SEAFISH

QUAY ISSUES

2016 Economics of the UK Fishing Fleet

The authors would like to thank the many people who contributed to this study and report.

We are especially grateful to:

- The several hundred UK vessel owners and skippers who contributed their vessel accounts, completed questionnaires and participated in interviews.
- The national fishermen's organisations for their support and the producer organisations, vessel agents and fishermen's associations throughout the UK who assisted.
- The UK government fisheries departments, and the Marine Management Organisation, particularly Kevin Williamson, Matt Elliott and their team.
- The many firms of accountants who supplied accounts on behalf of vessel owners.
- Aisling Duncan, Morgan Edwards, Myles Bax and Robbie Waugh who contributed to the data collection phase of the research.
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- Total fishing income for UK vessels increased from £775 million in 2015 to around £920 million in 2016. The increase in fishing income is mostly due to higher average prices of all species groups in 2016. The average price per tonne landed was £1,318. With the exception of 2011 this was the highest average price during the time series, both nominally and adjusted for inflation.
- The number of active fishing vessels increased from 4,576 in 2015 to 4,607 in 2016. Of these vessels, around 1,700 were classed as low activity vessels with a fishing income of less than £10,000 in 2016.
- Seafish estimates that total expenditure on marine fuel was £98 million in 2015, representing a 30% decrease from 2014. Fuel cost as a proportion of total income remained at around 12%. Total spend on marine fuel in 2016 was an estimated £94 million.
- Total fleet operating profit was an estimated £170 million in 2015, and increased by 22% in 2016 to £207 million. Operating profit as a proportion of total income was stable at around 20% in both 2015 and 2016.
- Around 700 face-to-face interviews with skippers and vessel owners took place during the summer of 2016. These interviews highlighted issues such as the availability and cost of quota, fuel price and market issues - such as the price of fish - as the main factors impacting the financial performance of businesses. The first three issues of Quay Issues magazine investigated these concerns in more detail, looking at innovative approaches to tackle the challenges faced by the industry.
- When ambitions for the next few years were discussed, answers were mixed. Vessel owners and skippers mentioned several factors when discussing business limitations and uncertainty including quota, rising operating costs, competition, status of stocks, fish prices, the future political landscape and of course, the weather.

NB: All estimates for 2016 will be revised when vessel accounts are available in early 2018.

INTRODUCTION

The 2016 Economic Survey of the UK Fishing Fleet provides a detailed insight into the financial and operational performance of the fleet during 2015 and 2016. This is the eleventh edition of this annual report. We hope that the availability of accurate economic data and analysis of fleet performance will be used to enhance fisheries management and will benefit the UK fleet in the long-run.

Data for 2015 are estimates based on the same year costs and earnings samples collected by Seafish combined with official statistics on landings, capacity and effort, along with the latest fuel price. Due to a time lag in the availability of company accounts, 2016 estimates are generated using up-to-date landings data, 2016 fuel prices and 2015 cost structures and should therefore be considered as early estimates. Seafish will revise those estimates when 2016 vessel accounts becomes available in early 2018.

The dataset containing the estimates used in this report is publicly available to download in Excel workbook format from the Seafish website (http://www.seafish.org/research-economics/industry-economics/). This dataset does not include or reveal any individual vessel data, only segment totals and averages. The Seafish website also offers access to our full suite of publications covering the economic performance of both the UK fishing fleet and the UK seafood processing industry. Bespoke analyses are available upon request and depending on sufficient data being available.

If you have any comments about this report, would like to suggest improvements to be made in future reports or would like more detailed information, please contact us at:

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Production of this report is only possible with the goodwill of vessel owners (and their accountants) who participated in the survey

UK OVERVIEW INFOGRAPHIC

TOTAL UK FLEET FISHING INCOME

2015: **£775m**

2016: **£919m**

OPERATING PROFIT

£

2015: **£170m**

2016: **£207m**

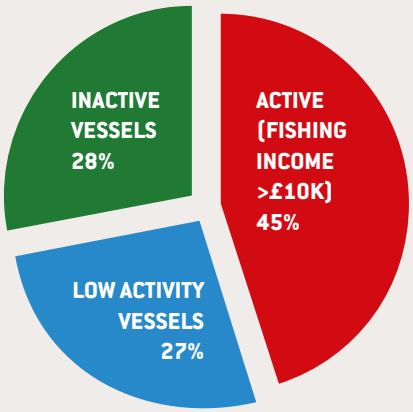
NET PROFIT

2015: **£115m**

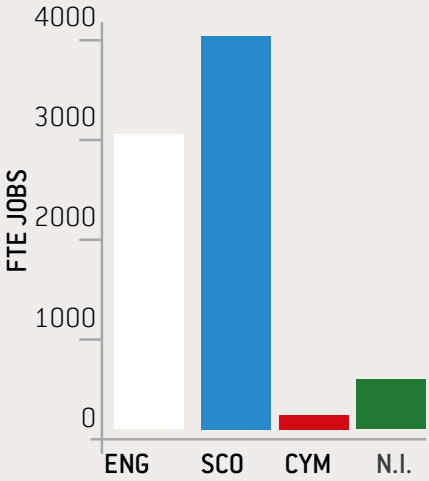
GVA

2015: **£372m**

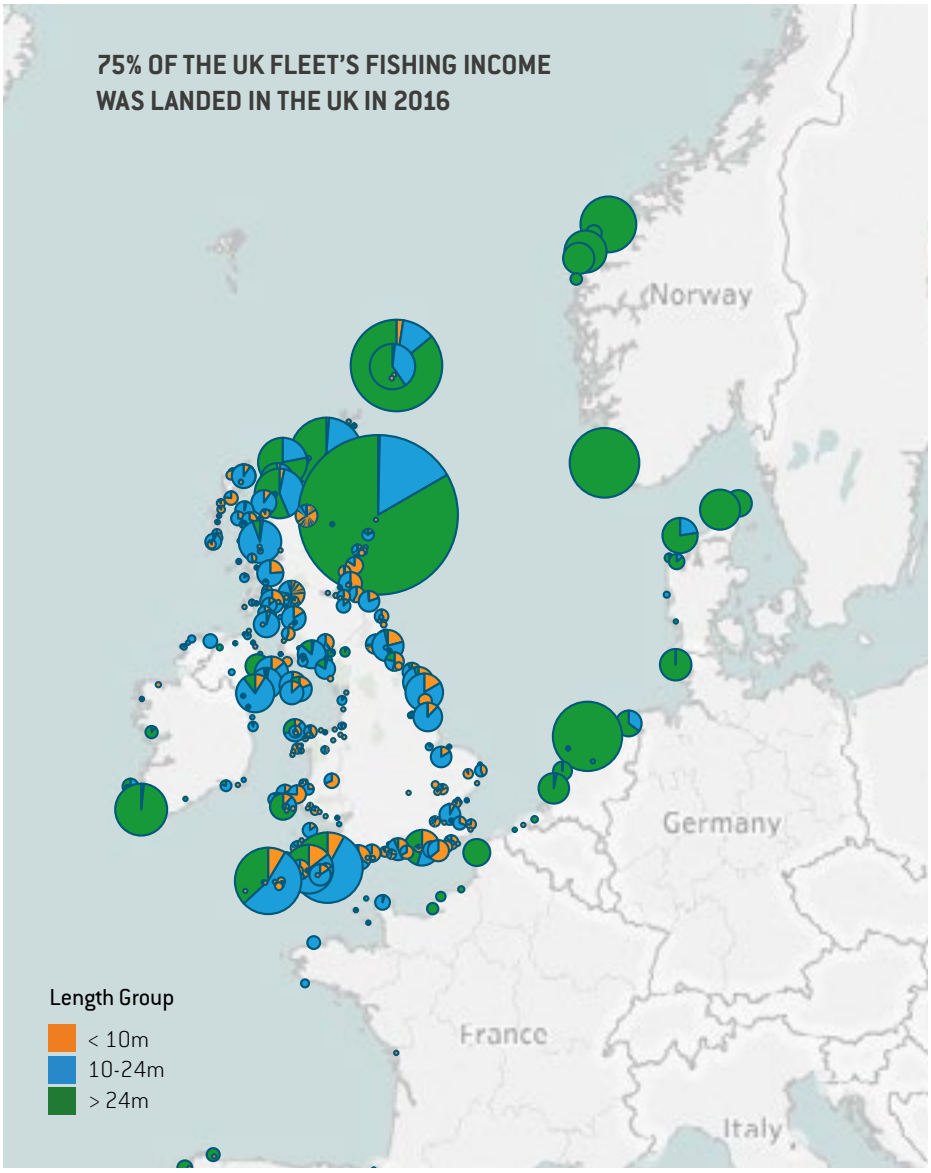
2016: **£467m**



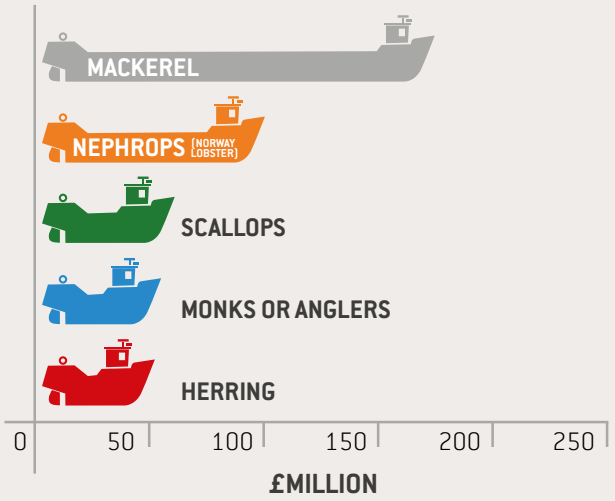
55% OF THE UK FISHING FLEET WAS CLASSED AS INACTIVE OR LOW ACTIVITY IN 2016



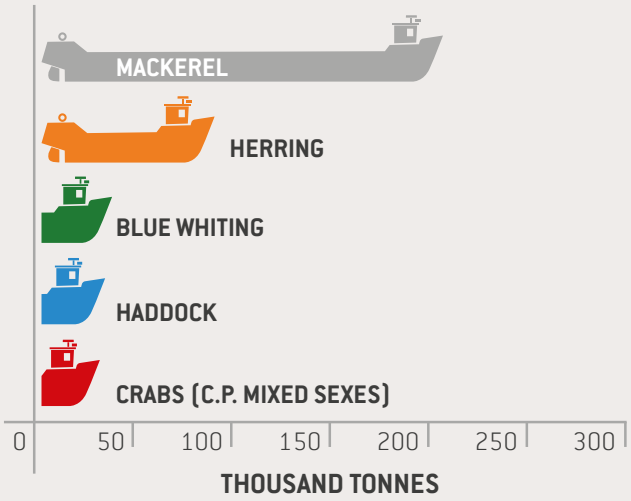
OVER HALF OF ALL FTE JOBS IN THE UK FISHING FLEET IN 2015 ARE ON SCOTTISH REGISTERED VESSELS



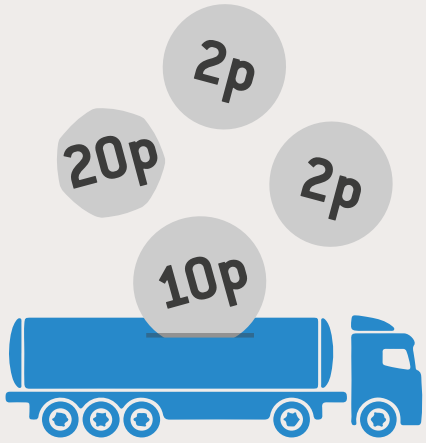
IN 2016 THE TOP FIVE SPECIES COMPRISED OVER HALF OF TOTAL FISHING INCOME



IN 2016 MACKEREL MADE UP OVER 30% OF THE TOTAL LANDINGS OF THE UK FISHING FLEET BY WEIGHT



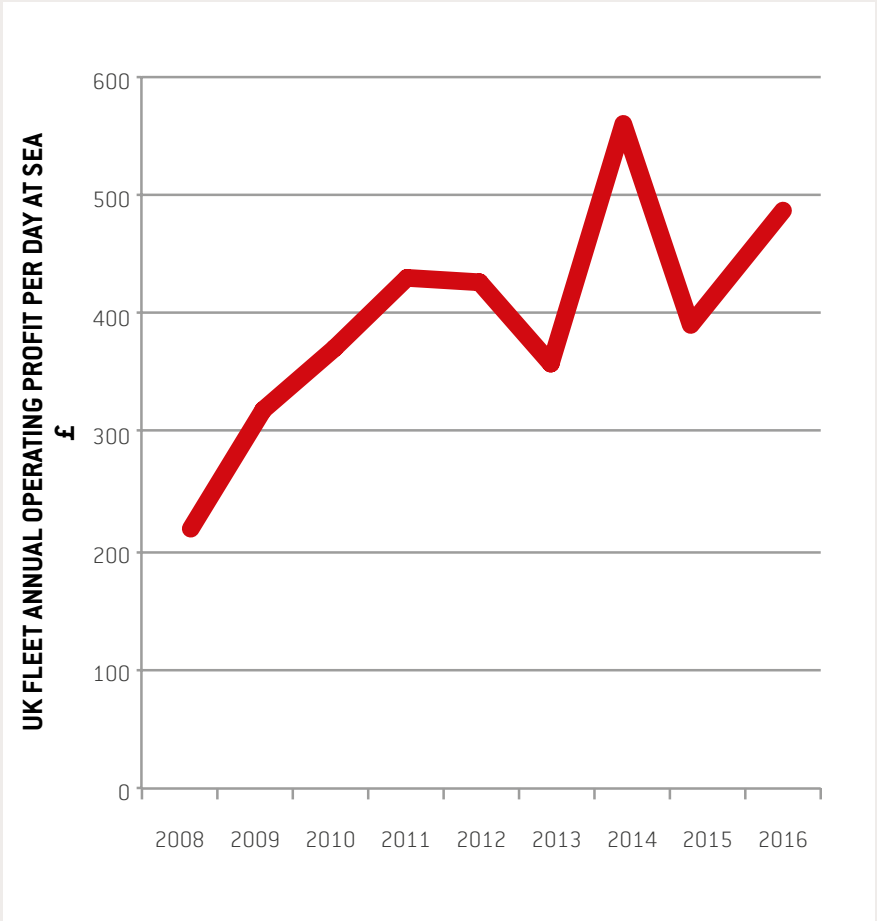
AVERAGE ANNUAL PRICE PER LITRE FELL SLIGHTLY FROM 35P PER LITRE IN 2015 TO 34P PER LITRE IN 2016



*Duty free price

AN ESTIMATED 4% OF TOTAL UK FLEET TURNOVER WAS NON-FISHING INCOME IN 2016

OPERATING PROFIT PER DAY AT SEA HAS BEEN ON AN UPWARD TREND SINCE 2008 SUGGESTING AN INCREASE IN THE EFFICIENCY OF THE FLEET



* Nominal figures

Source: Seafish 2016 Economic Survey of the UK Fishing Fleet, MMO UK Sea Fisheries Statistics 2015

UK OVERVIEW

There were 4,576 active vessels in the UK fishing fleet in 2015, 38% of which were low activity vessels, defined as vessels with annual fishing income under £10k. In addition, there were 1,844 inactive vessels, which were mostly small scale vessels, under 10m in length.

