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UK Economic Fleet Estimates and Fleet Enquiry Tool

Methodology Report

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Introduction

This methodology report presents the data collection and estimation procedure methodologies used by Seafish to report on the size, structure and economic performance of the UK catching sector.

This report supports the Fleet Enquiry Tool in Tableau. The dataset published in Tableau is produced by Seafish by combining costs and earnings information from vessel accounts provided by vessel owners to the annual Seafish UK Fleet Survey with official effort, landings and capacity data for all active UK fishing vessels provided by the UK Marine Management Organisation (MMO). Seafish conducts the annual UK Economic Fishing Fleet Survey in two phases:

1.   Fleet survey through face to face interviews in ports around the UK (summer time);

2.   Accounts collection (autumn-winter time)

The most recent fleet survey took place in the summer-autumn of 2020 and data refer to 2019. Financial accounts collection will be finalised by March 2021 therefore accounts data for 2019 have not been collected and processed yet. The Fleet Enquiry Tool includes financial, economic and operational performance data for approximately 30 UK fleet segments over the period 2008 to 2018 with preliminary estimates for 2019 based on MMO preliminary fleet activity information. Once vessel accounts for 2019 have been collected and the official data is finalised, Seafish will publish new estimates for 2019 and update the time series when new data becomes available.

Seafish produces the dataset with economic estimates by combining costs and earnings information from vessel accounts provided by vessel owners in the Seafish annual Fishing Fleet Survey with official effort, landings and capacity data for all active UK fishing vessels provided by the MMO. The outputs for all years are produced using a consistent methodology and fleet segmentation criteria so that trends in key indicators can be observed over time. Note that vessels can be in different segments in different years if they change their main gear, fishing area or target species from year to year. They may also change segments if the prices for certain species change considerably over time, altering their "main" species (by value).

The Seafish catching sector economics work programme and supporting research has two main aims:

- ✓ The first is to provide accurate, up-to-date economic data and high-quality analyses and commentary to inform business decisions, policy discussions, and further research, where appropriate. Stakeholders in this work include: the UK catching sector and associated industry bodies, UK Government, other public institutions and researchers in the UK and EU.
- ✓ The second is to enable the UK government to meet its obligations under the EU data collection framework (DCF) EC Decision 2016/1251 pertaining to the fisheries sector and implementation of the multiannual Union programme for the collection and management of biological, environmental, technical and socioeconomic data in the fisheries and aquaculture sectors (to be incorporated into the future UK legal framework).

Please be aware that all data collected by Seafish are treated with the strictest confidentiality and no individual vessel records are disclosed. Confidentiality checks have been made so that no individual businesses can be identified in Seafish publications.

Data collection

The collection of economic data on the UK fishing fleet is a collaborative process involving government administrations, vessel owners, accountancy firms and Seafish field researchers, data analysts and economists. Government administrations gather data on vessel numbers and characteristics, catch, landings, sales, gear type and fishing effort (days at sea). This information is transmitted to a central UK database which holds logbook, sales note and fleet register data. Seafish carries out a two-part annual survey in order to collect economic performance data about the UK fishing fleet. Participation in the Seafish survey is entirely voluntary.

The first phase of the fleet economic survey is conducted through face-to-face interviews, where Seafish field researchers complete a short questionnaire with fishermen and vessel owners at ports around the UK. During this stage, researchers collect data on employment, fuel use and capital value indicators as well as qualitative data on fishing businesses and operations. During interviews, researchers also collect accounts permissions, in which interviewees agree to supply their financial accounts information and the contact details of vessel owners' accountancy firms with Seafish. Telephone interviews and targeted mail-outs may also be carried out where required. Interviews are then followed up by requests for vessel accounts during the second phase of the survey at the end of the financial year. Financial accounts provide the main source of data for most of the economic variables. This approach is the most efficient method for collecting a sufficient sample size to generate economic performance estimates for every vessel on the UK Fishing Vessel Register.

