment is not profitable – i.e. income does not cover fixed and variable costs. If the CR/BER result is negative, this means that variable costs alone exceed current revenue, indicating that the more revenue is generated, the greater the losses will be.

**Key results** Full details of the results of this indicator are provided in Appendix E. Since this is a short term economic indicator, the use of time series data is not appropriate. Details for those fleet segments where the ratio is less than 1 are given below:

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	<b>Fleet segment - as defined by JRC indicators</b>	2015	Number of vessels in fleet segment (2015)
DFN	GBR A27 DFN0010	0.81	622
HOK	GBR A27 HOK0010	0.61	527
	GBR A27 HOK1012 °	-0.10	17
PGP	GBR A27 PGP0010 °	0.76	70
TBB	GBR A27 TBB0010 °	0.97	12

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When considering both economic indicators in unison, segments TBB – VL0010, HOK VL0010 and HOK VL1012 are consistently below the thresholds. Achieving return on investment is primarily the responsibility of the fishing industry, though the UK administrations have assisted the development of economic analytical capacity in the sector, as well as seafood marketing, through sponsorship of the arm's-length public body Seafish.

### F3. Vessel Use Indicators

#### The inactive fleet indicator

Inactive vessels constitute an unused capacity and as such it can be considered that they reduce the overall technical efficiency and capacity utilisation rate of the total fleet. The indicator is calculated on the basis of DCF segment vessel length-classes rather than vessel segments as information on gear and target fishery is not available. The table below shows the proportion of inactive vessels within the total fleet broken down by length banding:

	2013	2014	2015
VL0010	27.1	28.0	28.1
VL1012	1.2	1.1	1.3
VL1218	0.6	0.5	0.7
VL1824	0.2	0.2	0.2
VL2440	0.4	0.4	0.4
VL40XX	0.1	0.1	0.1

If more than 20% of the fleet segment is recurrently inactive this could indicate technical inefficiency that may reveal the existence of an imbalance, unless it can be explained by other reasons, such as unexpected climatic or man-made events or emergency measures as foreseen in the CFP. However, this is only true for the “VL0010” grouping – within this there are very many vessels involved. The UK has historically seen this level of inactive vessels. It relates to the fact that for this group of vessels there can be many reasons why vessel operators choose to keep their vessels registered but inactive. These include (but are not limited to):

- Carrying out other activities (i.e. non-fishing) to gain income, but wanting to retain their boat as an option for the future;
- Wanting to retain the vessel as an asset;
- Wanting to retain the vessel as a family inheritance;
- Using the vessel for marine activities other than commercial fishing (e.g. diving and other recreational activities).

The decision as to whether or not a vessel is active is seen as the responsibility of the fishing industry as part of the process of ensuring that individual businesses achieve the return on investment they require. As mentioned above, UK administrations have assisted the development of economic analytical capacity in the sector, as well as seafood marketing, through sponsorship of the arm’s-length public body Seafish.

## Vessel utilisation indicator

**Definition** This indicator concerns the average activity levels of vessels that did fish at least once in the year, taking account of the seasonality of the fishery and other restrictions. Under normal conditions, it can be expected that 10% or less of the vessels in a fleet segment should be inactive, which could be due to major repairs, refits, conversions or pending sales and transfers. It assumes a theoretical maximum number of 220 days could be fished by all fleet segments if there were no external constraints.

**Criteria** If less than 70% of the potential, workable activity of comparable vessels is demonstrated, this could indicate technical inefficiency that may reveal the existence of an imbalance, unless it can be explained by other reasons, such as unexpected climatic or man-made events or emergency measures as foreseen in the CFP.

**Key results** Full details of the results of this indicator are provided in Appendix E. Details for those fleet segments where the utilisation ratio is consistently below 70% (assuming the theoretical maximum of 220 days) for each year during 2013 to 2015 are given below:

<b>Fleet segment - as defined by JRC indicators</b>	<b>Number of vessels in fleet segment</b>			
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>(2015)</b>
GBR A27 DFN0010	0.26	0.27	0.25	622
GBR A27 DFN1012	0.37	0.43	0.35	8
GBR A27 DRB0010	0.31	0.27	0.33	105
GBR A27 DRB1012	0.58	0.52	0.50	32
GBR A27 DRB1218	0.58	0.58	0.57	114
GBR A27 DTS0010	0.38	0.42	0.40	257
GBR A27 DTS1012	0.60	0.58	0.52	89
GBR A27 FPO0010	0.44	0.51	0.54	1,739
GBR A27 HOK0010	0.17	0.19	0.21	527
GBR A27 HOK1012 °	0.42	0.32	0.41	17
GBR A27 MGP0010 °	0.25	0.40	0.33	28
GBR A27 MGP1218 °	0.40	0.40	0.42	31
GBR A27 PGP0010 °	0.24	0.26	0.23	64
GBR A27 TBB0010 °	0.35	0.48	0.32	12
GBR A27 TBB1218	0.63	0.58	0.64	10
GBR A27 TM40XX °	0.28	0.33	0.33	28

Given the highly variable nature of activity seen within each fleet segment within the UK fleet, the UK wished to take up the option of applying differential days at sea figures for certain segments. Eight of the segments listed above relate to vessels under 10m in length. These vessels are often engaged in highly seasonal patterns of activity. They may thus fish for only limited periods of the year as opposed to the level of 220 days that could be more applicable to larger vessels. The UK considers that the heterogeneous nature of vessels within the under 10m in length fleet segments alongside the seasonal restrictions on fishing makes it inappropriate to draw conclusions on fleet utilisation for these segments from the vessel utilisation indicator even if an alternative level of days is used in the comparison. Appendix F provides



evidence in support of this statement in the form of frequency distributions of days effort for the under 10 fleet segments in 2015.

Notably, vessels in the TM - VL40XX segment are affected by similar factors as they are involved in highly seasonal and time limited pelagic fisheries. As such, this level of utilisation is not seen as indicative of an unsustainable level of activity. As stated above, the UK position is that the decision as to whether or not a vessel is inactive or not is seen as the responsibility of the fishing industry. While it is thus important to be aware of such capacity in terms of the potential level of fishing activity that could be seen, the fact that the effort is not currently being used is not necessarily evidence of an imbalance and is more likely to reflect other factors such as economic factors and the limitations of available quotas.

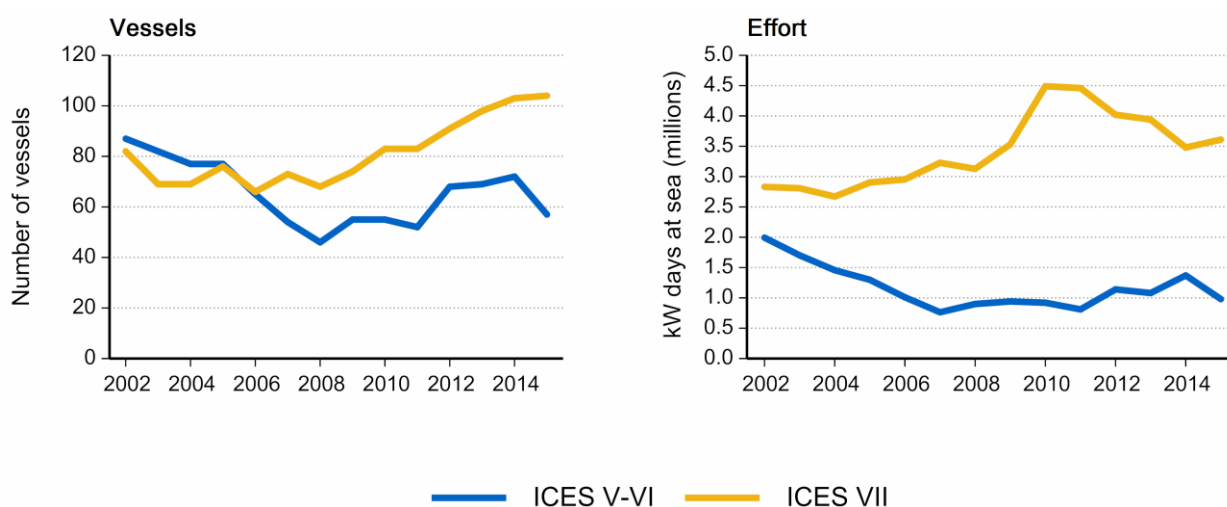
## Appendix A. Effort Reduction Schemes Supporting Data