The number of active vessels increased by 31 boats to 4,607 in 2016, while the number of inactive vessels decreased by 75 vessels to 1,769. The proportion of low activity vessels in the active fleet remained at 37%.

The distribution of active and inactive vessels around UK ports in 2016 can be seen in Figures 1a and 1b.

Distribution of active vessels

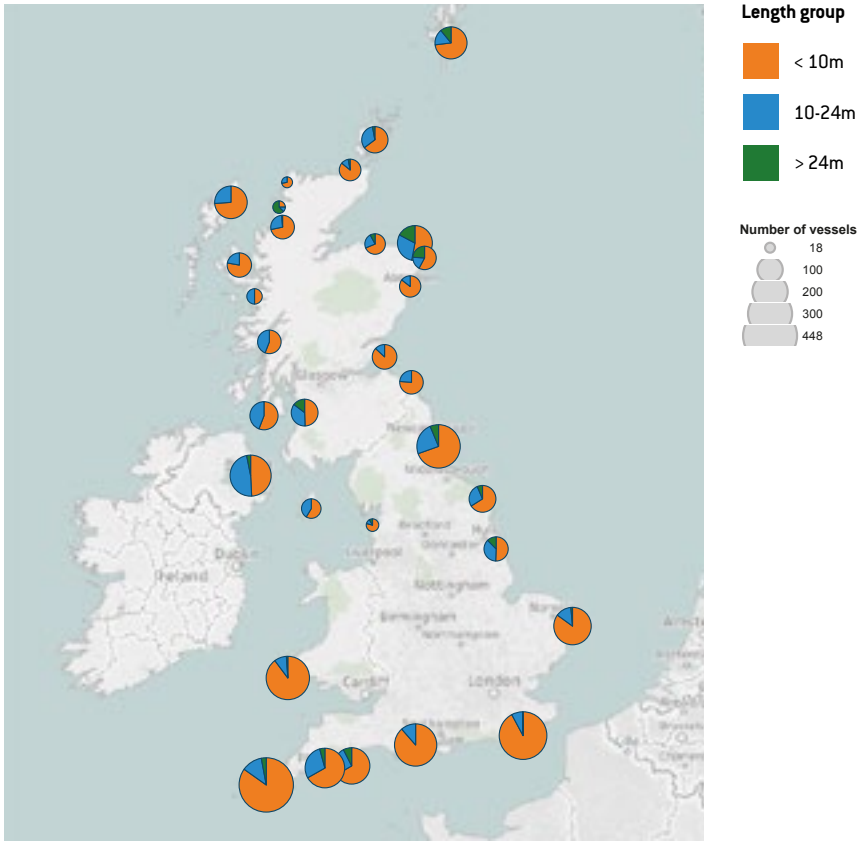


Figure 1a. Distribution of vessels around the UK, 2016
Source: MMO preliminary data, ports of administration have been used to allocate vessels.

Distribution of inactive vessels

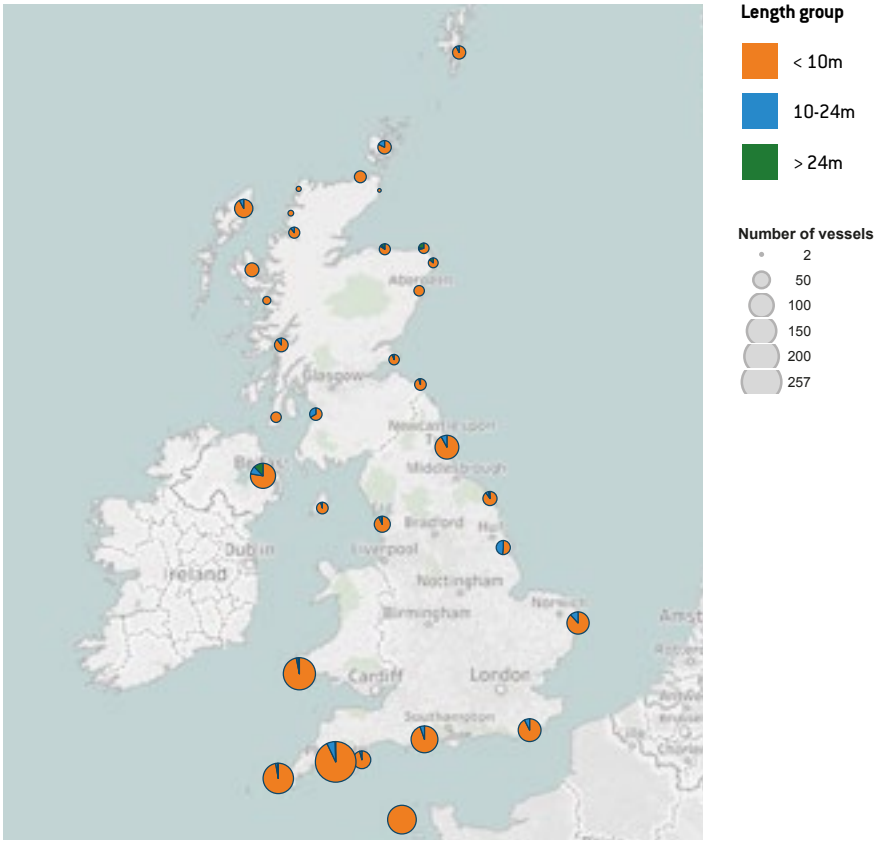


Figure 1b. Distribution of vessels around the UK, 2016
Source: MMO preliminary data, ports of administration have been used to allocate vessels.

The UK fishing fleet is highly diversifed with a broad range of vessels targeting a wide variety of different species. Whilst there are clearly differences between the fleets of the home nations, there is also a variety of vessels operating in the same fishing areas and this can sometimes lead to conflict between vessels using different gear types.

During the survey, conflict and competition between the small scale and large scale fleets was highlighted as a major factor impacting on financial performance. There were sectors that felt they were being hampered by increasingly tight management restrictions which were not properly consulted, whilst other sectors expressed a desire for more regulation of their fishing grounds.

Fishing income of the UK fleet in 2015 decreased by 10% compared to 2014, reaching a total of £775 million. Fishing income in 2016 increased by 19% compared to 2015, reaching £919 million.

This pattern of a decrease in fishing income in 2015 and a subsequent increase in 2016 was mainly driven by the pelagic sector and the change in fish prices for some important species in 2016. Possible reasons for the changes in the pelagic sector are the Russian trade ban implemented in August 2014 and the subsequent deterioration of the average mackerel price to £645 per tonne in 2015. In 2016 mackerel and herring prices increased significantly due to strong demand in the Far East (exports of mackerel to China and South Korea increased significantly in weight and value in 2016 compared to 2015) and lower quotas and landings weight. In addition, in 2016 scallop prices increased by 17% compared to 2015 and monkfish became one of the top 5 species by total value landed, contributing 6.5% to overall landings value. Cod and haddock dropped from the top 5 species by total value as their prices decreased in 2016 compared to 2015.

The distribution of the weight of landings by UK vessels in European ports in 2016 can be seen in Figure 2.

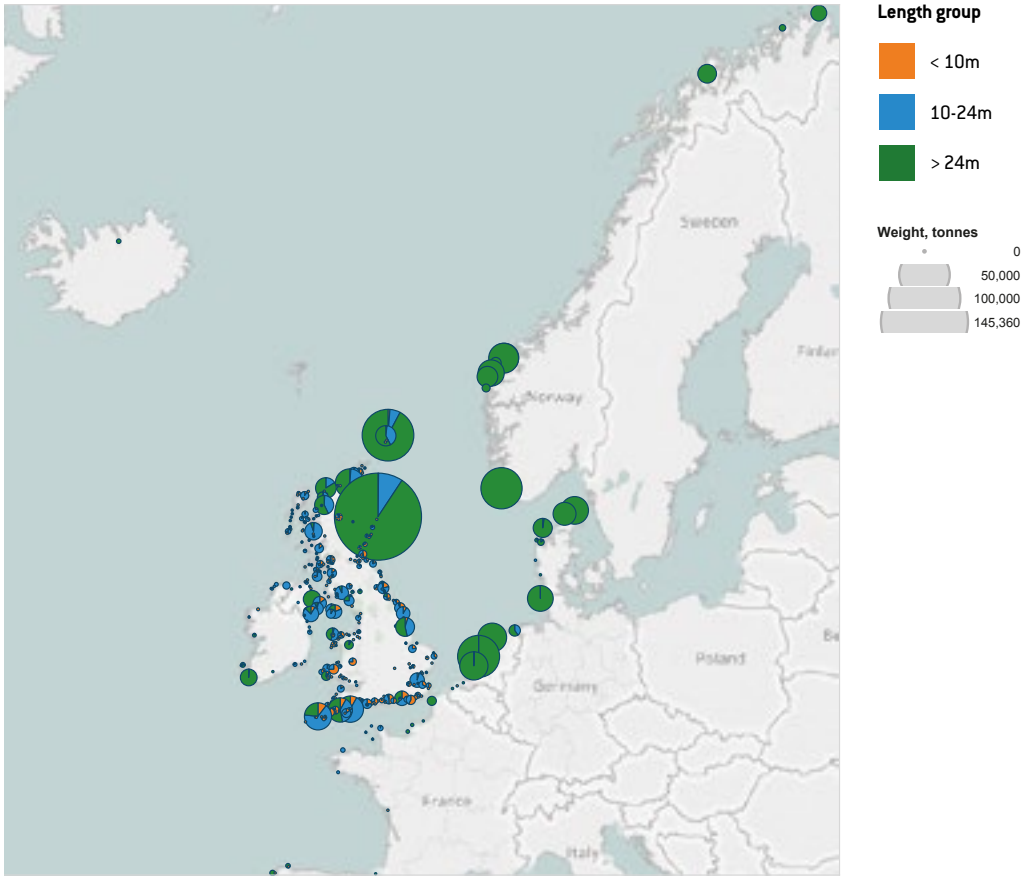


Figure 2. Weight of landings by ports, 2016
Source: MMO preliminary data, ports of actual landings.

In 2015 there were around 12,000 people employed in the UK fishing fleet. In terms of Full-Time Equivalent (FTE) jobs, the number of FTEs was estimated to be around 8,100 in 2015, an increase of almost 300 FTEs (4%) compared to 2014.

The Gross Value Added (GVA) of the UK fleet decreased from £443 million in 2014 to £372 million in 2015 (a 16% decrease). Based on preliminary estimates, GVA recovered in 2016 and reached £467 million, the best economic result of the fishing sector since 2008.

The distribution of employment and created Gross Value Added by administration port and vessel size are provided in Figure 3.

Employment (FTE)

Gross Value Added (GVA)

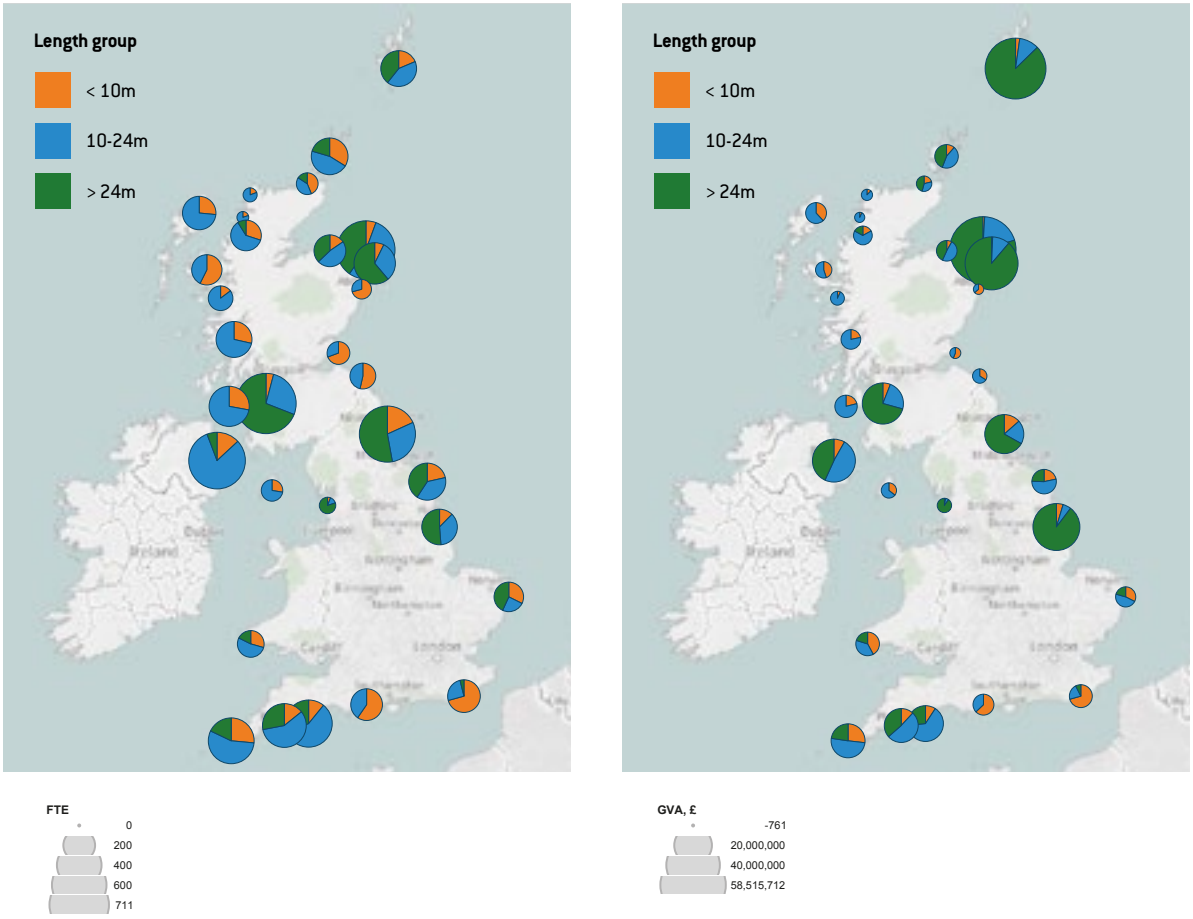


Figure 3. Distribution of employment (in FTE) and GVA by port of administration, 2015
Source: MMO data for ports of administration, which have been used to allocate variables to the ports; Seafish dataset for employment and GVA estimates.