Seafish combines financial data collected from vessel accounts with other official data sources. Administrative sources (Fleet register, logbooks and sales notes as well as the Individual Quota Allocation Register) are used in combination with face to face interviews and accounts collection to produce fleet economic performance estimates. All data from UK administrative sources is available at Census level and covers all vessels registered on the UK fishing fleet register as of 31 December of the year. Seafish surveys all vessels, including foreign owned but UK flagged vessels and inactive vessels. Inactive vessels are defined as those that didn't fish or had no landings recorded during the reference year. For employment and most of the economic variables, a Non-Probability Sample Survey is used. For the full list of data sources used to estimate each variable required and collected for DCF see Table 1 in Appendix A.

Given the different data sources used, the following steps are taken to ensure consistency in the data:

- The UK Fisheries Administrations operate a system of automatic cross-checks between the data received about the activity of vessels through the logbooks, landings declarations and sales notes information reported to them along with the information available from satellite surveillance and other sightings and inspection data. This system is part of the administrative control mechanisms in the UK and thus

used to ensure the accuracy of the information held on these systems, with discrepancies being investigated.

- During the Seafish survey, participants are asked for multi-year accounts permissions. This ensures some consistency in the sample from year to year, allowing for a partial cohort analysis and improving the quality of the time series estimates. This approach helps offset the introduction of a potential bias from the use of non-random sampling.

- During the preparation of the sample, Seafish receives summary information for each vessel related to the total quantity and value of landings made in recent years from administrative sources. This information is used to help validate the data reported in the sampling process and to allocate each individual vessel to Seafish and DCF fleet segments. Any discrepancies found while cross checking and validating the data are investigated.

Fleet segmentation and sample rates

There are over 4,500 different sized vessels fishing around the UK coast using a wide variety of fishing gears, targeting different stocks and supplying different markets. To ensure those differences are captured in the data set we define groups or fleet segments of relatively similar vessels so we can provide information on the operational and financial performance of groups of comparable vessels. Each fleet segment has a set of mutually exclusive criteria that define which vessels are included in it for each year. Every single active vessel will fit into only one segment each year. Criteria are based on the physical characteristics of the vessels, activity level, gear used, species targeted and areas fished. There are 32 Seafish segments used to categorise the UK fishing fleet as shown in the Segmentation Criteria table in Table 3 of Appendix A.

Some segments have a large number of vessels, such as the under 10m pots and traps segment (1,163 vessels), while others have very few, such as North Sea beam trawl over 300kW (7 vessels). Individual vessels may be included in different segments in different years depending on their activity and gear use year to year. Segments must contain at least five vessels so that reliable data can be collected, robust estimates of costs and profits can be produced, and confidentiality is protected. If fewer than five vessels fit into one segment in a given year, they are instead grouped in the 'Miscellaneous' fleet segment.

A 10% target sample rate has been selected for the majority of segments as this will provide a sample size large enough to robustly estimate variables for the entire segment population. Intensity of sampling depends on the fleet segment and number of vessels in each segment. For example, in the inshore under 10 m fleets which have >500 vessels, the planned sample rate might be lower and limited by response rates and availability of accounts, whereas for segments with a small population the sample rate is higher to ensure at least two vessels in that segment are included in the sample. Achieved sample rates per fleet segment over the period 2008-2018 are shown in the Appendix B.

The proposed sample rate of 10% per fleet segment relates only to the costs, non-fishing income, investment and capital values elements of the survey. For value of fishing income and activity levels (days at sea) information is available for every vessel in the fleet. Knowing the physical characteristics, activity levels and declared fishing income of all the vessels in each segment means that robust estimates of costs, non-fishing income, investment and capital values can be made for each segment based on a 10% sample rate.

In late 2019 and early 2020 Seafish Economics collected 394 sets of 2018 financial accounts (9% of the active UK fleet). It is not possible to collect an adequate sample for 2018 any earlier than this because vessel owners do not finish their annual accounts until around 10 months after the end of the year being reported. Each financial account contains data for 2 years, therefore the 2018 sample is expected to be revised after the next 2019 accounts collection in the end of 2020 early 2021

Estimation procedures

Estimation procedures are applied at the Seafish fleet segment level. As explained above and presented in Table 3 in Appendix A, fleets are defined based on a combination of gear used, target species, area and engine power/vessel size. In total 21 costs items are extracted from vessel accounts. Models are used to combine data from administrative sources and the segment sample to estimate cost items for each vessel in each strata (fleet segment) and the wider population.