### Western Waters Scheme:

The Western Waters was introduced in 2003 and covers nine sea areas. Fishing trips targeting crabs, demersal species or scallops are all covered by the regulation. Regulated activity is permitted for UK registered vessels in only four of these (ICES sub-areas V and VI, ICES sub-area VII, ICES sub-area VIII, and a Biologically Sensitive Area to the south and west of Ireland).

From 2002 to 2015 the number of vessels targeting scallops in ICES sub-areas V and VI decreased by 34 per cent while the number in ICES sub-area VII increased by 27 per cent. Effort in ICES sub-areas V and VI fell by 51 per cent, but effort in ICES sub-area VII increased by 27 per cent. This increase is partly due to diversion of activity from other sea areas as well as increased activity by vessels already fishing in ICES sub-area VII.

Figure 1. Fleet size and effort (kW days) of vessels targeting scallops in the Western Waters: 2002 to 2015



Note: The data presented here have been compiled for Sea Fisheries Statistics 2015 published in September 2016. The 2016 publication is due in September 2017.

As a result of the UK fleet approaching its allocated limits, at the start of 2012 UK fisheries administrations introduced a scheme to limit the allocation of days at sea to 15m and over vessels targeting scallops in sub-area VII. Since 2012, the effort exerted by UK vessels in the Western Waters scalloping fleet has declined by 10 per cent.

**Table 1:** Scalloping fleet capacity and effort in Western Waters sub-area VII

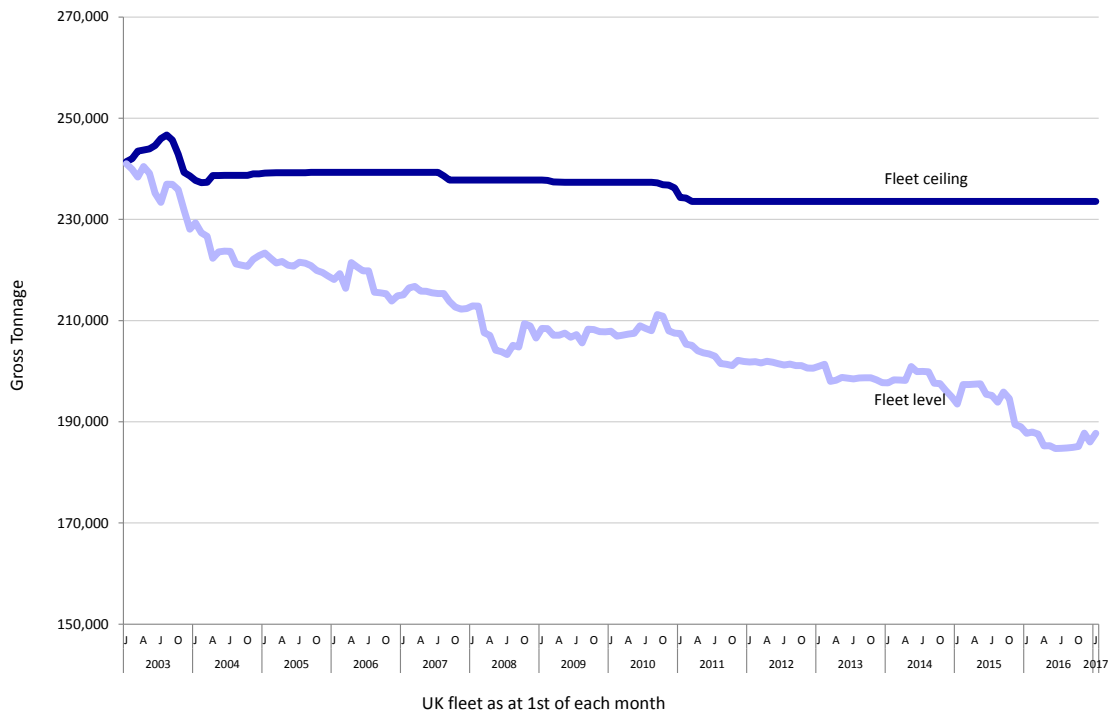
United Kingdom, 2012 – 2016

	2012	2013	2014	2015	2016
No. active vessels	91	99	103	104	98
Days effort	8,859	9,118	8,196	8,626	8,723
kW days effort	3,523,130	3,943,062	3,479,957	3,730,412	3,475,450

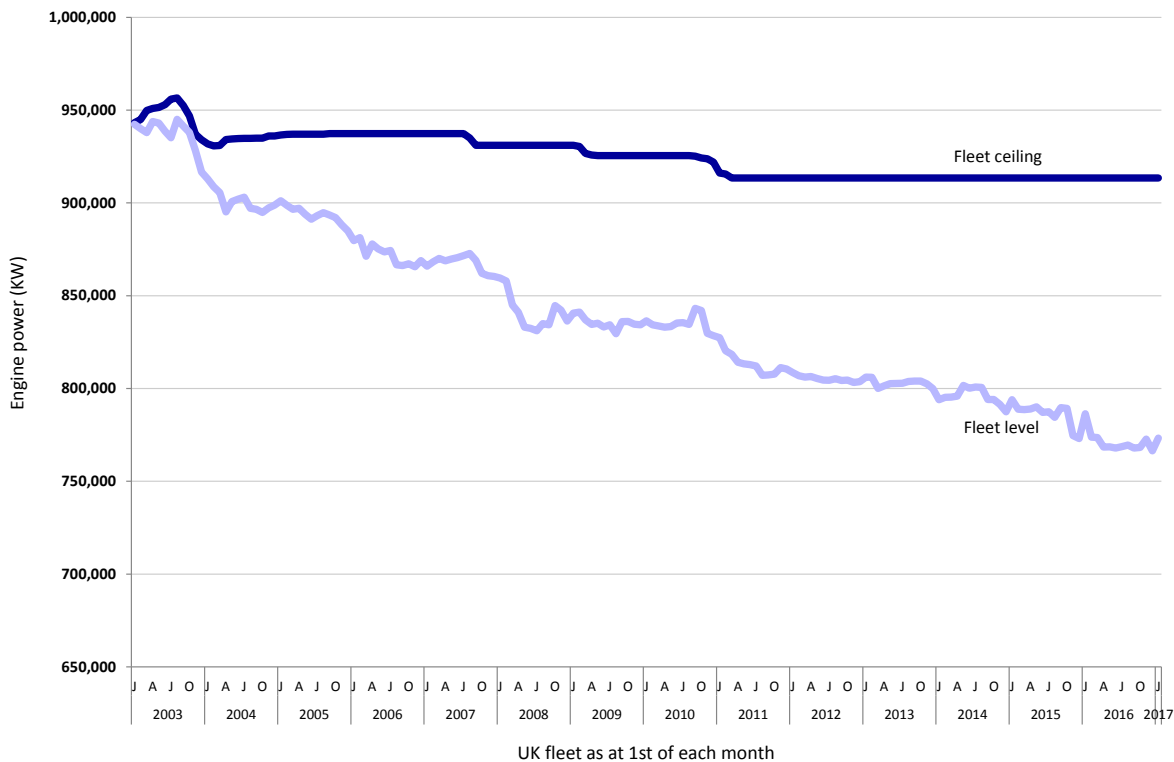
## Appendix B. Entry/Exit Schemes Summary Data