HOME NATIONS ANALYSIS

England had the most vessels in 2016, with 2,288 active fishing vessels, representing 50% of all active vessels in the UK fleet. Scotland had the second largest number of vessels with 1,670 active vessels or 36% of UK active vessels. Wales and Northern Ireland had a total of 298 and 258 active vessels in 2016 respectively. The number of active vessels registered in Scotland increased by 10 boats in 2016 compared to 2015, which was the biggest change in a home nation fleet in 2015-2016.

Most UK active vessels are under 10m and most of them (54% of the total number of under 10m vessels) are registered in England.

Vessels over 10m in length represented only 27% of active vessels but 43% of the total fishing effort (days at sea). This imbalance is because many vessels under 10m have low levels of activity. Scotland had the largest number of over 10m vessels in 2016 (545, or 45% of the total number of over 10m active vessels in the UK).

The composition of the fleet by size category is presented in Figure 4.

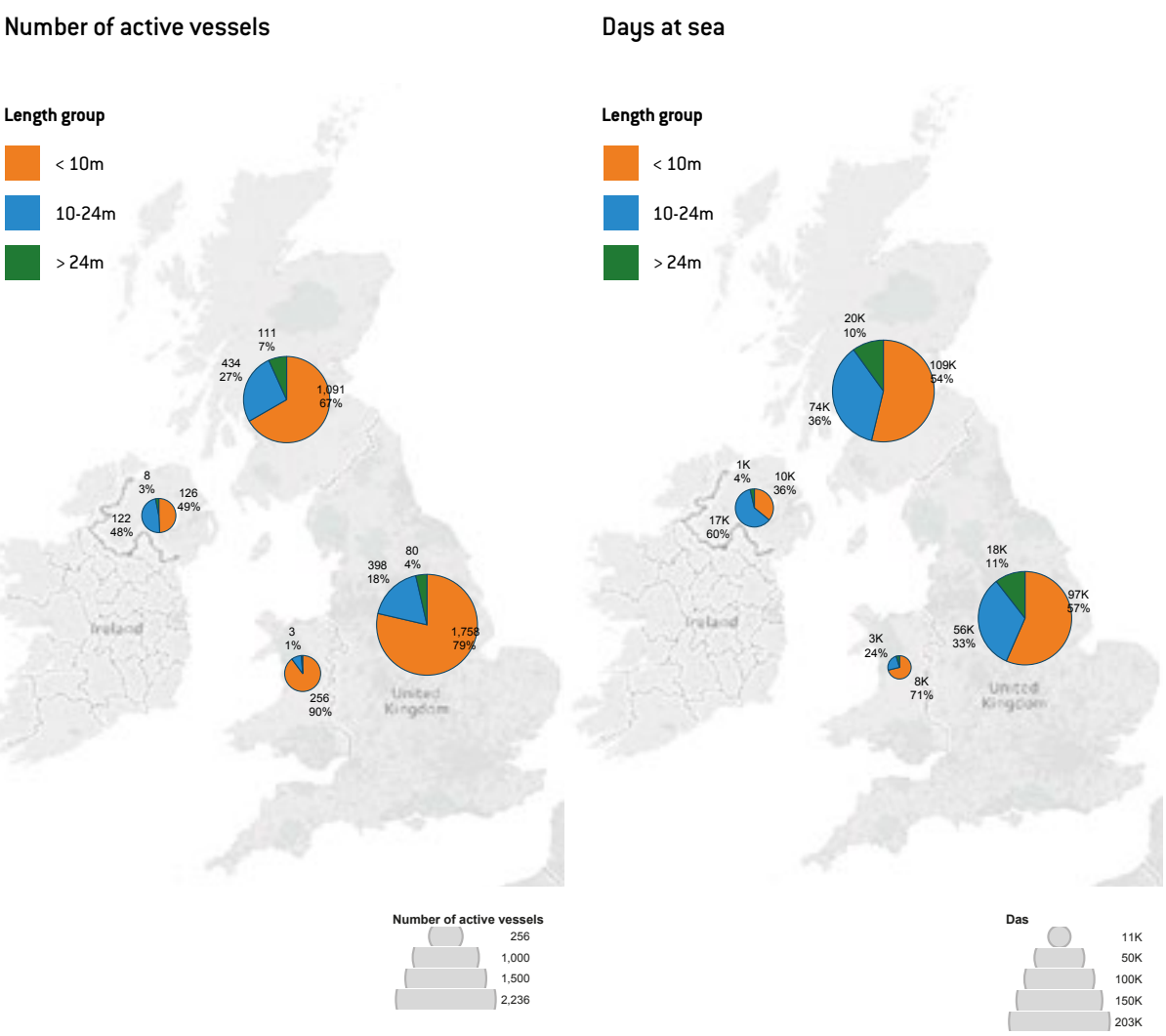


Figure 4. UK active fishing fleet and fishing effort by nation and size category, 2016
Source: MMO preliminary data, ports of administration have been used to allocate vessels to home nations.

HOME NATIONS ANALYSIS

Vessels registered in Scotland landed the most weight of fish in 2016, with just over 442,000 tonnes landed (63% of total landings by weight). This is followed by vessels registered in England with 202,000 tonnes landed. Landings by vessels registered in Northern Ireland and Wales were nearly 29,000 tonnes and 10,000 tonnes respectively. Scottish registered vessels also had the highest fishing income, representing 60% of UK fishing income; followed by vessels registered in England with 31% of the total.

Over 24m vessels registered in England or Scotland generated the largest share in the weight of landings in 2016 for vessels registered in each of their respective countries. For vessels registered in Wales the weight of landings was roughly evenly split between the three length groups, and for vessels registered in Northern Ireland 10-24m and over 24m vessels each landed roughly half the total weight of landings by Northern Irish registered vessels.

Over 24m vessels represented the largest share in fishing income for vessels registered in England, Scotland and Wales in 2016; for Northern Irish registered vessels 10-24m vessels landed the largest share of fishing income.

The weight and value of landings by home nation and vessel size are presented in Figure 5.

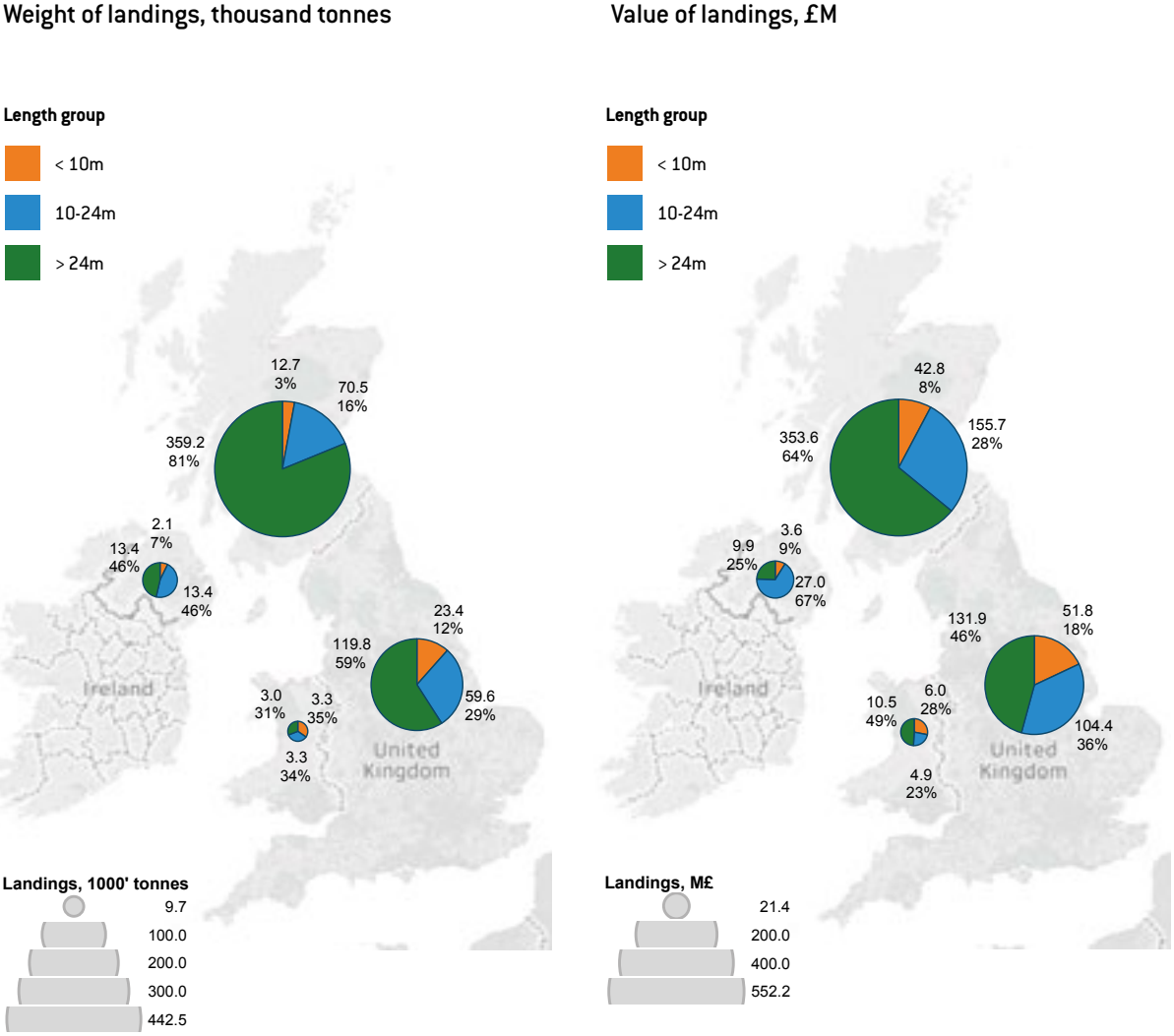


Figure 5. Landings by home nations, 2016
Source: MMO preliminary data, ports of administration have been used to allocate vessel landings to home nations.

We estimate Scottish registered vessels had the highest number of FTE in 2015 with nearly 4,180 FTEs, followed by English registered vessels with nearly 3,040 FTEs. These home nations represented approximately 52% and 37% of the total number of FTEs in the UK fishing fleet. Northern Irish and Welsh registered vessels represented 8% and 2% respectively. Overall, the majority of the FTEs were on vessels between 10m and 24m in length (see Figure 6).

Scottish and English registered vessels also had the highest GVA in 2015 at £216 million and £122 million respectively. GVA for Northern Irish and Welsh registered vessels was £24 million and £7 million. Vessels over 24m contributed the largest share to total GVA for English and Scottish registered vessels, while for Welsh registered vessels it was under 10m and for Northern Irish registered vessels it was 10-24m. In 2016 total GVA increased for English, Scottish and Welsh registered vessels but not for Northern Irish registered vessels.