First developed in 2008, the estimation methodology was used to produce single year estimates that were reported in the 2008, 2009 and 2010 Seafish economic survey reports on the UK fishing fleet. The methodology was revised in February 2013. The revision involved changing the way that the sample cost structure for each fleet segment was calculated, resulting in a more robust approach when dealing with outlying (far from average) cost data. When producing the annual time series estimates since 2013, the estimation methodology is applied to all years, therefore each annual revision might affect the time series estimates if information provided by the MMO or sample data is revised, or if adjustments are made to the methodology (e.g. in 2018 a new procedure to estimate fuel costs was introduced to account for seasonality of fishing activities and monthly fuel price fluctuations on the market).

Estimation procedures for specific variables and variable groups are presented below.

Costs and earnings

Declared fishing income is available from the government data set for every active vessel in the fleet, so fishing income is the most reliable financial figure we produce. We then calculate, for all vessels in a segment, 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 for this group of vessels;

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

Crew share and fuel costs are calculated differently from other costs. To calculate crew share costs, we allocate a minimum £100 per day in instances where the actual observed value within the 'combined segment sample cost structure' is lower.

To calculate fuel costs, we use Vessel Capacity Units (VCU) 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 fuel cost estimates for each vessel.

For the estimation procedure, within each Seafish defined fleet segment:

1. individual costs and earnings items from the sample of vessels are added together to create a 'combined segment sample cost structure'. The 'combined segment sample cost structure' is calculated for each fleet segment as a proportion of the sum of fishing income.
2. we allocate the cost structure and non-fishing income data from the sampled vessel accounts within a segment to all vessels in that fleet segment.
3. we then estimate costs and non-fishing income for all vessels in the segment using official statistics on effort and fishing income covering every vessel in the fleet.
4. finally, we adjust certain values based on minimum crew share and fuel consumption per day at sea.

Energy consumption and costs

The estimation for energy cost is based on estimated fuel consumption for each vessel. Fuel is marine diesel. For each vessel in the population, fuel cost is calculated as:

Annual Fuel Cost = $\sum_{m=1}^{12}(\text{price}_m * \text{days}_m * \text{consumption rate})$

Where:

- price$_m$ = reference year average fuel price in month m per litre (duty free price)

- days$_m$ = days at sea in month m of each vessel

- consumption rate = assumed daily consumption of fuel (litres), according to VCUs

Vessels in each segment are split into three size categories (small, medium and large) determined by their VCUs. For each of these size categories, a corresponding daily consumption of fuel in litres is applied. The daily consumption figures are based on evidence from sample data fuel costs from vessel accounts and from interviews with skippers, who have a good idea of their average daily fuel consumption. Daily consumption for each vessel is then multiplied by each vessel's monthly days at sea to give monthly consumption in litres. Monthly fuel use (litres) is then multiplied by the average monthly fuel price per litre in the reference year (excluding duty).

Crew share

Estimated crew share is calculated based on each segment's average crew wage costs as a percentage of fishing income. We allocate a minimum £100 per day in instances where the estimated value based on sample costs is lower. Crew wage (share) is a well-defined expense in most vessel accounts and there is not a great deal of variation in wages as a percent of fishing income within each segment. Therefore this is a robust method for estimating this key cost.

Other Fishing Costs

Sample sizes vary for the remaining individual fishing costs (shore labour, ice, boxes etc.) for each sample vessel within a segment. We therefore adopt a top down approach to calculating fishing costs which constrains the total value of fishing costs to the average from the segment and adjust for each vessel's individual fuel and crew costs as outlined above. The constrained total cost value is then split among key fishing costs (commissions, harbour dues, subsidies and levies, shore labour, boxes, ice, crew travel, food stores, quota leasing, days purchased, other fishing costs) using adjusted shares of each cost to total costs.

Vessel costs

Vessel costs include insurance, repairs, gear cost, hire and maintenance, other vessel costs, total vessel owner costs, and are estimated based on sample data. The average costs structure as a proportion of earnings for the sample vessels in each segment is applied to non-sampled vessels.