Extracts from EU Community Fleet Register analysis of UK reported fleet positions

**Figure 1: UK Compliance with Fleet Capacity Levels**  
Details for Gross Tonnage of vessels



**Figure 2: UK Compliance with Fleet Capacity Levels**  
Details for Engine Power of vessels



## **Appendix C. Gear Codes**

DCF fishing gear codes used in Fleet Capacity Report:

DFN	Drift and/or fixed netters
DRB	Dredgers
DTS	Demersal trawlers and/or demersal seiners
FPO	Vessels using pots and/or traps
HOK	Vessels using hooks
MGO	Vessel using other active gears
MGP	Vessels using polyvalent active gears only
PG	Vessels using passive gears only
PGO	Vessels using other passive gears
PGP	Vessels using polyvalent passive gears only
PMP	Vessels using active and passive gears
PS	Purse seines
TM	Pelagic trawlers
TBB	Beam trawlers

## Appendix D. Results for balance indicators produced by the JRC

### Biological – Harvest Rate indicator:

				SHI			Number of vessels in fleet segment (2015)
Fishing tech	Vessel length group	Fleet Segment	Supra region	2013	2014	2015	
DTS	VL0010	GBR A27 DTS0010	AREA27	1.29	1.3	1.11	249
DFN	VL0010	GBR A27 DFN0010	AREA27	2	2.15	1.98	619
DFN	VL1012	GBR A27 DFN1012	AREA27	1.64	1.73	1.86	8
DFN	VL1218	GBR A27 DFN1218	AREA27	1.08	0.95	0.92	7
DFN	VL1824	GBR A27 DFN2440 °	AREA27	1.4	1.08	0.88	7
DFN	VL2440	GBR A27 DFN2440 °	AREA27	0.82	0.83	0.8	9
DRB	VL0010	GBR A27 DRB0010	AREA27	1.22	1.37	1.13	106
DRB	VL1012	GBR A27 DRB1012	AREA27	1.18	0.92	1	31
DRB	VL1218	GBR A27 DRB1218	AREA27	1.06	1.1	1.05	114
DRB	VL1824	GBR A27 DRB1824	AREA27	1.47	1.52	0.87	25
DRB	VL2440	GBR A27 DRB2440 °	AREA27	0.91	1	0.82	29
DRB	VL40XX	GBR A27 DRB2440 °	AREA27		1.7	1.73	2
DTS	VL1012	GBR A27 DTS1012	AREA27	1.24	1.27	1.16	89
DTS	VL1218	GBR A27 DTS1218 °	AREA27	1.01	1.08	1.02	208
PMP	VL1218	GBR A27 DTS1218 °	AREA27				
DTS	VL1824	GBR A27 DTS1824	AREA27	0.91	0.95	0.93	173
DTS	VL2440	GBR A27 DTS2440	AREA27	0.94	0.99	0.97	82
DTS	VL40XX	GBR A27 DTS40XX °	AREA27	0.9	0.96	0.94	10
DTS	VL40XX	GBR A27 DTS40XX °	OFR				1
FPO	VL0010	GBR A27 FPO0010	AREA27	0.99	1.18	1.16	1716
FPO	VL1012	GBR A27 FPO1012 °	AREA27	0.83	1.04	1	167
PMP	VL1012	GBR A27 FPO1012 °	AREA27				
FPO	VL1218	GBR A27 FPO1218	AREA27	0.89	1.06	1.06	81
FPO	VL1824	GBR A27 FPO1824 °	AREA27				12
FPO	VL2440	GBR A27 FPO1824 °	AREA27				2
HOK	VL0010	GBR A27 HOK0010	AREA27	2.37	2.4	2.27	523
HOK	VL1012	GBR A27 HOK1012 °	AREA27	3.09	2.71	2.47	16
HOK	VL1218	GBR A27 HOK1012 °	AREA27				
HOK	VL1824	GBR A27 HOK2440 °	AREA27				
HOK	VL2440	GBR A27 HOK2440 °	AREA27	0.82	0.82	0.79	11
HOK	VL2440	GBR A27 HOK2440 °	OFR				
HOK	VL40XX	GBR A27 HOK2440 °	OFR				2
MGP	VL0010	GBR A27 MGP0010 °	AREA27	1.34	1.21	1.82	27
TM	VL0010	GBR A27 MGP0010 °	AREA27	1.39	0.66	0.87	2
MGP	VL1012	GBR A27 MGP1218 °	AREA27		0.58		12
MGP	VL1218	GBR A27 MGP1218 °	AREA27		1.14	0.99	19
MGP	VL2440	GBR A27 MGP1218 °	AREA27				
PS	VL1218	GBR A27 MGP1218 °	AREA27			1.54	3
PS	VL1824	GBR A27 MGP1218 °	AREA27				
TM	VL1012	GBR A27 MGP1218 °	AREA27				
TM	VL1218	GBR A27 MGP1218 °	AREA27	1.71	1.03	1.18	3
TM	VL1824	GBR A27 MGP1218 °	AREA27				
PGP	VL0010	GBR A27 PGP0010 °	AREA27	1.74	2.13	2.23	63
PGP	VL1012	GBR A27 PGP0010 °	AREA27	1.57	2.76	2.86	1
PGP	VL1218	GBR A27 PGP0010 °	AREA27		1.45		
PMP	VL0010	GBR A27 PGP0010 °	AREA27	1.38	1.91	1.58	6
TBB	VL0010	GBR A27 TBB0010 °	AREA27	1.25	1.58	1.6	10
TBB	VL1012	GBR A27 TBB0010 °	AREA27	1.24	1.5	1.42	2
TBB	VL1218	GBR A27 TBB1218	AREA27	1.18	1.38	1.21	10
TBB	VL1824	GBR A27 TBB1824	AREA27	1.05	1.07	0.87	18
TBB	VL2440	GBR A27 TBB2440 °	AREA27	1.32	1.12	0.99	25
TBB	VL40XX	GBR A27 TBB2440 °	AREA27	1.08	1	0.94	8
TM	VL2440	GBR A27 TM40XX °	AREA27		1.45	1.4	1
TM	VL40XX	GBR A27 TM40XX °	AREA27	1.27	1.46	1.42	27
PS	VL40XX	GBR A27 TM40XX °	OFR				
TM	VL40XX	GBR A27 TM40XX °	OFR				

Biological – Stocks at Risk indicator:

SAR							Number of vessels in fleet segment (2014)
Fishing tech	Vessel length group	Fleet Segment	Supra region	2012	2013	2014	
DTS	VL0010	GBR A27 DTS0010	AREA27	2	2	0	257
DFN	VL0010	GBR A27 DFN0010	AREA27	1	4	0	632
DFN	VL1012	GBR A27 DFN1012	AREA27	2	0	1	12
DFN	VL1218	GBR A27 DFN1218	AREA27	1	1	1	11
DFN	VL1824	GBR A27 DFN2440 °	AREA27	2	1	0	7
DFN	VL2440	GBR A27 DFN2440 °	AREA27	2	1	0	9
DRB	VL0010	GBR A27 DRB0010	AREA27	1	1	0	109
DRB	VL1012	GBR A27 DRB1012	AREA27	1	0	0	29
DRB	VL1218	GBR A27 DRB1218	AREA27	1	0	0	109
DRB	VL1824	GBR A27 DRB1824	AREA27	0	0	0	24
DRB	VL2440	GBR A27 DRB2440 °	AREA27	1	0	0	31
DRB	VL40XX	GBR A27 DRB2440 °	AREA27	1	0	0	3
DTS	VL1012	GBR A27 DTS1012	AREA27	1	0	0	87
DTS	VL1218	GBR A27 DTS1218 °	AREA27	4	2	3	213
PMP	VL1218	GBR A27 DTS1218 °	AREA27				
DTS	VL1824	GBR A27 DTS1824	AREA27	6	8	7	179
DTS	VL2440	GBR A27 DTS2440	AREA27	6	10	10	85
DTS	VL40XX	GBR A27 DTS40XX °	AREA27	2	1	1	8
DTS	VL40XX	GBR A27 DTS40XX °	OFR	2	1	1	1
FPO	VL0010	GBR A27 FPO0010	AREA27	1	1	0	1753
FPO	VL1012	GBR A27 FPO1012 °	AREA27	0	0	0	173
PMP	VL1012	GBR A27 FPO1012 °	AREA27				
FPO	VL1218	GBR A27 FPO1218	AREA27	0	0	0	80
FPO	VL1824	GBR A27 FPO1824 °	AREA27	0	0	0	11
FPO	VL2440	GBR A27 FPO1824 °	AREA27	0	0	0	2
HOK	VL0010	GBR A27 HOK0010	AREA27	1	1	0	462
HOK	VL1012	GBR A27 HOK1012 °	AREA27	0	0	0	19
HOK	VL1218	GBR A27 HOK1012 °	AREA27	0	0	0	1
HOK	VL1824	GBR A27 HOK2440 °	AREA27				
HOK	VL2440	GBR A27 HOK2440 °	AREA27	1	1	0	11
HOK	VL2440	GBR A27 HOK2440 °	OFR	1			
HOK	VL40XX	GBR A27 HOK2440 °	OFR	1	1	0	2
MGP	VL0010	GBR A27 MGP0010 °	AREA27	0	0	0	12
TM	VL0010	GBR A27 MGP0010 °	AREA27	0	0	0	3
MGP	VL1012	GBR A27 MGP1218 °	AREA27	0	0	0	11
MGP	VL1218	GBR A27 MGP1218 °	AREA27	0	0	0	16
MGP	VL2440	GBR A27 MGP1218 °	AREA27	0			
PS	VL1218	GBR A27 MGP1218 °	AREA27				
PS	VL1824	GBR A27 MGP1218 °	AREA27				
TM	VL1012	GBR A27 MGP1218 °	AREA27	0			
TM	VL1218	GBR A27 MGP1218 °	AREA27	0	0	0	3
TM	VL1824	GBR A27 MGP1218 °	AREA27				
PGP	VL0010	GBR A27 PGP0010 °	AREA27	0	0	0	74
PGP	VL1012	GBR A27 PGP0010 °	AREA27		0	0	2
PGP	VL1218	GBR A27 PGP0010 °	AREA27			0	1
PMP	VL0010	GBR A27 PGP0010 °	AREA27	0	0	0	9
TBB	VL0010	GBR A27 TBB0010 °	AREA27	0	0	0	8
TBB	VL1012	GBR A27 TBB0010 °	AREA27	0	0	0	7
TBB	VL1218	GBR A27 TBB1218	AREA27	0	0	0	18
TBB	VL1824	GBR A27 TBB1824	AREA27	0	0	0	19
TBB	VL2440	GBR A27 TBB2440 °	AREA27	0	0	0	22
TBB	VL40XX	GBR A27 TBB2440 °	AREA27	0	0	0	9
TM	VL2440	GBR A27 TM40XX °	AREA27	0		1	1
TM	VL40XX	GBR A27 TM40XX °	AREA27	0	0	1	30
PS	VL40XX	GBR A27 TM40XX °	OFR				
TM	VL40XX	GBR A27 TM40XX °	OFR	0			

## Economic – Return on Investment

ROI							Number of Vessels in fleet segment (2014)
Fishing tech	Vessel length group	Fleet segment	Supra region	2012	2013	2014	
DTS	VL0010	GBR A27 DTS0010	AREA27	7.51	6.52	7.1	257
DFN	VL0010	GBR A27 DFN0010	AREA27	3.88	1.71	5.61	632
DFN	VL1012	GBR A27 DFN1012	AREA27	13.79	1.36	22.43	12
DFN	VL1218	GBR A27 DFN1218	AREA27	30.11	14.19	32.69	11
DFN	VL1824	GBR A27 DFN2440 °	AREA27				7
DFN	VL2440	GBR A27 DFN2440 °	AREA27	28.85	6.23	36.56	9
DRB	VL0010	GBR A27 DRB0010	AREA27	8.72	-1.86	2.11	109
DRB	VL1012	GBR A27 DRB1012	AREA27		7.03	21.18	29
DRB	VL1218	GBR A27 DRB1218	AREA27	25.16	12.69	17.75	109
DRB	VL1824	GBR A27 DRB1824	AREA27	31.43	20.31	16.04	24
DRB	VL2440	GBR A27 DRB2440 °	AREA27	22.72	22.42	23.27	31
DRB	VL40XX	GBR A27 DRB2440 °	AREA27				3
DTS	VL1012	GBR A27 DTS1012	AREA27	12.72	8.9	10.04	87
DTS	VL1218	GBR A27 DTS1218 °	AREA27	13.55	8.95	10.26	213
PMP	VL1218	GBR A27 DTS1218 °	AREA27				
DTS	VL1824	GBR A27 DTS1824	AREA27	7.02	8.27	9.29	179
DTS	VL2440	GBR A27 DTS2440	AREA27	2.08	8.87	18.94	85
DTS	VL40XX	GBR A27 DTS40XX °	AREA27	-5.4	0.6	20.74	8
FPO	VL0010	GBR A27 FPO0010	AREA27	1.22	2.78	3.32	1753
FPO	VL1012	GBR A27 FPO1012 °	AREA27	29.73	13.93	18.15	173
PMP	VL1012	GBR A27 FPO1012 °	AREA27				
FPO	VL1218	GBR A27 FPO1218	AREA27	22.74	15.64	26.28	80
FPO	VL1824	GBR A27 FPO1824 °	AREA27	28.62	21.27	23.52	11
FPO	VL2440	GBR A27 FPO1824 °	AREA27				2
HOK	VL0010	GBR A27 HOK0010	AREA27	-3.99	-0.76	0.24	462
HOK	VL1012	GBR A27 HOK1012 °	AREA27		-42.74	-35.11	19
HOK	VL1218	GBR A27 HOK1012 °	AREA27				1
HOK	VL1824	GBR A27 HOK2440 °	AREA27				
HOK	VL2440	GBR A27 HOK2440 °	AREA27	-40.29	4.48	-22.89	11
MGP	VL0010	GBR A27 MGP0010 °	AREA27		1.53	4.28	12
TM	VL0010	GBR A27 MGP0010 °	AREA27				3
MGP	VL1012	GBR A27 MGP1218 °	AREA27				11
MGP	VL1218	GBR A27 MGP1218 °	AREA27		3.28	4.71	16
MGP	VL2440	GBR A27 MGP1218 °	AREA27				
PS	VL1218	GBR A27 MGP1218 °	AREA27				
PS	VL1824	GBR A27 MGP1218 °	AREA27				
TM	VL1012	GBR A27 MGP1218 °	AREA27				
TM	VL1218	GBR A27 MGP1218 °	AREA27				3
TM	VL1824	GBR A27 MGP1218 °	AREA27				
PGP	VL0010	GBR A27 PGP0010 °	AREA27	1.25	-4.18	-0.84	74
PGP	VL1012	GBR A27 PGP0010 °	AREA27				2
PGP	VL1218	GBR A27 PGP0010 °	AREA27				1
PMP	VL0010	GBR A27 PGP0010 °	AREA27				9
TBB	VL0010	GBR A27 TBB0010 °	AREA27	-2.82	-1.2	-7.71	8
TBB	VL1012	GBR A27 TBB0010 °	AREA27				7
TBB	VL1218	GBR A27 TBB1218	AREA27	-3.24	-17.57	-11.25	18
TBB	VL1824	GBR A27 TBB1824	AREA27	17.81	4.67	2.6	19
TBB	VL2440	GBR A27 TBB2440 °	AREA27	-5.02	-11.16	-9.79	22
TBB	VL40XX	GBR A27 TBB2440 °	AREA27				9
TM	VL2440	GBR A27 TM40XX °	AREA27				1
TM	VL40XX	GBR A27 TM40XX °	AREA27	15.63	13.46	15.32	30
DTS	VL40XX	GBR A27 DTS40XX °	OFR				1
HOK	VL2440	GBR A27 HOK2440 °	OFR				
HOK	VL40XX	GBR A27 HOK2440 °	OFR				2
PS	VL40XX	GBR A27 TM40XX °	OFR				
TM	VL40XX	GBR A27 TM40XX °	OFR				