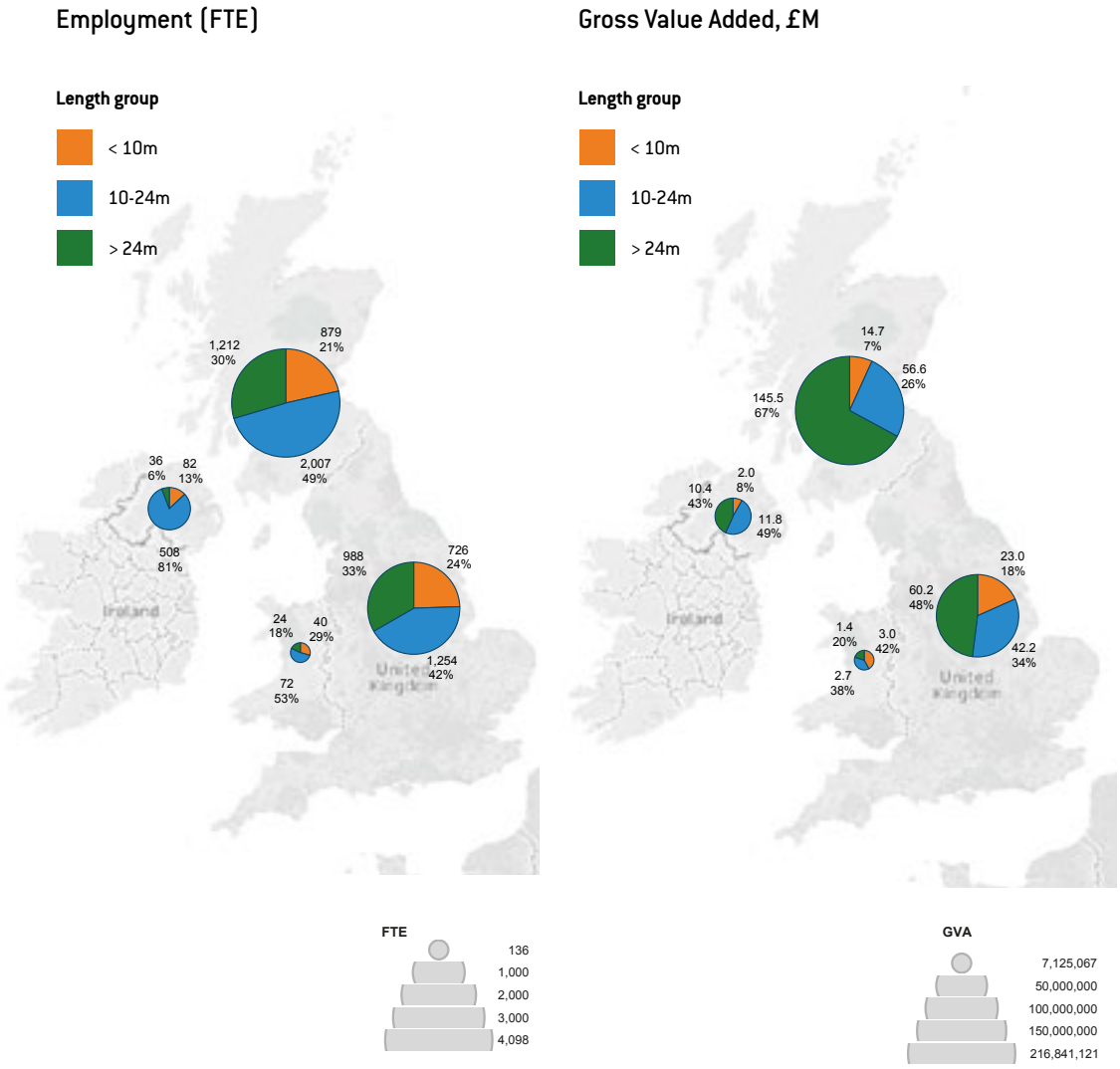
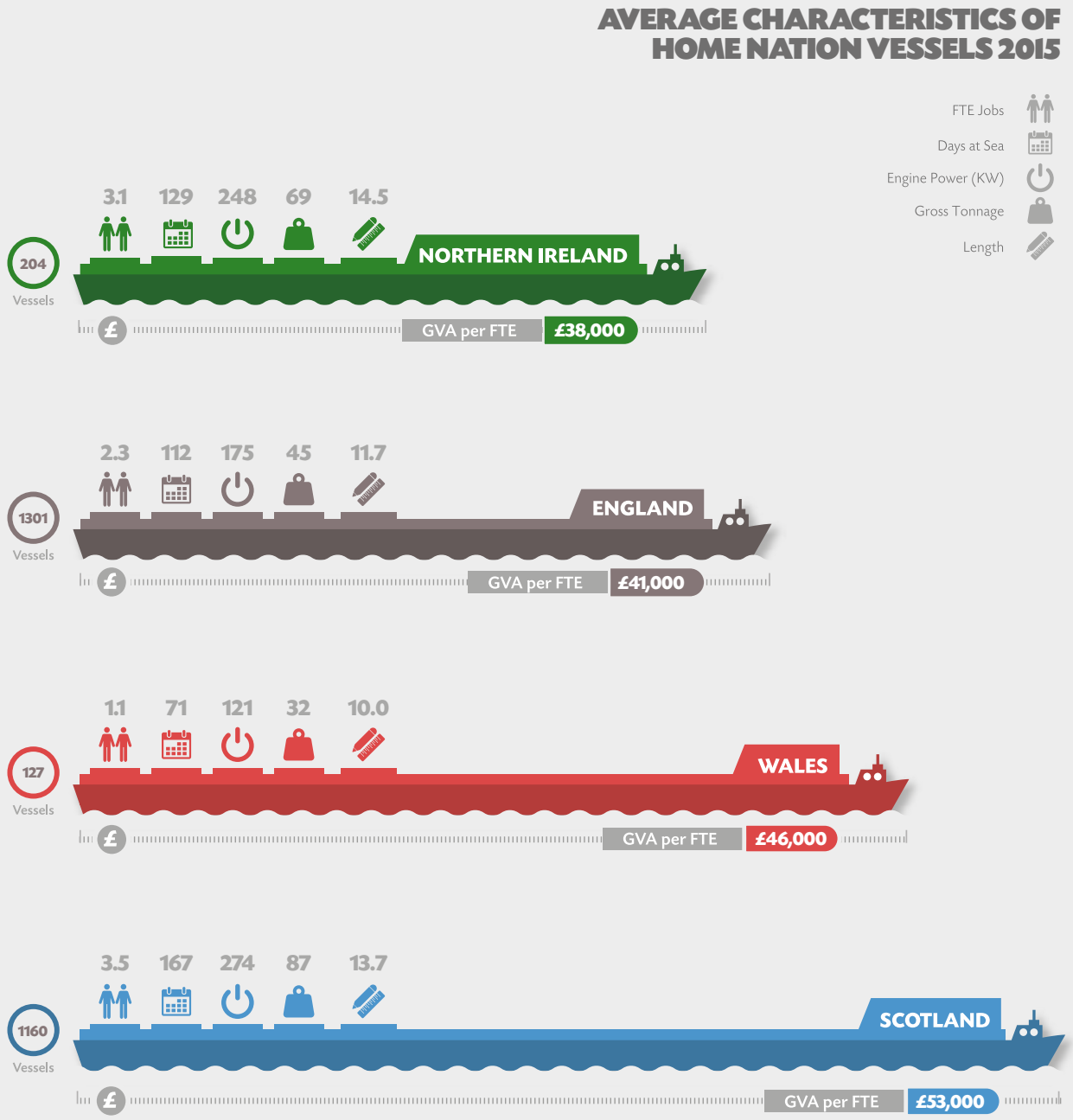


Figure 6. FTE jobs and GVA (£M) by home nation and vessel length group, 2015
Source: Seafish

HOME NATIONS ANALYSIS



Figures represent averages per vessel for all active vessels with annual landings » £10,000 in the calendar year 2015
Home nations are assigned based on vessel home port

VESSEL NUMBERS AND ACTIVITY

There were 4,576 active vessels in the UK fishing fleet in 2015, 1,736 of which were low activity vessels, defined as vessels with annual fishing income under £10k. In 2016 the number of active vessels increased by 31 to 4,607. The number of vessels increased in several fleet segments in 2016, including under 10m segments, North Sea beam trawls under 300kW, West of Scotland (WoS) nephrops and pots and traps 10-12m. Segments with fewer vessels in 2016 included North Sea and West of Scotland (NSWoS) demersal vessels, WoS nephrops under 250 kW and scallop dredgers under 15m.

There is a wide variation in the number of vessels in each fleet segment. Under 10m vessels comprised 55% of the number of active vessels in 2015 (excluding low activity vessels) and the largest segment by a wide margin was the under 10m pots and traps fleet, which comprised over 1,000 vessels (35% of active vessels excluding low activity). The remaining segments ranged from eight vessels in the North Sea beam trawl under 300kW segment to 223 vessels in the scallop dredge under 15m segment.

Average days at sea per vessel in 2015 ranged from 75 days at sea for pelagic vessels over 40m to 277 days at sea for Area VIIB-K trawlers between 24 and 40m. The largest changes compared to 2014 occurred in the Area VII demersal trawl segment, which decreased its average days at sea by 24%, and the NSWoS demersal pair trawl seine segment which increased its average days at sea by 27%. In 2016 average days at sea remained the same or increased compared to 2015 for all segments except six.

Average fishing income per vessel varies greatly across different fleet segments and there is a lot of variation among vessels within each fleet segment. In 2015 vessels under 10m using hooks, drift and/or fixed nets had an average fishing income per vessel of around £38,000, whereas North Sea beam trawlers over 300kW had an average fishing income per vessel of £1.8 million. Average fishing income in 2015 decreased in half of the fleet segments compared to the 2014 figures. In particular, average fishing income for Area VII demersal trawlers and North Sea nephrops vessels decreased by around 30% in 2015 compared to 2014. On the other hand, average fishing income for North Sea beam trawlers increased by 49% from 2014 to 2015 (More details on these changes can be found in our economic performance dataset available from the Seafish website).

In 2016 average fishing income increased among the whole fleet except for three segments (Area VIIA nephrops over 250kW, under 10m vessels using hooks and longliners), for which average fishing income remained at the same levels as in 2015.

In UK fishing most of the changes in revenues are related to fish prices or fishing opportunities and stock size, therefore knowing the main fish species targeted and changes in landings composition as well as fish prices allows us to understand the main drivers of changes. For example, the decline in the stock size of haddock in the North Sea as well as a reduction in fishing opportunities in 2017 is expected to affect NSWoS demersal fleets, which are highly dependent on North Sea haddock.

The UK is annually given an initial quota allocation of allowances for between 160-200 quota management units (combining species and area) by the EU; however most important are 10 management units which in 2016 provided 50% of the total value of landings. The most important non-TAC managed species by value are scallops, crabs, lobsters, whelks and cuttlefish, which in 2016 represented 20% of the total value landed by the UK fleet.

During our most recent survey, the availability and cost of quota was an issue often noted as impacting on the financial performance of businesses. A few participants were concerned with the methods of distributing the quota, which they felt led to lost fishing opportunities for some vessels.

For information about fishing capacity and activities by fleet segment see Table 1.

VESSEL NUMBERS AND ACTIVITY

TABLE 1: NUMBER OF VESSELS, AVERAGE DAYS AT SEA, AVERAGE FISHING INCOME, SPECIES AND STOCK DEPENDENCIES BY SEAFISH SEGMENT

SEGMENT	NO. OF VESSELS		AVG. DAYS AT SEA		AVG. FISHING INCOME (£'000)	
	2015	2016	2015	2016	2015	2016
Area VIIA demersal trawl	13 ↑	14 ↑	100 ↓	124 ↑	133 ↓	196 ↑
Area VIIA nephrops over 250kW	36 ↓	32 ↓	158 →	140 ↓	280 ↑	276 →
Area VIIA nephrops under 250kW	41 ↓	43 →	127 →	135 ↑	142 ↑	158 ↑
Area VIIBCDEFGHK 24-40m	13 ↑	11 ↓	277 →	286 →	1,615 ↓	1,806 ↑
Area VIIBCDEFGHK trawlers 10-24m	68 →	63 ↓	149 ↓	170 ↑	209 ↓	251 ↑
North Sea beam trawl over 300kW	10 ↓	9 ↓	230 →	247 ↑	1,864 ↑	2,687 ↑
North Sea beam trawl under 300kW	8 ↓	22 ↑	120 →	86 ↓	96 ↑	107 ↑
North Sea nephrops over 300kW	43 ↓	48 ↑	168 ↓	203 ↑	392 ↓	599 ↑
North Sea nephrops under 300kW	57 ↓	62 ↑	108 ↓	135 ↑	123 ↓	189 ↑
NSWOS demersal over 24m	42 ↑	43 →	207 →	207 →	1,559 ↓	1,945 ↑
NSWOS demersal pair trawl seine	28 ↓	25 ↓	191 ↑	199 →	1,352 ↑	1,755 ↑
NSWOS demersal seiners	16 ↓	16 →	144 →	158 ↑	983 →	1,119 ↑
NSWOS demersal under 24m over 300kW	45 ↑	34 ↓	186 ↑	191 →	717 ↓	1,029 ↑
NSWOS demersal under 24m under 300kW	23 ↑	12 ↓	105 ↓	124 ↑	179 ↓	324 ↑
South West beamers over 250kW	22 ↑	23 →	202 ↓	208 →	664 →	826 ↑
South West beamers under 250kW	24 →	23 →	222 ↓	233 ↑	536 ↓	649 ↑
UK scallop dredge over 15m	94 ↓	92 →	174 →	183 ↑	442 ↑	518 ↑
UK scallop dredge under 15m	223 ↑	179 ↓	97 ↑	112 ↑	122 ↓	155 ↑
Under 10m demersal trawl/seine	191 ↓	188 →	106 →	110 →	58 ↓	73 ↑
Under 10m drift and/or fixed nets	218 ↓	217 →	81 ↓	83 →	38 ↓	42 ↑
Under 10m pots and traps	1,004 →	1,075 ↑	136 ↑	123 ↓	52 →	62 ↑
Under 10m using hooks	137 ↓	165 ↑	82 ↑	71 ↓	38 ↑	38 →
WOS nephrops over 250kW	42 →	51 ↑	175 ↓	185 ↑	309 ↓	404 ↑
WOS nephrops under 250kW	90 →	84 ↓	150 ↓	157 →	149 ↓	185 ↑
Gill netters	31 ↓	30 →	177 ↑	171 →	508 →	586 ↑
Longliners	25 ↓	28 ↑	183 ↑	179 →	944 ↑	922 →
Pots and traps 10-12m	161 →	174 ↑	163 →	158 →	126 ↑	140 ↑
Pots and traps over 12m	95 →	93 →	171 →	183 ↑	371 ↓	435 ↑
Miscellaneous	13 ↑	16 ↑	115 ↓	117 →	1,958 ↓	1,556 ↓
Low activity over 10m	48 ↓	56 ↑	22 ↓	25 ↑	5 →	4 ↓
Low activity under 10m	1,688 ↑	1,653 →	30 ↑	25 ↓	3 →	3 ↑
Pelagic over 40m	27 ↓	26 →	75 ↑	69 ↓	7,340 ↓	8,974 ↑

↓ Indicates a decrease of >5% compared to previous year

→ Indicates a change in the range of +/- 5% compared to previous year

↑ Indicates an increase of >5% compared to previous year

VESSEL NUMBERS AND ACTIVITY

MAIN STOCK BY VALUE	STOCK STATUS	STOCK DEPENDENCY % of fleet segment revenues	FLEET SIGNIFICANCE % of stock landings that is caught by this fleet	2nd MAIN STOCK BY VALUE	STOCK STATUS	STOCK DEPENDENCY % of fleet segment revenues	FLEET SIGNIFICANCE % of stock landings that is caught by this fleet
Scallops		36%	1%	Nep VII		30%	3%
Nep VII		76%	51%	WC Nephrops		11%	4%
Nep VII		80%	31%	WC Nephrops		10%	3%
Anglers VII		38%	32%	Meg VII		31%	67%
Lemon Sole		19%	52%	Cuttlefish		17%	21%
NS Plaice		61%	52%	NS Sole		24%	66%
Brown Shrimps		59%	63%	Scallops		17%	0%
NS Nephrops		54%	37%	NS Anglers IIa(EC),IV(EC)		10%	10%
NS Nephrops		76%	25%	WC Nephrops		11%	2%
NS Haddock		15%	25%	NS Cod		12%	26%
NS Haddock		38%	40%	NS Cod		27%	36%
NS Haddock		35%	17%	NS Cod		21%	12%
NS Anglers IIa(EC),IV(EC)		21%	35%	NS Cod		16%	18%
NS Nephrops		17%	3%	NS Anglers IIa(EC),IV(EC)		14%	3%
Anglers VII		24%	21%	Cuttlefish		20%	28%
Cuttlefish		21%	26%	Sole VIIe		18%	48%
Scallops		79%	58%	Queen Scallops		15%	86%
Scallops		64%	30%	Cockles		20%	95%
NS Nephrops		25%	11%	WC Nephrops		18%	5%
Sole VIId		23%	62%	Bass		21%	31%
Lobsters		36%	58%	Crabs (C.P.Mixed Sexes)		20%	28%
Scallops		29%	2%	Bass		25%	20%
WC Nephrops		78%	29%	NS Nephrops		10%	5%
WC Nephrops		94%	38%	NS Nephrops		2%	1%
NS Anglers IIa(EC),IV(EC)		20%	15%	Anglers VII		20%	20%
WS Hake incl VII		68%	69%	NS Hake		15%	31%
Lobsters		28%	17%	WC Nephrops		24%	4%
Crabs (C.P.Mixed Sexes)		65%	55%	Lobsters		17%	18%
Cod IIb Spitzbergen		37%	100%	Cod I,II Norway		28%	94%
Scallops		26%	0%	Lobsters		18%	0%
Lobsters		32%	6%	Bass		12%	12%
Mackerel IVa (flex box)		40%	98%	WC Mackerel		37%	97%

Stock status (ICES advice):

- Unknown
- Below MSY Btrigger
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FISHING INCOME AND FISH PRICES

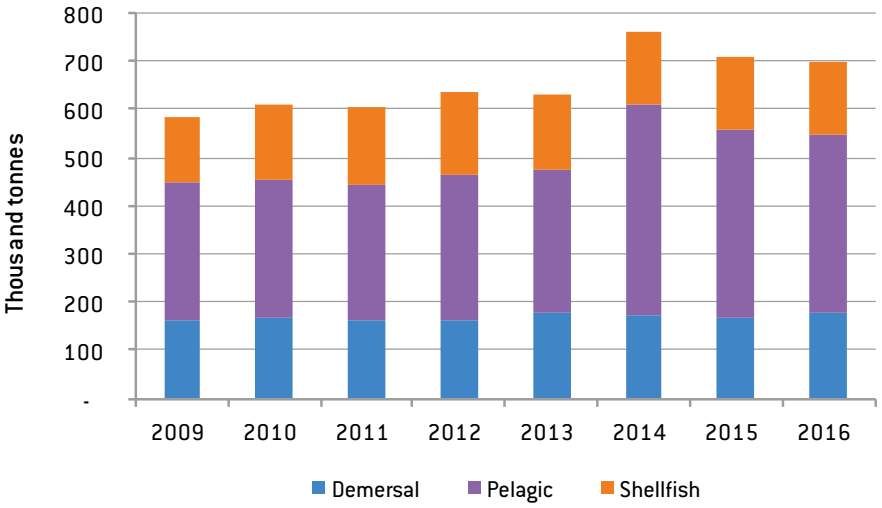
A number of factors drive fishing income, including the price obtained for landings, the weight of landings and the number of days at sea a vessel operates.