Depreciation

Depreciation for non-sampled vessels is estimated based on sample data and the average cost structure as a proportion of earnings for the sample vessels in each segment. For fleet segments with limited sample results we calculate depreciation using the Perpetual Inventory method (PIM)[1]. The PIM method is based on the value of vessels and expected live term / investment parameters.

Interest

Interest is estimated based on sample data and the average cost structure as a proportion of earnings for the sample vessels in each segment. Estimates are then applied to non-sampled vessels.

FTE Jobs

We first estimate crew size (including both full- and part-time crew) based on information gathered from face to face interviews with vessel owners and MMO employment data. We estimate engaged crew for vessels not included in the sample based on sample data, 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 vessels in the UK fleet, we estimate Full Time Equivalent (FTE) jobs based on hours worked parameter we collect during the survey (an FTE is assumed to be 2,000 hours worked per year).

2019 estimates

Figures presented for the year 2018 are estimates based on Government data and the financial accounts sample collected by Seafish. Figures for 2019 are estimated using provisional official statistics on landings, numbers of vessels and effort, along with actual annual average 2019 fuel prices and the previous years' cost structures (in this case 2018). Therefore, the 2019 values should be considered robust preliminary estimates. Seafish will revise these estimates when final government data and 2019 vessel accounts are available.

R software for statistical computing is used to create a procedure to produce processing financial estimates. It contains a number of data transformations, checks and adjustments needed to ensure as comprehensive a dataset as possible.

Quality control and data validation

The sample and all inputs as well as outputs are checked and validated at all data processing stages (preparation for estimation procedures, within estimation procedures, after aggregation of data to fleet segments and before submission to the STECF economic data

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[1] https://datacollection.jrc.ec.europa.eu/documents/10213/481e4f1c-3cb3-4c60-84ed-3b879211b3b6

calls or sharing with the public). All quality checks are coded in Stata or R programming languages as well as using Tableau dashboards.

Confidentiality rules

There are several levels of confidentiality applied:

1. Defining fleet segments for estimation and data collection
2. Sharing information publicly

Regarding confidentiality of the fleet segments in the UK a general position is taken that is consistent with the aggregation of enterprises done for business surveys and other exercises carried out by the UK Office for National Statistics. This involves the application of a "rule of 5" so that anywhere fewer than 5 vessels is involved needs to be suppressed. There is some flexibility in terms of choice of grouping to which the suppressed vessels are then combined which varies according to the gears used. During the estimation procedure vessels with unique characteristics that don't match any defined fleet segments are allocated to the 'Miscellaneous' fleet segment.

The Seafish confidentiality rules applied to fleet economic estimates when publishing the data are as follows:

✓ Economic performance data is only shared with stakeholders when the number of vessels within the group is more than 5 (only groups with more than 10 vessels are published and available in the Fleet Enquiry Tool);

✓ Ports are only considered in the port of landing Level 1 of the Fleet Enquiry Tool when at least 10 vessels used the specific port as a main port of landing in 5 of the years within the period 2008-2019

✓ Effort data provided by the MMO is considered to be confidential within groups of vessels when less than 3 vessels' operations are recorded within the strata (ICES division, month and fishing technique used). Therefore in the activity summary effort measure in days at sea for these records is presented, but fishing technique appears as 'confidential' in the list to protect individual business operations.

✓ Confidentiality of landings weight and value is preserved by grouping all species landed by less than 3 vessels within each strata (ICES division, month and species caught) in the group 'Others'. Weight and value of landings are removed for records where the grouping still had less than 3 records/observations in the data set.

Fleet Enquiry Tool levels

When using the Fleet Enquiry Tool users can view and filter data based on different levels (data aggregations) created to facilitate people looking for different type analyses. There are 7 data aggregation levels defined in Level 1 of the Fleet Enquiry Tool. Each level is calculated using UK fishing fleet economic time series estimates and includes different groups of vessels (defined in Level 2 of Fleet Enquiry Tool). The Level 1 levels are as following:

✓ *Overall* – All registered UK fishing vessels included in the calculations (level includes British Crown dependent islands);