## Economic – Current Versus Break Even Revenue

Fishing tech	Vessel length group	Fleet segment	Supra region	CR/BER		Number of Vessels in fleet	
				2012	2013	2014	segment (2014)
DTS	VL0010	GBR A27 DTS0010	AREA27	1.52	1.61	1.47	257
DFN	VL0010	GBR A27 DFN0010	AREA27	1.35	1.26	1.48	632
DFN	VL1012	GBR A27 DFN1012	AREA27	2.11	1.5	3.02	12
DFN	VL1218	GBR A27 DFN1218	AREA27	2.32	1.74	3.23	11
DFN	VL1824	GBR A27 DFN2440 °	AREA27				7
DFN	VL2440	GBR A27 DFN2440 °	AREA27	2.36	1.65	3.22	9
DRB	VL0010	GBR A27 DRB0010	AREA27	1.75	0.89	1.17	109
DRB	VL1012	GBR A27 DRB1012	AREA27	2.64	1.27	1.88	29
DRB	VL1218	GBR A27 DRB1218	AREA27	2.34	1.69	1.92	109
DRB	VL1824	GBR A27 DRB1824	AREA27	2.58	2.33	1.92	24
DRB	VL2440	GBR A27 DRB2440 °	AREA27	2.5	2.3	2.14	31
DRB	VL40XX	GBR A27 DRB2440 °	AREA27				3
DTS	VL1012	GBR A27 DTS1012	AREA27	2.21	2.28	2.13	87
DTS	VL1218	GBR A27 DTS1218 °	AREA27	2.18	1.91	1.74	213
PMP	VL1218	GBR A27 DTS1218 °	AREA27				
DTS	VL1824	GBR A27 DTS1824	AREA27	1.96	1.99	2.03	179
DTS	VL2440	GBR A27 DTS2440	AREA27	2.18	2.79	3.19	85
DTS	VL40XX	GBR A27 DTS40XX °	AREA27	1	0.92	2.35	8
DTS	VL40XX	GBR A27 DTS40XX °	OFR				1
FPO	VL0010	GBR A27 FPO0010	AREA27	1.11	1.28	1.17	1753
FPO	VL1012	GBR A27 FPO1012 °	AREA27	2.92	1.7	2.05	173
PMP	VL1012	GBR A27 FPO1012 °	AREA27				
FPO	VL1218	GBR A27 FPO1218	AREA27	2.12	1.62	1.88	80
FPO	VL1824	GBR A27 FPO1824 °	AREA27	2.54	2	2.22	11
FPO	VL2440	GBR A27 FPO1824 °	AREA27				2
HOK	VL0010	GBR A27 HOK0010	AREA27	0.69	0.97	1	462
HOK	VL1012	GBR A27 HOK1012 °	AREA27	-0.68	0.1	-0.39	19
HOK	VL1218	GBR A27 HOK1012 °	AREA27				1
HOK	VL1824	GBR A27 HOK2440 °	AREA27				
HOK	VL2440	GBR A27 HOK2440 °	AREA27	0.42	1.08	0.64	11
HOK	VL2440	GBR A27 HOK2440 °	OFR				2
HOK	VL40XX	GBR A27 HOK2440 °	OFR				
MGP	VL0010	GBR A27 MGP0010 °	AREA27	1.43	1.1	1.32	12
TM	VL0010	GBR A27 MGP0010 °	AREA27				3
MGP	VL1012	GBR A27 MGP1218 °	AREA27				11
MGP	VL1218	GBR A27 MGP1218 °	AREA27	1.96	1.44	1.96	16
MGP	VL2440	GBR A27 MGP1218 °	AREA27				
PS	VL1218	GBR A27 MGP1218 °	AREA27				
PS	VL1824	GBR A27 MGP1218 °	AREA27				
TM	VL1012	GBR A27 MGP1218 °	AREA27				
TM	VL1218	GBR A27 MGP1218 °	AREA27				3
TM	VL1824	GBR A27 MGP1218 °	AREA27				
PGP	VL0010	GBR A27 PGP0010 °	AREA27	1.19	0.7	0.94	74
PGP	VL1012	GBR A27 PGP0010 °	AREA27				2
PGP	VL1218	GBR A27 PGP0010 °	AREA27				1
PMP	VL0010	GBR A27 PGP0010 °	AREA27				9
TBB	VL0010	GBR A27 TBB0010 °	AREA27	0.87	1.04	-0.22	8
TBB	VL1012	GBR A27 TBB0010 °	AREA27				7
TBB	VL1218	GBR A27 TBB1218	AREA27	0.82	0.24	-0.88	18
TBB	VL1824	GBR A27 TBB1824	AREA27	3.39	2.41	2.45	19
TBB	VL2440	GBR A27 TBB2440 °	AREA27	0.85	0.82	0.8	22
TBB	VL40XX	GBR A27 TBB2440 °	AREA27				9
TM	VL2440	GBR A27 TM40XX °	AREA27				1
TM	VL40XX	GBR A27 TM40XX °	AREA27	2.04	1.8	2.07	30
PS	VL40XX	GBR A27 TM40XX °	OFR				
TM	VL40XX	GBR A27 TM40XX °	OFR				