OVERVIEW

The total weight of fish landings by UK vessels at home and abroad was 706,000 tonnes in 2015 and 697,000 tonnes in 2016, representing an 8% decrease from the 2014 weight of landings. This was due to a decrease in the weight of pelagic landings, as seen in Figure 7.

The total income of UK vessels was £772 million in 2015, an 11% decrease from 2014. This was largely as a result of the decrease in the weight and average price of pelagic landings and to a lesser extent, due to a lower average price of shellfish landings. In 2016 the value of landings increased to £919 million (a 17% increase compared to 2015), due to an increase in the average price of all species types, particularly shellfish.

Weight of UK fleet landings



Value of UK fleet landings

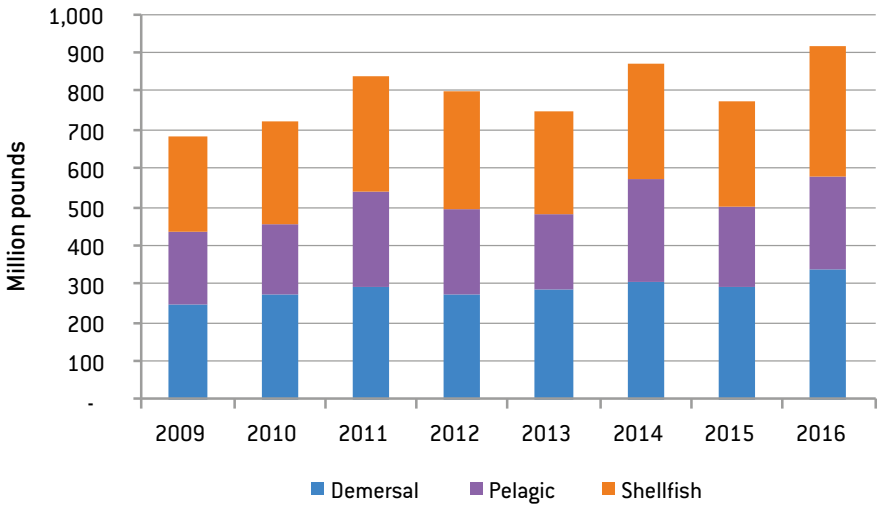


Figure 7. Quantity and value of landings (nominal) by UK vessels
Source: MMO data

FISH PRICES

Generally, shellfish and demersal species are the most valuable per tonne, reaching average prices approximately three times higher than those of pelagic species.

The average nominal prices for all species types decreased in 2015 compared to 2014. The average price of demersal and shellfish species decreased by 2% and 5% respectively; and the average price of pelagic species fell by 15%.

In 2016 the average nominal prices increased for all species types compared to 2015. The largest increase was for pelagic and shellfish species, which increased their average prices by 25% and 23% respectively. Demersal species increased their average price by 8%.

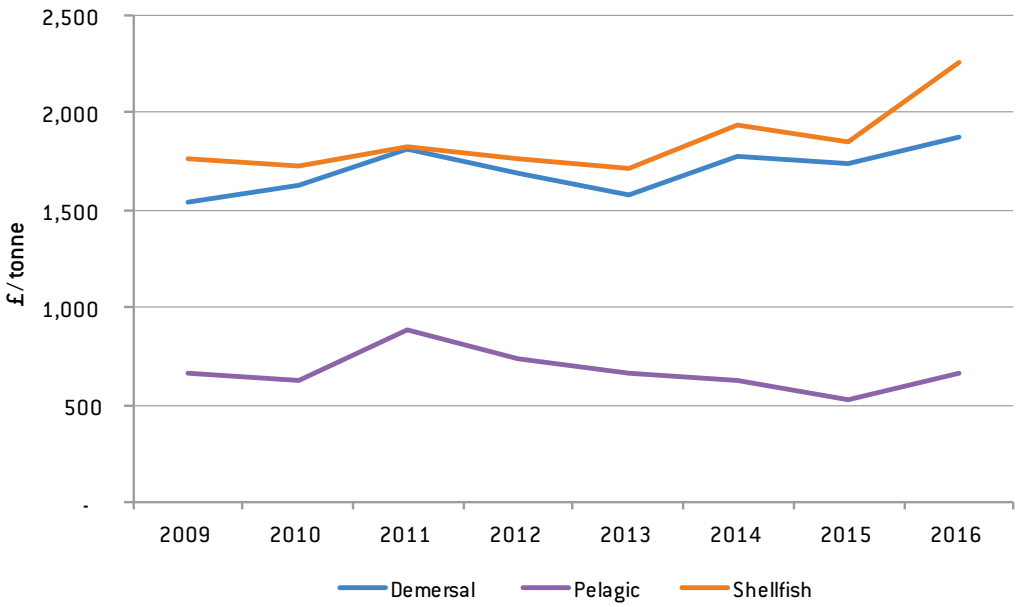


Figure 8. Average first sale price (nominal) by species group
Source: MMO data

FISHING INCOME AND FISH PRICES

FISHING PRODUCTIVITY

There is significant variation between segments in the weight of landings per day at sea, which is mostly related to carrying capacity and type of fishing, e.g. under 10m vessels land approximately 0.2 tonnes per day at sea, while NSWoS demersal vessels over 24m land an average of 5 tonnes per day at sea.

For most segments, average productivity (weight of landings per day at sea) decreased or remained at similar levels in 2015 compared to 2014, with an overall decline in weight of landings per day at sea of 1% across the fleet. This trend was reversed in 2016, with most segments (15 out of 28) increasing their productivity on average by 15%. There is a wide range of variation between individual segments, from a 22% decline in weight of landings per day at sea for North Sea beam trawlers under 300kW to a 25% increase for WoS nephrops over 250kW and NS nephrops under 300kW.

Annual average fishing income per day at sea in 2015 varied from £460 for under 10m vessels using hooks to £8,100 for NS beam trawlers over 300kW. The majority of segments had a similar or lower fishing income per day at sea in 2015 compared to 2014, reflecting the decrease in price of landings seen in Figure 8 and a decrease in landings per day at sea as discussed above. In 2016 nearly all segments increased fishing income per day, this is a result of the higher average price of landings in 2016 as seen in Figure 8.

Fishing expenditure per day at sea varies greatly between segments. Under 10m vessels had the lowest average expenditure with £250 per day at sea in 2015, while NS beam trawlers over 300kW had the highest, with £7,300 per day at sea. In 2016 fishing expenditure per day at sea increased for nearly all segments, expenditure includes cost of labour and if revenues increase so does crew share.

FISHING INCOME AND FISH PRICES

TABLE 2: WEIGHT OF LANDINGS, FISHING INCOME AND FISHING EXPENDITURE (PER DAY AT SEA) BY SEAFISH SEGMENT

SEGMENT	LANDINGS PER DAY (TONNES)		FISHING INCOME PER DAY (£)		FISHING EXPENDITURE PER DAY (£)	
	2015	2016	2015	2016	2015	2016
Area VIIA demersal trawl	0.85 →	0.77 ↓	1,339 ↓	1,582 ↑	654 ↓	752 ↑
Area VIIA nephrops over 250kW	0.93 ↑	0.93 →	1,774 ↑	1,971 ↑	1,037 →	1,125 ↑
Area VIIA nephrops under 250kW	0.59 ↑	0.56 →	1,117 ↑	1,166 →	574 ↓	593 →
Area VIIBCDEFGHK 24-40m	2.21 →	1.99 ↓	5,834 →	6,324 ↑	4,610 ↓	4,652 →
Area VIIBCDEFGHK trawlers 10-24m	0.86 ↓	0.90 →	1,397 →	1,478 ↑	800 ↓	835 →
North Sea beam trawl over 300kW	4.64 →	4.86 ↑	8,111 ↑	10,899 ↑	7,308 ↑	9,561 ↑
North Sea beam trawl under 300kW	0.69 ↑	0.43 ↓	799 ↑	1,240 ↑	819 →	1,345 ↑
North Sea nephrops over 300kW	1.03 ↓	1.12 ↑	2,326 ↑	2,952 ↑	1,650 ↓	2,013 ↑
North Sea nephrops under 300kW	0.44 ↓	0.55 ↑	1,140 ↓	1,404 ↑	776 ↓	917 ↑
NSWOS demersal over 24m	4.92 →	5.48 ↑	7,519 ↓	9,418 ↑	5,258 ↓	6,375 ↑
NSWOS demersal pair trawl seine	4.87 ↓	5.45 ↑	7,079 ↓	8,799 ↑	5,204 →	6,387 ↑
NSWOS demersal seiners	4.75 ↓	4.56 →	6,849 ↓	7,083 →	4,677 →	4,823 →
NSWOS demersal under 24m over 300kW	2.14 ↓	2.48 ↑	3,856 ↓	5,394 ↑	2,683 ↓	3,578 ↑
NSWOS demersal under 24m under 300kW	0.92 ↓	1.12 ↑	1,704 →	2,619 ↑	991 ↓	1,443 ↑
WOS nephrops over 250kW	0.77 ↓	0.92 ↑	1,769 →	2,189 ↑	1,087 ↓	1,301 ↑
WOS nephrops under 250kW	0.36 ↓	0.45 ↑	991 →	1,178 ↑	540 ↓	626 ↑
South West beamers over 250kW	1.38 ↑	1.35 →	3,290 ↑	3,973 ↑	2,205 ↓	2,559 ↑
South West beamers under 250kW	0.99 ↑	0.90 ↓	2,417 →	2,787 ↑	1,765 ↓	1,996 ↑
UK scallop dredge over 15m	1.74 ↑	1.57 ↓	2,544 ↑	2,828 ↑	1,336 →	1,443 ↑
UK scallop dredge under 15m	1.06 →	0.79 ↓	1,256 ↓	1,384 ↑	679 ↓	736 ↑
Under 10m demersal trawl/seine	0.24 ↓	0.27 ↑	543 ↓	662 ↑	294 ↓	347 ↑
Under 10m drift and/or fixed nets	0.20 →	0.22 ↑	467 ↓	504 ↑	249 →	266 ↑
Under 10m pots and traps	0.18 ↓	0.20 ↑	386 ↓	504 ↑	227 ↓	288 ↑
Under 10m using hooks	0.15 ↑	0.18 ↑	458 ↑	542 ↑	243 ↑	282 ↑
Gill netters	1.40 →	1.53 ↑	2,864 ↓	3,423 ↑	1,559 →	1,837 ↑
Longliners	1.88 →	1.91 →	5,172 ↑	5,153 →	3,735 ↑	4,860 ↑
Pots and traps 10-12m	0.38 →	0.42 ↑	774 ↑	883 ↑	403 →	455 ↑
Pots and traps over 12m	1.42 →	1.46 →	2,170 →	2,382 ↑	1,250 ↓	1,354 ↑

↓ Indicates a decrease of >5% compared to previous year
→ Indicates a change in the range of +/- 5% compared to previous year
↑ Indicates an increase of >5% compared to previous year

ANNUAL OPERATING COSTS

DEFINITIONS

Fishing vessels incur a range of operating costs which are often split into two groups: fishing costs and vessel costs.

Fishing costs vary depending on the amount of vessel activity and the value and weight of landings, and cover a wide range of elements. Crew share (wages) and fuel and oil comprise a significant part of fishing costs. Other fishing costs include: boxes, ice, food and stores, sales commissions, harbour dues, subscriptions and levies, shore labour, travel costs and quota leasing.

Vessel costs are independent of the level of vessel activity during the year. These vessel costs comprise gear and vessel repairs, insurance, administration and the purchase, hire and maintenance of electronic equipment.

OPERATING COSTS

Annual operating costs differ largely between fleet segments as a result of varying vessel size, power and level of activity, among other factors. Average annual operating costs in 2015 ranged from approximately £36,000 for under 10m vessels to £1.9million for NS beam trawlers over 300kW. For most segments, operating costs in 2015 were similar to or lower than 2014 costs.

Operating costs increased for all segments but two in 2016 compared to 2015. Operating costs increased by 24% in 2016 on average across the whole fleet.

Operating costs, expressed as a percentage of total income, ranged from 104% of total income for North Sea beam trawl vessels over 300kW to 65% of total income for pots and traps vessels 10-12m in 2015. These percentages remained largely unchanged in 2016 compared to 2015.

On average, fuel costs represented 15% of total income in 2015. Fuel costs as a percentage of income decreased among all segments in 2015 compared to 2014 and decreased again in 2016. However, even as prices fall, fuel is still seen by many to be a main factor impacting on the financial performance of their business. During our survey phase fluctuations in the price of fuel were highlighted as one of the factors that made forward planning difficult. The cost of purchasing and maintaining gear was also mentioned as an important cost.

The main drivers of changes in fuel costs are described in detail in the next section.

ANNUAL OPERATING COSTS

TABLE 3: AVERAGE ANNUAL OPERATING COSTS, OPERATING COSTS AND FUEL COSTS AS A PERCENTAGE OF INCOME BY SEAFISH SEGMENT

SEGMENT	AVERAGE ANNUAL OPERATING COSTS (£)		OPERATING COSTS AS % OF INCOME		FUEL COSTS AS % OF INCOME	
	2015	2016	2015	2016	2015	2016
Area VIIA demersal trawl	105,842 ↓	152,910 ↑	79% ↓	78% →	16% ↓	14% ↓
Area VIIA nephrops over 250kW	204,120 →	197,120 →	72% ↓	71% →	16% ↓	14% ↓
Area VIIA nephrops under 250kW	112,189 ↑	123,978 ↑	79% →	79% →	11% ↓	10% ↓
Area VIIBCDEFGHK 24-40m	1,524,446 ↓	1,711,247 ↑	94% →	95% →	14% ↓	12% ↓
Area VIIBCDEFGHK trawlers 10-24m	176,761 →	210,308 ↑	83% ↑	82% →	11% ↓	10% ↓
North Sea beam trawl over 300kW	1,941,494 ↑	2,735,034 ↑	104% →	102% →	28% ↓	20% ↓
North Sea beam trawl under 300kW	103,206 →	121,693 ↑	101% ↓	107% ↑	48% ↓	27% ↓
North Sea nephrops over 300kW	370,621 ↓	550,607 ↑	89% ↑	86% →	22% ↓	17% ↓
North Sea nephrops under 300kW	120,420 ↓	179,822 ↑	93% ↑	90% →	22% ↓	17% ↓
NSWOS demersal over 24m	1,397,725 ↓	1,699,655 ↑	87% →	85% →	18% ↓	14% ↓
NSWOS demersal pair trawl seine	1,285,035 ↑	1,652,584 ↑	89% ↑	88% →	7% ↓	6% ↓
NSWOS demersal seiners	882,594 →	1,002,472 ↑	78% →	78% →	6% ↓	6% →
NSWOS demersal under 24m over 300kW	647,467 ↓	896,200 ↑	86% →	83% →	17% ↓	11% ↓
NSWOS demersal under 24m under 300kW	152,326 ↓	265,868 ↑	80% ↓	78% →	13% ↓	9% ↓
WOS nephrops over 250kW	268,376 ↓	343,121 ↑	85% ↑	83% →	15% ↓	12% ↓
WOS nephrops under 250kW	122,411 ↓	149,764 ↑	82% →	80% →	14% ↓	12% ↓
South West beamers over 250kW	771,330 ↑	937,160 ↑	92% →	90% →	22% ↓	18% ↓
South West beamers under 250kW	489,338 ↓	583,840 ↑	86% ↓	85% →	16% ↓	13% ↓
UK scallop dredge over 15m	363,529 ↑	419,329 ↑	81% →	80% →	15% ↓	13% ↓
UK scallop dredge under 15m	95,971 ↓	120,620 ↑	74% ↓	73% →	14% ↓	12% ↓
Under 10m demersal trawl/seine	47,940 ↓	59,168 ↑	83% →	81% →	13% ↓	10% ↓
Under 10m drift and/or fixed nets	28,632 ↓	31,572 ↑	75% ↑	74% →	8% ↓	7% ↓
Under 10m pots and traps	43,191 →	50,024 ↑	81% →	79% →	12% ↓	9% ↓
Under 10m using hooks	25,805 ↑	25,912 →	67% ↓	66% →	7% ↓	5% ↓
Gill netters	435,323 ↑	497,963 ↑	75% →	74% →	6% ↓	4% ↓
Longliners	806,103 ↑	1,014,710 ↑	85% ↓	109% ↑	9% ↓	8% ↓
Pots and traps 10-12m	83,678 →	91,834 ↑	65% ↓	64% →	7% ↓	6% ↓
Pots and traps over 12m	303,135 ↓	351,725 ↑	77% →	77% →	10% ↓	9% ↓

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FUEL

The price of Brent crude oil has experienced a downward trend since late 2013, going from around $110 per barrel towards the end of 2013 to under $20 per barrel in early 2016. This significant drop led to a marked decrease in the price of marine diesel, which fell from nearly 50p per litre in June 2014 to 26p per litre in December 2015, as seen in Figure 9.

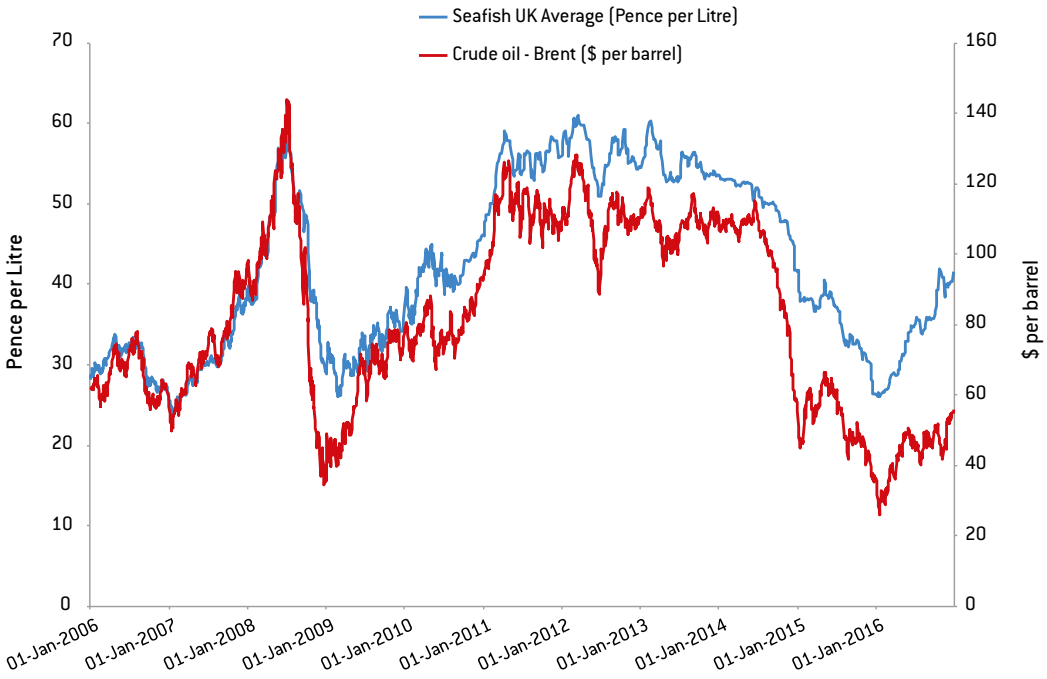

Figure 9: Oil price and marine fuel price

Source: Seafish, U.S. Energy Information Administration

The fuel costs of the UK fishing fleet reflect this development in Brent crude prices. Seafish estimates that total expenditure by the UK fishing fleet on marine fuel was £98 million in 2015 (a 30% decrease from 2014) and £94 million in 2016. Decreasing marine diesel prices combined with an average decrease in days at sea of 1% meant that the spend on fuel as a percentage of total operating costs decreased for all fleet segments in 2015. This trend was reversed in 2016, when fuel costs increased for seven segments and remained stable for most of the rest.

The average amount of fuel consumed per vessel varies significantly between segments due to their different characteristics and activities, see Table 4. Fuel consumption ranges from 130 litres per day for under 10m vessels to 6,500 litres per day at sea for North Sea beam trawlers over 300kW.

Fuel costs per day at sea decreased across all segments except one in 2015 compared to 2014 and ranged from an average of £47 for under 10m vessels to £2,200 for North Sea beam trawlers over 300kW. Fuel costs per day at sea remained largely unchanged in 2016 compared to the 2015 figures.

TABLE 4: AVERAGE ANNUAL FUEL COSTS, AVERAGE FUEL COSTS PER DAY AT SEA AND AVERAGE FUEL CONSUMPTION BY SEAFISH SEGMENT

SEGMENT	FUEL COSTS (£)		FUEL COST PER DAY (£)		LITRES PER DAY	
	2015	2016	2015	2016	2015	2016
Area VIIA demersal trawl	20,699 ↓	26,630 ↑	208 ↓	215 →	590 →	640 ↑
Area VIIA nephrops over 250kW	44,596 ↓	37,513 ↓	282 ↓	268 →	802 →	798 →
Area VIIA nephrops under 250kW	14,945 ↓	15,179 →	118 ↓	112 →	335 →	334 →
Area VIIBCDEFGHK 24-40m	230,449 ↓	225,034 →	832 ↓	788 →	2,364 →	2,345 →
Area VIIBCDEFGHK trawlers 10-24m	23,841 ↓	25,780 ↑	160 ↓	152 →	453 →	452 →
North Sea beam trawl over 300kW	525,932 ↓	538,638 →	2,289 ↓	2,185 →	6,500 →	6,500 →
North Sea beam trawl under 300kW	48,513 ↓	30,933 ↓	405 ↓	359 ↓	1,151 ↑	1,067 ↓
North Sea nephrops over 300kW	91,159 ↓	108,522 ↑	541 ↑	534 →	1,537 →	1,590 →
North Sea nephrops under 300kW	28,208 ↓	34,053 ↑	261 ↓	252 →	741 →	751 →
NSWOS demersal over 24m	282,513 ↓	273,415 →	1,362 ↓	1,324 →	3,869 →	3,939 →
NSWOS demersal pair trawl seine	102,788 ↓	103,423 →	538 ↓	518 →	1,529 →	1,543 →
NSWOS demersal seiners	69,694 ↓	75,642 ↑	486 ↓	479 →	1,379 →	1,425 →
NSWOS demersal under 24m over 300kW	126,591 ↓	123,919 →	681 ↓	650 →	1,935 →	1,933 →
NSWOS demersal under 24m under 300kW	24,743 ↓	29,715 ↑	235 ↓	240 →	668 ↑	714 ↑
WOS nephrops over 250kW	47,902 ↓	48,487 →	274 ↓	263 →	779 →	781 →
WOS nephrops under 250kW	20,573 ↓	21,461 →	137 ↓	137 →	389 →	406 →
South West beamers over 250kW	181,040 ↓	182,835 →	896 ↓	880 →	2,546 →	2,617 →
South West beamers under 250kW	88,984 ↓	88,591 →	402 ↓	380 →	1,141 →	1,132 →
UK scallop dredge over 15m	66,775 ↓	66,206 →	385 ↓	361 ↓	1,093 →	1,075 →
UK scallop dredge under 15m	17,664 ↓	20,426 ↑	182 ↓	183 →	518 →	543 ↑
Under 10m demersal trawl/seine	7,283 ↓	7,231 →	69 ↓	66 →	195 →	196 →
Under 10m drift and/or fixed nets	3,027 ↓	3,004 →	37 ↓	36 →	106 ↑	107 →
Under 10m pots and traps	6,623 ↓	5,801 ↓	49 ↓	47 →	138 →	140 →
Under 10m using hooks	2,678 ↓	2,092 ↓	32 ↓	29 ↓	92 ↑	88 →
Gill netters	32,452 ↓	29,823 ↓	183 ↓	174 →	520 →	518 →
Longliners	85,131 ↓	77,615 ↓	466 ↓	434 ↓	1,324 →	1,291 →
Pots and traps 10-12m	8,389 ↓	8,005 →	51 ↓	51 →	146 →	151 →
Pots and traps over 12m	38,179 ↓	39,035 →	223 ↓	214 →	634 →	636 →

↓ Indicates a decrease of >5% compared to previous year
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ANNUAL OPERATING COSTS

EMPLOYMENT AND CREW COSTS

An estimated 12,107 people were employed in the UK fishing fleet in 2015. Of these, 2,674 were engaged in the low activity under 10m segments and another 1,955 people worked in the under 10m pots and traps segment.

In terms of equivalent full-time employment (see '**Employment Data**' in the Methods section), in 2015 the UK fishing fleet had a total of 7,795 FTEs (excluding low activity and miscellaneous gear vessels). The number of FTEs per fleet segment varies significantly, with the largest segment being the UK under 10m pots and traps segment, which had 1,054 FTEs spread across 1,004 vessels in 2015. On the other hand, the Area VIIA demersal trawl segment generated 21 FTEs across 13 vessels. There was a wide range of variation in FTEs from 2014 to 2015, with roughly half the segments increasing their number of FTEs, and the other half decreasing them. Overall, there was a 5% average increase in FTE numbers across the whole fleet in 2015, compared to 2014. It should be noted that this may be due to an increase in hours worked and may not imply more jobs were created.

Many fishermen are paid a share of the value landed and hence crew share is strongly linked with fishing income; therefore crew costs across segments reflect the variability in fishing income. The average annual total crew cost per vessel (i.e., the total expenditure in crew, including crew shares, salaries and agency payments of all crew) in 2015 ranged from £9,600 for under 10m vessels using hooks to nearly £450,000 for NS beam trawl vessels over 300kW. The average total crew costs per vessel across the whole fleet increased by 5% in 2015 compared to 2014. The average total crew costs per FTE also increased by 2% on average across the whole fleet. However, there was a wide range of variation across segments, from a 38% decrease for NSWoS demersal vessels under 24m under 300kW to a 90% increase for NS beam trawlers over 300kW.

Employment is typically a main topic of discussion during the interview stage of the survey, with participants concerned about the lack of young people entering the industry, particularly in certain parts of the country such as West of Scotland.