## Technical - Vessel Utilisation Indicator

### VUI

Fishing Tech	Vessel Length Group	Supra Region	Fleet Segment	Number of Vessels in fleet			segment (2015)
				2013	2014	2015	
DTS	VL0010	AREA27	GBR A27 DTS0010	0.34	0.39	0.36	249
DFN	VL0010	AREA27	GBR A27 DFN0010	0.20	0.21	0.17	619
DFN	VL1012	AREA27	GBR A27 DFN1012	0.35	0.37	0.37	8
DFN	VL1218	AREA27	GBR A27 DFN1218	0.72	0.70	0.78	7
DFN	VL1824	AREA27	GBR A27 DFN2440 °				7
DFN	VL2440	AREA27	GBR A27 DFN2440 °	1.04	0.99	1.01	9
DRB	VL0010	AREA27	GBR A27 DRB0010	0.28	0.24	0.31	106
DRB	VL1012	AREA27	GBR A27 DRB1012	0.54	0.47	0.48	31
DRB	VL1218	AREA27	GBR A27 DRB1218	0.57	0.56	0.56	114
DRB	VL1824	AREA27	GBR A27 DRB1824	0.83	0.84	0.84	25
DRB	VL2440	AREA27	GBR A27 DRB2440 °	0.89	0.83	0.92	29
DRB	VL40XX	AREA27	GBR A27 DRB2440 °				2
DTS	VL1012	AREA27	GBR A27 DTS1012	0.56	0.55	0.48	89
DTS	VL1218	AREA27	GBR A27 DTS1218 °	0.67	0.67	0.64	208
PMP	VL1218	AREA27	GBR A27 DTS1218 °				
DTS	VL1824	AREA27	GBR A27 DTS1824	0.71	0.76	0.75	173
DTS	VL2440	AREA27	GBR A27 DTS2440	0.85	0.88	0.93	82
DTS	VL40XX	AREA27	GBR A27 DTS40XX °	1.05	1.09	0.83	10
DTS	VL40XX	OFR	GBR A27 DTS40XX °				1
FPO	VL0010	AREA27	GBR A27 FPO0010	0.36	0.41	0.44	1716
FPO	VL1012	AREA27	GBR A27 FPO1012 °	0.65	0.68	0.69	167
PMP	VL1012	AREA27	GBR A27 FPO1012 °				
FPO	VL1218	AREA27	GBR A27 FPO1218	0.69	0.75	0.71	81
FPO	VL1824	AREA27	GBR A27 FPO1824 °	1.18	1.14	1.11	12
FPO	VL2440	AREA27	GBR A27 FPO1824 °				2
HOK	VL0010	AREA27	GBR A27 HOK0010	0.15	0.18	0.18	523
HOK	VL1012	AREA27	GBR A27 HOK1012 °	0.46	0.35	0.41	16
HOK	VL1218	AREA27	GBR A27 HOK1012 °				
HOK	VL1824	AREA27	GBR A27 HOK2440 °				
HOK	VL2440	AREA27	GBR A27 HOK2440 °	1.17	1.16	1.09	11
HOK	VL2440	OFR	GBR A27 HOK2440 °				
HOK	VL40XX	OFR	GBR A27 HOK2440 °				2
MGP	VL0010	AREA27	GBR A27 MGP0010 °	0.25	0.39	0.29	27
TM	VL0010	AREA27	GBR A27 MGP0010 °				2
MGP	VL1012	AREA27	GBR A27 MGP1218 °				12
MGP	VL1218	AREA27	GBR A27 MGP1218 °	0.36	0.37	0.39	19
MGP	VL2440	AREA27	GBR A27 MGP1218 °				
PS	VL1218	AREA27	GBR A27 MGP1218 °				3
PS	VL1824	AREA27	GBR A27 MGP1218 °				
TM	VL1012	AREA27	GBR A27 MGP1218 °				
TM	VL1218	AREA27	GBR A27 MGP1218 °				3
TM	VL1824	AREA27	GBR A27 MGP1218 °				
PGP	VL0010	AREA27	GBR A27 PGP0010 °	0.16	0.20	0.17	63
PGP	VL1012	AREA27	GBR A27 PGP0010 °				1
PGP	VL1218	AREA27	GBR A27 PGP0010 °				
PMP	VL0010	AREA27	GBR A27 PGP0010 °				6
TBB	VL0010	AREA27	GBR A27 TBB0010 °	0.29	0.38	0.19	10
TBB	VL1012	AREA27	GBR A27 TBB0010 °				2
TBB	VL1218	AREA27	GBR A27 TBB1218	0.61	0.56	0.62	10
TBB	VL1824	AREA27	GBR A27 TBB1824	1.13	1.12	1.09	18
TBB	VL2440	AREA27	GBR A27 TBB2440 °	0.98	1.00	0.93	25
TBB	VL40XX	AREA27	GBR A27 TBB2440 °				8
TM	VL2440	AREA27	GBR A27 TM40XX °				1
TM	VL40XX	AREA27	GBR A27 TM40XX °	0.29	0.31	0.34	27
PS	VL40XX	OFR	GBR A27 TM40XX °				
TM	VL40XX	OFR	GBR A27 TM40XX °				

## Appendix E. Results for balance indicators produced by the MMO

### Economic – Return on Investment:

	Fleet segment - as defined by JRC indicators	2013	2014	2015	Number of vessels in fleet segment (2015)
DFN					
	GBR A27 DFN0010	-0.99	3.31	-4.21	622
	GBR A27 DFN1012	3.49	12.24	11.99	8
	GBR A27 DFN2440 °	3.31	20.77	19.92	16
DRB					
	GBR A27 DRB0010	-5.12	-2.05	4.46	105
	GBR A27 DRB1012	3.53	14.69	19.59	32
	GBR A27 DRB1218	7.67	11.82	8.85	114
	GBR A27 DRB1824	14.48	11.12	7.23	25
	GBR A27 DRB2440 °	16.21	14.87	13.74	31
DTS					
	GBR A27 DTS0010	3.68	3.01	1.04	257
	GBR A27 DTS1012	8.59	9.93	5.57	89
	GBR A27 DTS1218 °	6.30	8.17	5.26	208
	GBR A27 DTS1824	7.64	9.08	5.57	171
	GBR A27 DTS2440	17.84	24.25	15.92	86
	GBR A27 DTS40XX °	-0.65	44.55	3.09	10
FPO					
	GBR A27 FPO0010	-0.34	-0.94	-1.57	1,739
	GBR A27 FPO1012 °	8.91	15.36	23.89	166
	GBR A27 FPO1218	11.58	20.74	22.53	81
	GBR A27 FPO1824 °	19.08	20.81	25.30	14
HOK					
	GBR A27 HOK0010	-3.93	-6.21	-4.48	527
	GBR A27 HOK1012 °	-42.73	-24.23	-10.53	17
	GBR A27 HOK2440 °	0.72	-3.57	9.18	13
MGP					
	GBR A27 MGP0010 °	-1.33	1.74	2.09	30
	GBR A27 MGP1218 °	5.30	3.24	2.95	37
PGP					
	GBR A27 PGP0010 °	7.22	-1.77	-4.23	70
TBB					
	GBR A27 TBB0010 °	-2.64	-9.45	-2.78	12
	GBR A27 TBB1218	-14.04	-11.60	4.12	10
	GBR A27 TBB1824	5.14	6.86	9.18	18
	GBR A27 TBB2440 °	-4.35	-6.34	2.99	33
TM					
	GBR A27 TM40XX °	5.87	9.95	4.41	28

## Economic – Current versus Breakeven Revenue:

Fleet segment - as defined by JRC indicators		2013	2014	2015	Number of vessels in fleet segment (2015)
DFN					
	GBR A27 DFN0010	1.19	1.59	0.81	622
	GBR A27 DFN1012	1.62	2.99	2.19	8
	GBR A27 DFN2440 °	1.56	3.04	2.23	16
DRB					
	GBR A27 DRB0010	0.85	1.06	1.43	105
	GBR A27 DRB1012	1.24	1.72	1.90	32
	GBR A27 DRB1218	1.65	1.82	1.87	114
	GBR A27 DRB1824	2.26	1.83	1.89	25
	GBR A27 DRB2440 °	2.32	2.01	1.95	31
DTS					
	GBR A27 DTS0010	1.54	1.46	1.32	257
	GBR A27 DTS1012	2.24	2.32	1.95	89
	GBR A27 DTS1218 °	1.88	1.87	1.82	208
	GBR A27 DTS1824	1.94	2.11	2.07	171
	GBR A27 DTS2440	2.72	3.26	3.31	86
	GBR A27 DTS40XX °	1.26	5.94	2.71	10
FPO					
	GBR A27 FPO0010	1.24	1.13	1.06	1739
	GBR A27 FPO1012 °	1.67	2.29	2.87	166
	GBR A27 FPO1218	1.58	1.89	2.05	81
	GBR A27 FPO1824 °	1.96	2.26	2.26	14
HOK					
	GBR A27 HOK0010	0.93	0.50	0.61	527
	GBR A27 HOK1012 °	0.08	0.06	-0.10	17
	GBR A27 HOK2440 °	1.06	0.99	1.55	13
MGP					
	GBR A27 MGP0010 °	1.08	1.42	1.22	30
	GBR A27 MGP1218 °	1.49	1.96	1.91	37
PGP					
	GBR A27 PGP0010 °	1.49	1.15	0.76	70
TBB					
	GBR A27 TBB0010 °	1.03	-0.25	0.97	12
	GBR A27 TBB1218	0.24	-0.94	1.93	10
	GBR A27 TBB1824	2.30	2.45	2.78	18
	GBR A27 TBB2440 °	0.92	0.81	1.33	33
TM					
	GBR A27 TM40XX °	1.80	5.17	3.86	28

## Technical – Vessel Utilisation Indicator:

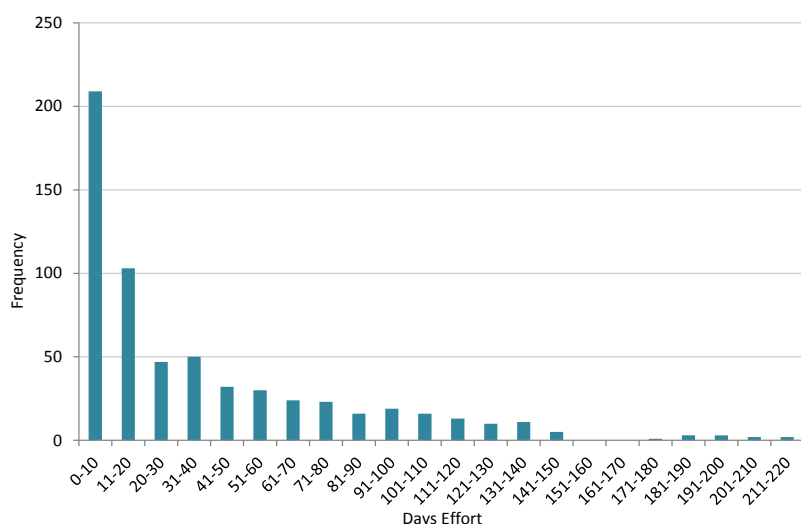
Fleet segment - as defined by JRC indicators				Number of vessels in fleet segment
	2013	2014	2015 (2015)	
GBR A27 DFN0010	0.26	0.27	0.25	622
GBR A27 DFN1012	0.37	0.43	0.35	8
GBR A27 DFN1218	0.74	0.71	0.84	7
GBR A27 DFN2440 °	1.11	1.06	1.04	16
GBR A27 DRB0010	0.31	0.27	0.33	105
GBR A27 DRB1012	0.58	0.52	0.50	32
GBR A27 DRB1218	0.58	0.58	0.57	114
GBR A27 DRB1824	0.86	0.86	0.88	25
GBR A27 DRB2440 °	0.91	0.86	0.97	31
GBR A27 DTS0010	0.38	0.42	0.40	257
GBR A27 DTS1012	0.60	0.58	0.52	89
GBR A27 DTS1218 °	0.70	0.70	0.67	208
GBR A27 DTS1824	0.74	0.78	0.78	171
GBR A27 DTS2440	0.87	0.91	0.97	86
GBR A27 DTS40XX °	1.08	1.10	0.92	9
GBR A27 FPO0010	0.44	0.51	0.54	1,739
GBR A27 FPO1012 °	0.65	0.69	0.71	166
GBR A27 FPO1218	0.72	0.77	0.74	81
GBR A27 FPO1824 °	1.20	1.19	1.15	14
GBR A27 HOK0010	0.17	0.19	0.21	527
GBR A27 HOK1012 °	0.42	0.32	0.41	17
GBR A27 HOK2440 °	1.20	1.18	1.09	11
GBR A27 MGP0010 °	0.25	0.40	0.33	28
GBR A27 MGP1218 °	0.40	0.40	0.42	31
GBR A27 PGP0010 °	0.24	0.26	0.23	64
GBR A27 TBB0010 °	0.35	0.48	0.32	12
GBR A27 TBB1218	0.63	0.58	0.64	10
GBR A27 TBB1824	1.14	1.13	1.10	18
GBR A27 TBB2440 °	1.03	1.01	0.97	33
GBR A27 TM40XX °	0.28	0.33	0.33	28

## Appendix F. Vessel Utilisation Indicator analysis

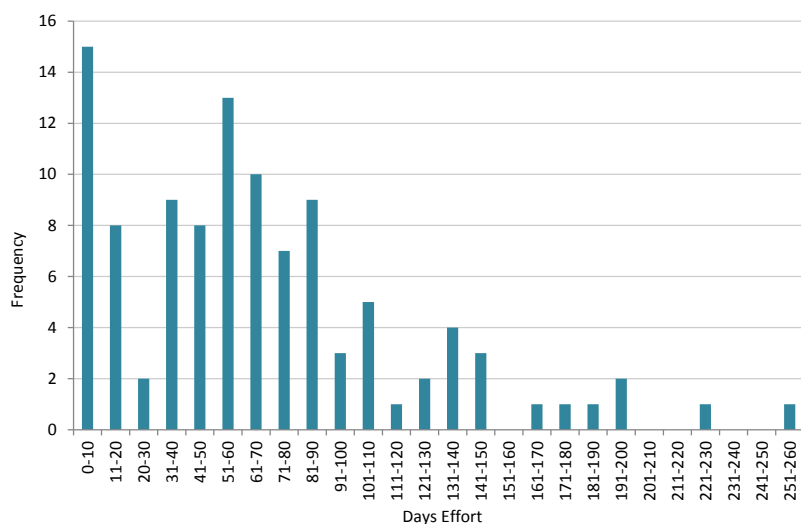
Given the highly variable nature of activity seen within each fleet segment within the UK fleet, the UK has provided a further split of activity within the fleet segments assessed as out of balance under the vessel utilisation indicator.

Nine of the segments above the threshold for this indicator when the standard value of 220 days per year is used as the basis of the comparison relate to vessels under 10m in length. These vessels are often engaged in highly seasonal patterns of activity. They may thus fish for only limited periods of the year as opposed to the level of 220 days that could be more applicable to larger vessels. They also vary significantly in their circumstances, ranging from vessels kept on as a hobby up to vessels operating at a level of activity that can exceed that of some vessels over 10m in length. As such the UK considers that the heterogeneous nature of vessels within each fleet segment and the seasonal restrictions on fishing makes it inappropriate to draw conclusions on fleet utilisation from the vessel utilisation indicator. This appendix provides evidence in support of this statement in the form of frequency distributions of days effort for the under 10 fleet segments in 2015. These show a wide range of effort levels within each segment with a large amount of effort between 0-100 days. The UK feels the VUI an unsuitable measure of fleet utilisation.