ANNUAL OPERATING COSTS

TABLE 5: AVERAGE CREW COST PER VESSEL, FTE (TOTAL) AND CREW COST PER FTE BY SEAFISH SEGMENT

SEGMENT	AVERAGE CREW COST PER VESSEL (£)		FTE (TOTAL)		CREW COST PER FTE (£)	
	2014	2015	2014	2015	2014	2015
Area VIIA demersal trawl	31,493 →	30,628 →	26 ↑	21 ↓	11,108 ↓	18,662 ↑
Area VIIA nephrops over 250kW	58,797 ↑	82,461 ↑	198 ↓	221 ↑	11,303 ↑	13,456 ↑
Area VIIA nephrops under 250kW	45,302 ↑	40,015 ↓	154 ↓	181 ↑	12,932 ↑	9,059 ↓
Area VIIBCDEFGHK 24-40m	382,895 ↑	390,596 →	238 ↑	175 ↓	19,320 →	29,088 ↑
Area VIIBCDEFGHK trawlers 10-24m	47,953 ↓	47,592 →	196 →	176 ↓	15,884 ↓	18,360 ↑
North Sea beam trawl over 300kW	228,377 ↑	448,938 ↑	247 ↓	232 ↓	10,165 ↑	19,333 ↑
North Sea beam trawl under 300kW	9,697 ↓	10,986 ↑	37 ↑	24 ↓	5,209 ↓	3,615 ↓
North Sea nephrops over 300kW	119,104 ↑	99,925 ↓	401 ↑	196 ↓	17,518 ↑	21,876 ↑
North Sea nephrops under 300kW	33,268 ↓	29,492 ↓	187 ↑	150 ↓	12,460 ↓	11,174 ↓
NSWOS demersal over 24m	408,416 ↑	377,833 ↓	408 ↓	512 ↑	35,040 ↑	30,992 ↓
NSWOS demersal pair trawl seine	264,681 →	304,888 ↑	236 ↑	277 ↑	33,606 ↓	30,780 ↓
NSWOS demersal seiners	275,277 →	254,469 ↓	127 ↑	101 ↓	41,275 ↑	40,496 →
NSWOS demersal under 24m over 300kW	158,672 →	160,968 →	222 ↓	362 ↑	25,031 ↑	20,036 ↓
NSWOS demersal under 24m under 300kW	51,476 ↓	38,838 ↓	34 ↓	64 ↑	22,403 ↑	13,979 ↓
WOS nephrops over 250kW	89,965 ↑	89,242 →	246 ↑	309 ↑	15,003 ↑	12,129 ↓
WOS nephrops under 250kW	46,846 ↑	40,753 ↓	335 →	354 ↑	12,738 →	10,365 ↓
South West beamers over 250kW	169,318 →	209,050 ↑	124 ↓	129 →	27,412 ↑	35,676 ↑
South West beamers under 250kW	156,784 ↑	157,470 →	170 ↓	155 ↓	21,213 ↑	24,365 ↑
UK scallop dredge over 15m	98,635 ↓	129,895 ↑	483 →	609 ↑	20,202 ↓	20,059 →
UK scallop dredge under 15m	33,645 ↑	25,423 ↓	253 ↓	333 ↑	25,242 ↑	17,037 ↓
Under 10m demersal trawl/seine	17,235 ↑	15,229 ↓	262 ↑	284 ↑	13,291 ↓	10,230 ↓
Under 10m drift and/or fixed nets	11,367 ↑	10,938 →	176 →	144 ↓	16,170 ↑	16,569 →
Under 10m pots and traps	16,381 ↑	16,861 →	984 ↑	1,054 ↑	17,337 →	16,064 ↓
Under 10m using hooks	8,984 →	9,601 ↑	130 ↑	180 ↑	10,280 ↓	7,298 ↓
Gill netters	144,566 ↓	156,270 ↑	389 ↑	349 ↓	13,739 ↓	13,885 →
Longliners	231,384 ↑	291,094 ↑	275 ↑	296 ↑	24,386 →	24,548 →
Pots and traps 10-12m	34,654 ↑	34,796 →	402 ↑	392 →	14,293 ↓	14,285 →
Pots and traps over 12m	116,365 ↑	112,165 →	554 ↑	514 ↓	19,308 ↑	20,739 ↑

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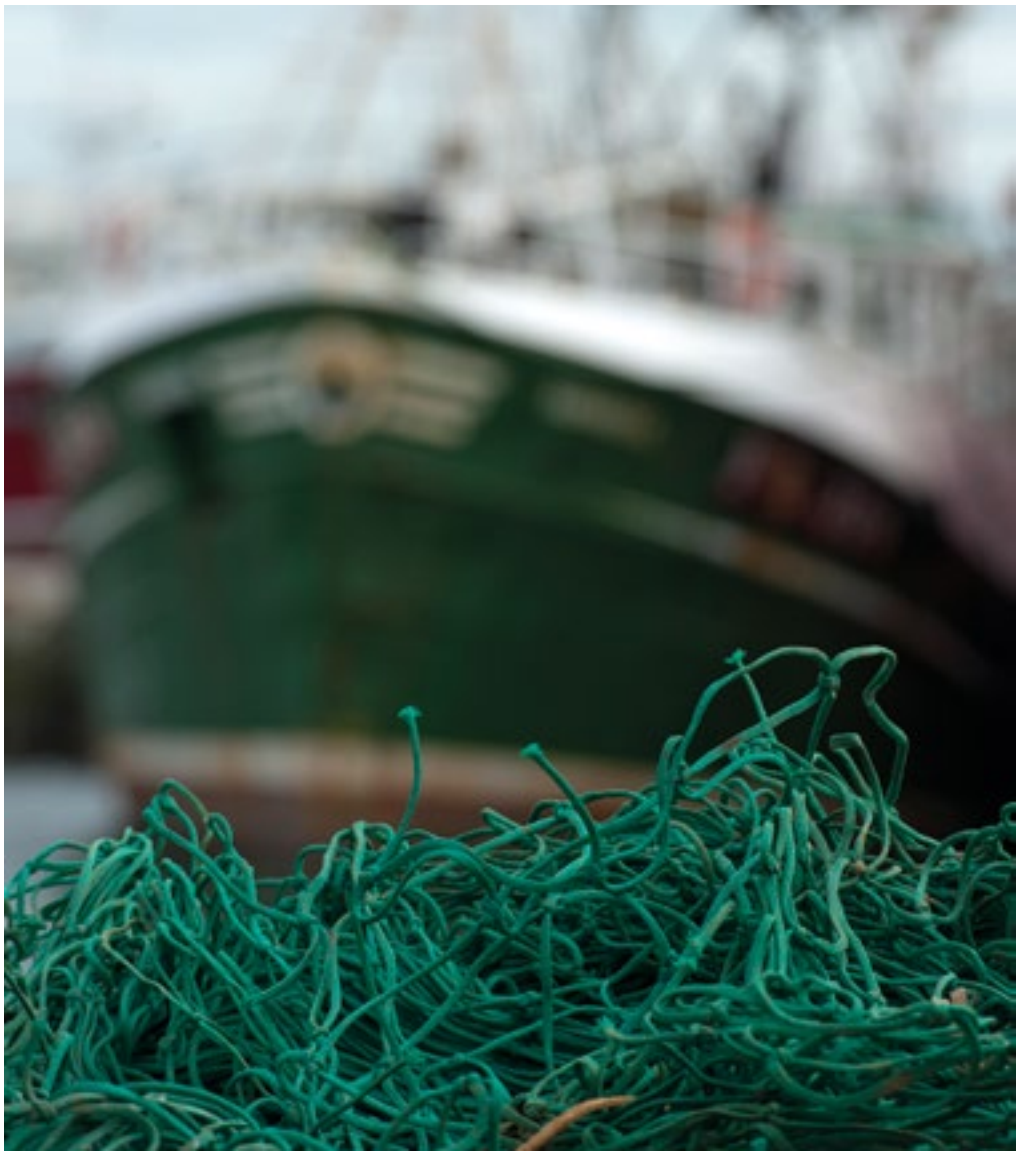
ECONOMIC PERFORMANCE OF THE FLEET

GVA

Gross Value Added (GVA) is the sum of operating profit and total wages (including payments to agency workers) and it is used as a measure of the contribution to the economy of an individual industry in the United Kingdom. It is also used for estimating Gross Domestic Product (GDP), a key indicator of the state of the whole economy.

The total GVA of the UK fleet in 2015 was £372million, representing 48% of total fleet earnings. Average GVA per vessel varied between £10,000 for North Sea beam trawlers under 300kW to approximately £590,000 for NSWoS demersal vessels over 24m. Average GVA per vessel increased on average by 11% across the whole fleet in 2015 compared to 2014, although there was great variation between individual segments. North Sea nephrops vessels under 300kW had a 29% decrease of GVA per vessel, while NS beam trawlers under 300kW had an increase of 133%.

GVA per FTE is a measure of labour productivity, an indicator of how efficiently factors of production, in this case labour, are used in the production process. GVA per FTE ranged from £3,300 per FTE for North Sea beam trawlers under 300kW to £80,000 per FTE for NSWoS demersal seiners. Overall, estimates of GVA per FTE for the entire fleet decreased by 32% from 2014 to 2015, suggesting labour efficiency decreased across most segments.



ECONOMIC PERFORMANCE OF THE FLEET

TABLE 6: GROSS VALUE ADDED (GVA), GVA AS PERCENTAGE OF TOTAL INCOME AND GVA PER FTE BY SEAFISH SEGMENT

SEGMENT	GROSS VALUE ADDED (£)		GVA AS % OF TOTAL INCOME		GVA PER FTE (£ PER FTE)	
	2014	2015	2014	2015	2014	2015
Area VIIA demersal trawl	54,963 ↑	58,149 ↑	29% ↓	44% ↑	19,387 ↓	35,432 ↑
Area VIIA nephrops over 250kW	101,673 →	161,256 ↑	40% →	57% ↑	19,546 ↑	26,313 ↑
Area VIIA nephrops under 250kW	67,475 ↑	69,430 →	53% →	49% ↓	19,261 ↑	15,717 ↓
Area VIIBCDEFGHK 24-40m	420,392 ↑	496,149 ↑	24% ↑	30% ↑	21,212 ↑	36,948 ↑
Area VIIBCDEFGHK trawlers 10-24m	104,611 ↑	85,095 ↓	44% ↑	40% ↓	34,652 ↑	32,828 →
North Sea beam trawl over 300kW	200,392 ↑	371,941 ↑	13% ↑	20% ↑	8,919 ↑	16,017 ↑
North Sea beam trawl under 300kW	-30,186 ↓	10,005 ↑	-45% ↓	10% ↓	-16,217 ↓	3,292 ↑
North Sea nephrops over 300kW	170,147 ↑	145,900 ↓	29% ↑	35% ↑	25,025 →	31,941 ↑
North Sea nephrops under 300kW	54,804 ↑	38,736 ↓	30% →	30% →	20,527 ↑	14,676 ↓
NSWOS demersal over 24m	642,666 ↑	587,999 ↓	35% ↑	37% ↑	55,137 ↑	48,231 ↓
NSWOS demersal pair trawl seine	549,590 ↑	471,101 ↓	41% ↑	33% ↓	69,780 →	47,560 ↓
NSWOS demersal seiners	544,985 ↑	500,191 ↓	48% ↑	44% ↓	81,714 ↑	79,600 →
NSWOS demersal under 24m over 300kW	296,436 →	267,631 ↓	35% →	36% →	46,764 ↑	33,312 ↓
NSWOS demersal under 24m under 300kW	82,127 ↓	75,916 ↓	37% →	40% ↑	35,742 ↑	27,323 ↓
WOS nephrops over 250kW	160,815 ↑	138,102 ↓	44% ↑	44% →	26,819 ↑	18,769 ↓
WOS nephrops under 250kW	77,575 ↑	68,612 ↓	44% ↑	46% ↑	21,093 →	17,451 ↓
South West beamers over 250kW	225,719 ↑	272,298 ↑	31% ↑	33% ↑	36,543 ↑	46,470 ↑
South West beamers under 250kW	188,532 →	235,784 ↑	31% →	42% ↑	25,508 →	36,483 ↑
UK scallop dredge over 15m	162,960 ↓	215,009 ↑	40% →	48% ↑	33,377 ↓	33,203 →
UK scallop dredge under 15m	58,157 ↑	58,641 →	44% ↑	45% →	43,633 ↑	39,297 ↓
Under 10m demersal trawl/seine	31,928 →	25,277 ↓	45% →	44% →	24,621 ↓	16,980 ↓
Under 10m drift and/or fixed nets	28,157 ↑	20,659 ↓	58% ↑	54% ↓	40,052 ↑	31,296 ↓
Under 10m pots and traps	27,541 →	27,304 →	49% →	51% →	29,150 ↓	26,015 ↓
Under 10m using hooks	18,092 ↓	22,083 ↑	57% ↑	58% →	20,702 ↓	16,786 ↓
Gill netters	282,566 ↑	305,345 ↑	53% ↑	52% →	26,853 ↓	27,132 →
Longliners	265,045 →	433,394 ↑	34% →	46% ↑	27,933 ↓	36,549 ↑
Pots and traps 10-12m	68,364 ↑	79,995 ↑	59% ↑	62% ↑	28,197 →	32,842 ↑
Pots and traps over 12m	199,044 ↑	201,215 →	48% →	51% ↑	33,027 ↑	37,204 ↑

↓ Indicates a decrease of >5% compared to previous year
→ Indicates a change in the range of +/- 5% compared to previous year
↑ Indicates an increase of >5% compared to previous year

PROFIT

Operating profit is calculated as total income less total operating costs. The total operating profit of the UK fleet in 2015 was £170million.

Average operating profit per vessel varies significantly among segments. All segments except two (NS beam trawlers over and under 300kW) made an operating profit in 2015, though some individual vessels may have made a loss. For the remaining segments the average profit per vessel ranged between £9,200 for NS nephrops vessels under 300kW and £250,000 for NSWoS demersal seiners.

Nearly all segments had higher average operating profit per vessel in 2016 compared to 2015, with an average increase of 6% in operating profit across the fleet. This reflects the increase in fishing income that occurred in 2016.

Vessels which made direct sales to Europe would have found the increasing strength of the euro against the pound increased their profit margins.

Attitudes toward the future were strongly influenced by the current performance of the business. Business owners who had experienced a strong performance in recent years were generally optimistic, whereas owners who had struggled in recent years tended to be more pessimistic.

When asked about the future, researchers received mixed answers. There is persisting uncertainty about regulation and political developments, combined with issues around quota availability and affordability, market prices, crew recruitment and the weather. In general terms, younger skippers and owners tended to be more optimistic about the future.