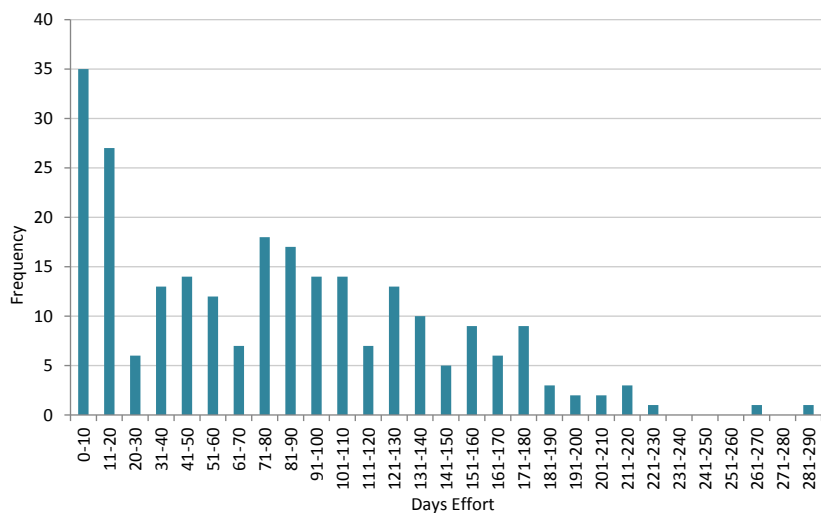
DFN VL0010 – Median: 53.5



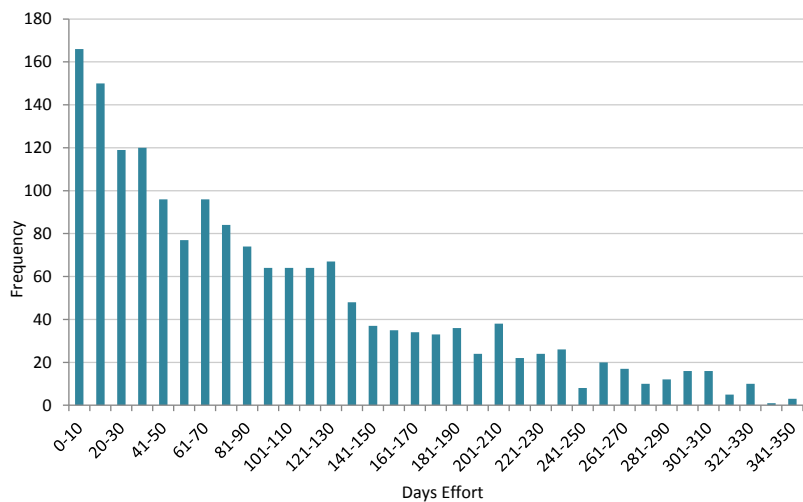
DRB VL0010 - Median: 68.5



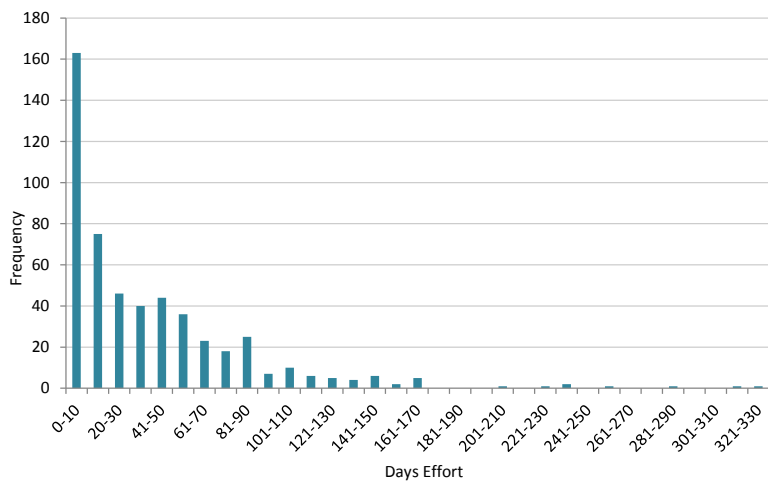
DTS VL0010 – Median: 85



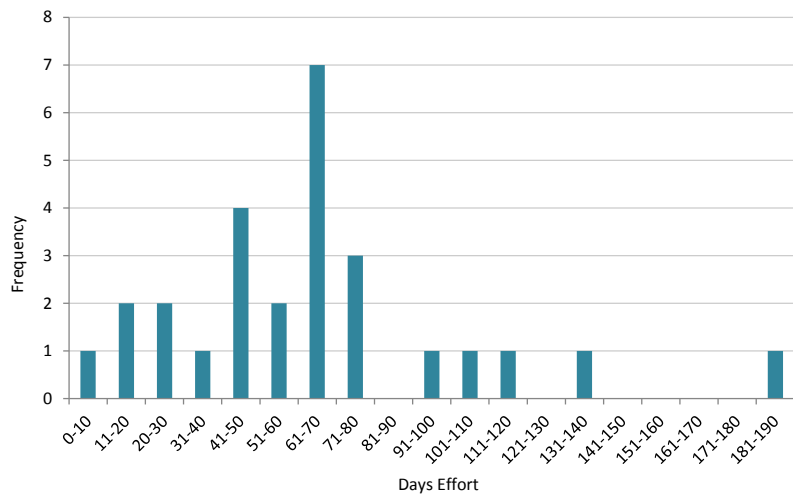
FPO VL0010 – Median: 109



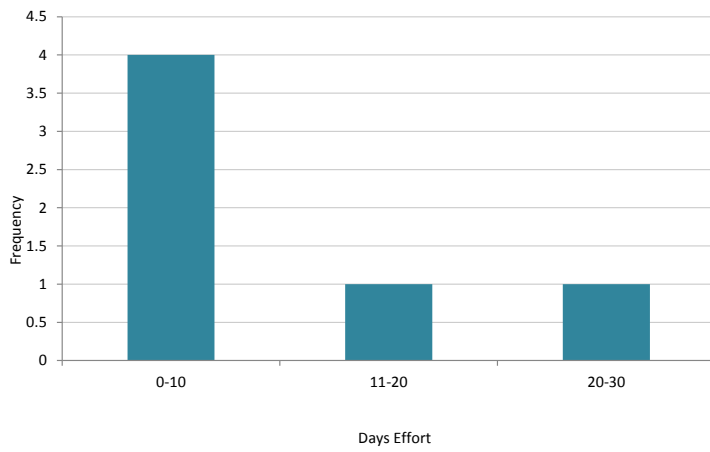
HOK VL0010 – Median: 42



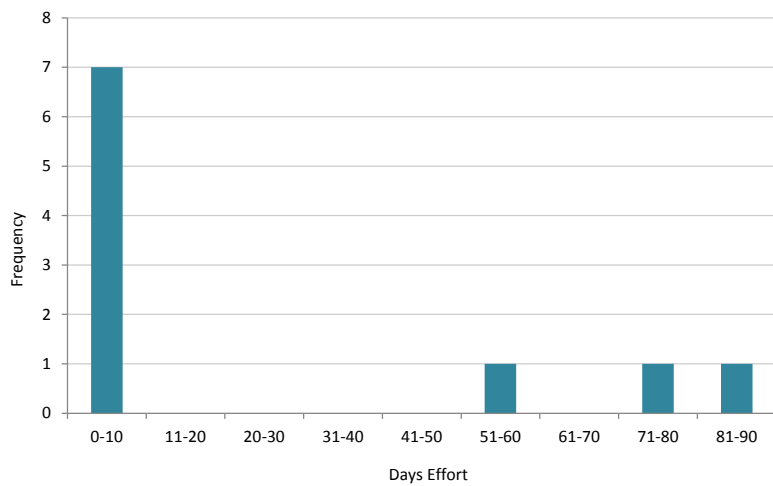
MGP VL0010 – Median: 67



PMP VL0010 – Median: 9



TBB VL0010 – Median: 5



TM VL0010 – Median: 50.5