ECONOMIC PERFORMANCE OF THE FLEET

TABLE 7: OPERATING PROFIT AND NET PROFIT MARGINS BY SEAFISH SEGMENT

SEGMENT	OPERATING PROFIT (£)		OPERATING PROFIT MARGIN		NET PROFIT MARGIN
	2015	2016	2015	2016	2015
Area VIIA demersal trawl	27,521 ↑	43,052 ↑	21% ↑	22% ↑	13% ↑
Area VIIA nephrops over 250kW	78,795 ↑	81,260 →	28% ↑	29% ↑	12% ↑
Area VIIA nephrops under 250kW	29,414 ↑	33,670 ↑	21% ↑	21% ↑	18% ↑
Area VIIBCDEFGHK 24-40m	105,553 ↑	99,734 ↓	7% ↑	6% ↓	7% ↑
Area VIIBCDEFGHK trawlers 10-24m	37,503 ↓	46,862 ↑	18% ↓	18% ↑	13% ↓
North Sea beam trawl over 300kW	-76,997 ↓	-47,036 ↑	-4% ↓	-2% ↑	-18% ↓
North Sea beam trawl under 300kW	-981 ↑	-7,504 ↓	-1% ↑	-7% ↓	-10% ↑
North Sea nephrops over 300kW	45,975 ↓	86,843 ↑	11% ↑	14% ↑	2% ↑
North Sea nephrops under 300kW	9,244 ↓	19,533 ↑	7% ↓	10% ↑	-1% ↓
NSWOS demersal over 24m	210,166 ↓	305,866 ↑	13% ↑	15% ↑	8% ↑
NSWOS demersal pair trawl seine	166,213 ↓	232,088 ↑	12% ↓	12% ↑	6% ↓
NSWOS demersal seiners	245,722 ↓	281,686 ↑	22% ↓	22% ↑	13% ↓
NSWOS demersal under 24m over 300kW	106,662 ↓	186,371 ↑	14% ↓	17% ↑	7% ↓
NSWOS demersal under 24m under 300kW	37,078 ↑	77,069 ↑	20% ↑	23% ↑	8% ↑
WOS nephrops over 250kW	48,860 ↓	72,070 ↑	15% ↓	17% ↑	8% ↓
WOS nephrops under 250kW	27,859 ↓	37,257 ↑	19% ↑	20% ↑	12% ↑
South West beamers over 250kW	63,248 ↑	100,204 ↑	8% ↓	10% ↑	6% ↓
South West beamers under 250kW	78,314 ↑	104,121 ↑	14% ↑	15% ↑	10% ↑
UK scallop dredge over 15m	85,114 ↑	107,479 ↑	19% ↑	20% ↑	13% ↑
UK scallop dredge under 15m	33,218 ↑	43,629 ↑	26% ↑	27% ↑	16% ↑
Under 10m demersal trawl/seine	10,048 ↓	13,895 ↑	17% ↓	19% ↑	13% ↓
Under 10m drift and/or fixed nets	9,721 ↓	11,015 ↑	25% ↓	26% ↑	18% ↓
Under 10m pots and traps	10,444 ↓	13,518 ↑	20% ↓	21% ↑	11% ↓
Under 10m using hooks	12,482 ↑	13,148 ↑	33% ↑	34% ↑	26% ↑
Gill netters	149,075 ↑	176,647 ↑	26% ↓	26% ↑	18% ↓
Longliners	142,300 ↑	-81,079 ↓	15% ↑	-9% ↓	8% ↑
Pots and traps 10-12m	45,199 ↑	50,858 ↑	35% ↑	36% ↑	27% ↑
Pots and traps over 12m	89,050 ↑	107,618 ↑	23% ↑	23% ↑	16% ↑

↓ Indicates a decrease of >5% compared to previous year
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↑ Indicates an increase of >5% compared to previous year

METHODS

The collection of economic data on the UK fishing fleet is a staged process involving fisheries administrations, vessel owners, field researchers and accountancy firms.

FISHERIES ADMINISTRATIONS DATA COLLECTION

Fisheries administrations gather data on vessel numbers and characteristics, landings and effort. This information is transmitted to a unique UK database which keeps logbook, sales note and fleet register data.

FIELD RESEARCH

Every year Seafish researchers visit ports around the UK, interviewing fishing business owners and obtaining their permission to access their financial and operational performance data. To gather an adequate sample size of financial data for each fleet segment we use a self-selecting stratified sampling approach (i.e., we interview a sufficient number of vessel owners from each segment who choose to participate in the survey when our researchers visit the ports). During this stage, researchers collect data on employment, fuel use, capital value indicators as well as the contact details of vessel owners' accountancy firms. In addition, researchers gather qualitative data.

We collect financial data after the survey with the objective of gathering a large sample of vessel accounts. In early 2017, Seafish Economics collected 570 sets of 2015 financial accounts (12% of the UK fleet).

FLEET SEGMENTATION

The population of the UK fishing fleet comprises all vessels recorded in the UK fishing fleet register that are active during the year considered. This includes a wide range of vessel types, gear types and activity levels. Therefore, we define homogeneous groups or fleet segments in order to be able to provide information on the operational and financial performance of groups of comparable vessels.

Each fleet segment has a set of criteria that define which vessels are included in it, based on the physical characteristics of the vessels, activity level, the gear used, species targeted and areas fished. For this report we have defined 32 Seafish segments to categorise the UK fleet as shown in the Segmentation Criteria table. Some segments have a large number of vessels, such as the under 10m pots and traps segment with approximately 1,000 vessels, while others have very few, such as the Area VIIA demersal trawlers with 13 vessels in 2015. It is important to note that individual vessels may change from one segment in one year to another in the following year depending on their activity and gear use. Segments contain at least five vessels so that reliable data can be collected, robust estimates of costs and profits can be produced, and confidentiality is assured.

We allocate costs and earnings data from the sampled vessel accounts to particular fleet segments and extrapolate to the total population of the segment using official statistics covering every vessel in the fleet.

COSTS AND EARNINGS ESTIMATION

Within each fleet segment we add together the individual costs and earnings items from the collected vessel financial accounts (the segment sample) to create a 'combined segment sample cost structure'.

We then calculate the sum of each cost item in the 'combined segment sample cost structure' as a proportion of the sum of fishing income. For example:

a) The sum of gear costs is 10% of the sum of fishing income;

b) The sum of commission is 3% of the sum of fishing income, etc.

Fuel costs and crew share costs are calculated differently from other costs. To calculate fuel costs, we use the capacity (VCUs) and fishing effort (days at sea) of each vessel to estimate its fuel consumption in litres, which is then combined with the average annual red diesel price (excluding duty) to calculate the fuel cost estimates for each vessel. To calculate crew share costs, we allocate a minimum of £100 per day in instances where the actual observed amount within the 'combined segment sample cost structure' is lower.

Following the calculation of fuel cost and crew share, we apply the proportions from all the other costs within the 'combined segment sample cost structure' to the official declared fishing income for each vessel within each fleet segment. This enables us to calculate Gross Value Added, operating profit and net profit for all vessels in each fleet segment.

EMPLOYMENT DATA

The estimation of employment is based on the survey data collected from vessel owners during the first stage of data collection, combined with MMO employment data. This provides details on the number of engaged crew, both full-time and part-time. With this sample information we then estimate total engaged crew based on the physical characteristics of the individual vessel and the vessel's level of activity. Once the total engaged crew is estimated for all types of vessel in the UK fleet, we estimate Full Time Equivalent (FTE) jobs based on hours worked (an FTE is assumed to be 2,000 hours worked a year).

2016 ESTIMATES

Data for the years 2008-2015 are estimates based on Government data and data collected by Seafish. Data for 2016 are estimates using provisional official statistics on landings, numbers of vessels and effort, along with 2016 fuel prices and previous years' cost structures. Therefore, the 2016 values should be considered robust preliminary estimates. Seafish will revise these estimates when 2016 vessel accounts are available later in the year.

METHODS

SEGMENTATION CRITERIA

SEAFISH SEGMENTS	MAIN AREA	MAIN DAS GEAR	MAIN SPECIES BY VALUE	MAIN GEAR TYPE	POWER MAIN ENGINE	VESSEL LENGTH	VALUE OF LANDINGS
Area viia demersal trawl over 10m	VIIA	Demersal trawls and seines				>= 10m	
Area viia nephrops over 250kw	VIIA	Demersal trawls and seines	Nephrops		>= 250 kW	>= 10m	
Area viia nephrops under 250kw	VIIA	Demersal trawls and seines	Nephrops		<250 kW	>= 10m	
Area viib-k trawlers 10-24m	VIIDE, VIIFG, VII other	Demersal trawls and seines	Not Nephrops			>= 10m & <24m	
Area viib-k trawlers 24-40m	VIIDE, VIIFG, VII other	Demersal trawls and seines	Not Nephrops			>= 24m & <40m	
UK gill netters over 10m		Drift Nets and Fixed Nets	Not Nephrops			>= 10m	
UK longliners over 10m		Gears using hooks	Not Nephrops			>= 10m	
Low activity vessels over 10m						>= 10m	< £10,000
Low activity vessels under 10m						< 10m	< £10,000
Miscellaneous vessels over 10m						>= 10m	
North sea beam trawl over 300kw	NS	Beam Trawl	Not Nephrops		>= 300 kW	>= 10m	
North sea beam trawl under 300kw	NS	Beam Trawl	Not Nephrops		< 300 kW	>= 10m	
North sea nephrops trawl over 300kw	NS	Demersal trawls and seines	Nephrops		>= 300 kW	>= 10m	
North sea nephrops trawl under 300kw	NS	Demersal trawls and seines	Nephrops		< 300 kW	>= 10m	
North sea and west of Scotland demersal trawl over 24m	NS, WoS		Not Nephrops			>= 24m	
North sea and west of Scotland demersal pair trawls and seines	NS, WoS	Demersal trawls and seines	Not Nephrops	Paired Trawl		>= 10m	
North sea and west of Scotland demersal seiners	NS, WoS	Demersal trawls and seines	Not Nephrops	Scottish Seiner		>= 10m	
North sea and west of Scotland demersal trawl under 24m, over 300kw	NS, WoS	Demersal trawls and seines	Not Nephrops		>= 300 kW	>= 10m & <24m	
North sea and west of Scotland demersal trawl under 24m, under 300kw	NS, WoS	Demersal trawls and seines	Not Nephrops		< 300 kW	>= 10m & <24m	
UK pelagic trawl over 40m		Pelagic: Trawl, Seiner / Purse Seiner	Mackerel			>= 40m	
UK pots and traps 10m-12m		Pots and Traps				>= 10m & <12m	
UK pots and traps over 12m		Pots and Traps				>= 12m	
South west beam trawl under 250kw	VIIDE, VIIFG, VII other	Beam Trawl			< 250 kW	>= 10m	
South west beam trawl over 250kw	VIIDE, VIIFG, VII other	Beam Trawl			>= 250 kW	>= 10m	
UK demersal trawls and seines under 10m		Demersal trawls and seines				< 10m	
UK drift and fixed nets under 10m		Drift Nets and Fixed Nets				< 10m	
UK pots and traps under 10m		Pots and Traps				< 10m	
UK hooks under 10m		Gears using hooks				< 10m	
West of Scotland nephrops trawl over 250kw	WoS	Demersal trawls and seines	Nephrops		>= 250 kW	>= 10m	
West of Scotland nephrops trawl under 250kw	WoS	Demersal trawls and seines	Nephrops		< 250 kW	>= 10m	
UK scallop dredge over 15m		Dredges	Scallops, queen scallops, cockles			>= 15m	
UK scallop dredge under 15m		Dredges	Scallops, queen scallops, cockles			<= 15m	

GLOSSARY AND LIST OF ACRONYMS

GLOSSARY

Active vessel	Any UK registered fishing vessel that recorded any amount of landings in the year considered.
Fishing costs	Costs incurred by vessel owners as a result of their fishing activity. Fishing costs include fuel costs, crew shares, ice and boxes, sales commissions, harbour dues, subscriptions and levies, quota leasing, days at sea purchases, food and stores, travel costs and shore labour.
Fleet segment	group comprising vessels of similar characteristics in terms of level of activity, main gear used and/or area of operation.
FTE (Full-Time Equivalent)	A standardised measure of employment, based on an employee working 37 hours per week, 52 weeks a year.
GDP (Gross Domestic Product)	An indicator of the economic performance of a country.
GVA (Gross Value Added)	A measure of the value of goods and services produced by an industry. In this report, GVA is calculated as the sum of operating profit and crew share.
Low activity vessel	Any vessel that recorded a total value of landings under £10,000 in the year considered.
Net profit	The result of subtracting finance costs, depreciation and interest costs from operating profit.
Operating costs	Costs incurred by vessel owners. Operating costs comprise fishing costs, which are dependent on the level of fishing activity; and vessel costs, which tend to be fixed regardless of the level of activity.
Operating profit	The difference between total income and operating costs.
Vessel costs	Costs incurred by vessel owners regardless of the level of fishing activity. Vessel costs include gear and vessel repairs, insurance, electronic equipment and administration costs.

ACRONYMS

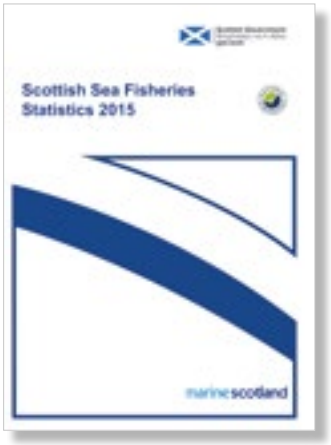
EC	European Commission
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
GVA	Gross Value Added
MMO	Marine Management Organisation
NS	North Sea
NSWoS	North Sea and West of Scotland
TAC	Total Allowable Catches
VCU	Vessel Capacity Unit
WC	Western Channel
WoS	West of Scotland

FURTHER READING

FISHING INCOME

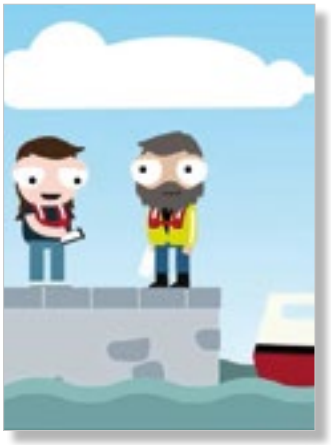
Marine Management Organisation – UK Sea Fisheries Statistics 2015

UK Sea Fisheries Statistics 2015 provides a broad picture of the UK fishing industry. This publication includes data on the structure, activity and landings of the UK fleet along with additional information on overseas trade, exploitation of stocks and the world's fishing industry. This report uses the same underlying dataset.



Marine Scotland – Scottish Sea Fisheries Statistics 2015

A detailed overview of landings of sea fish, the Scottish fishing fleet and the number of fishermen employed in 2015.



Quay Issues: 2015 – The Year in Numbers

This YouTube video presents some of the economic and financial performance indicators relating to the UK fishing fleet in 2015 contained in this report.

FURTHER READING

EMPLOYMENT

Scottish Sea Fisheries Employment 2015

This report summarises the findings of the Scottish Sea Fisheries Employment survey undertaken in 2015 and compares the results with the 2013 survey.

GEAR

Quay Issues (Vol. 3) pp. 16-24, 'The cost of lost gear'

'Ghost gear places a significant financial cost on a number of ocean users and the fishing industry is the worst affected'

Fishing gear is a major expense for most UK fishing businesses. This article looks at recent trends in spending on gear by UK fishing businesses and analyses the economic implications of lost gear.

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