- ✓ *Seafish segments* – UK fishing fleet stratification and data collection level that is defined in this report and published in Fleet Economic Time series Excel data sheets (excludes some fleet segments where insufficient data is available);
- ✓ *Home Nations* – vessels are grouped to 4 home nations (England, Scotland, Northern Ireland and Wales) based on their port of administration record provided by the MMO;
- ✓ *Nation and vessel size* – this grouping takes into account Home Nation (defined above) and vessel length groups (below and above 10m);
- ✓ *Top port of landing* – vessels are grouped based on the main port of landings during the year (in terms of value landed). Top ports of landing are assigned to each individual vessel based on information about ports used to land seafood caught during the year. The port where each vessel landed the most value in a given year is assigned its top port.
- ✓ *NUTS 1 and 2 levels* – are created using top ports of landing (defined above) and definitions of UK Nomenclature of Territorial Units for Statistics[2]. All vessels allocated to top ports of landings within territorial regions are grouped under NUTS1 and NUTS2 levels.

Limitations

There are several limitations related to the data collection and estimation process and Fleet Enquiry Tool that end users need to consider:

- ✓ Involvement in the survey is voluntary. As such it involves a degree of self-selection and is not a true random sample of the fleet. The majority of the data is collected by a probability sample survey. For these data, bias is assessed and reported to the STECF by coverage rate and Coefficient of Variability (CV). Data for the remaining variables is collected using a Census-based approach.
- ✓ In some cases, when it is not possible to collect enough financial accounts for a specific year, previous years' accounts and other information collected previously is used to make sure estimates for all UK fishing vessels are robust.
- ✓ The economic estimates are only produced for vessels, therefore landings associated with the data set are slightly different to MMO reported official landings statistics for the UK catching sector as a whole. Seafish fleet estimates don't include groups' landings, hand picking and other operations that are not linked to UK registered vessels.
- ✓ Grouping of the data after estimation procedures creates a possibility to slice the data set at different levels in the Fleet Enquiry Tool, e.g. home nation's level and ports level. Those levels are based on MMO data on ports of administration and landings value by port for each individual vessel. Cost items for these levels are sums of economic performance estimates produced per Seafish fleet segment and should not be considered statistically representative of a specific region as those don't account for economic differences between regions but based on activity of vessels. However despite limitations those estimates are considered the most robust and the best available estimates.

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[2] https://en.wikipedia.org/wiki/NUTS_statistical_regions_of_the_United_Kingdom

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: a 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 per year.

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: 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

DCF – EU Data Collection Framework

FTE - Full-Time Equivalent

GVA - Gross Value Added

ICES - International Council for the Exploration of the Sea

MMO - Marine Management Organisation

NS - North Sea

NSWoS - North Sea and West of Scotland

NUTS - Nomenclature of Territorial Units for Statistics

VCU - Vessel Capacity Unit

WC - Western Channel

WoS - West of Scotland

Appendix A: Definitions and data sources

Landings and fishing activity data are sourced from the sets of administrative control documents (logbooks, landings declarations and sales notes) that vessels are required to submit to report to the government. The logbook and landings declarations are required from all UK over 10m vessels, and sales notes are required for all landings >50kg. For smaller vessels additional data sources (e.g. Fish1 (F1) form in Scotland, specific separate national requirements to report shellfish-focussed fishing activity, etc.) are used by the MMO to estimate landings and effort for all UK active fleets. These are the same sources used within the other modules of the DCF – this ensures consistency in the data held for vessels across the DCF.

Vessel accounts contain a profit and loss account for a period usually of one year, and a balance sheet of the business for the same period. There are also notes to the accounts which give further details regarding assets, payments to directors (in the case of limited companies) and depreciation and debt repayment. The profit and loss account includes data on fishing and vessel costs. The balance sheet includes data on investments and capital values.

There is a short survey questionnaire designed to be conducted as an interview with the vessel owners. In some cases it may be completed by owners without interview and then submitted to Seafish. The survey questionnaire provides data on fuel use rates, crew size, capital values and expenditure on and value of quota and fishing rights.

Data on the physical characteristics and age of vessels in the UK fishing fleet, including those which are not active, are taken from the UK Fishing Fleet Register. All vessels must be registered on this UK-wide national registration system (and its associated licensing by administrations) before they can legally be used for commercial fishing activity. The register provides vessel information on length overall, breadth, gross tonnage, year of build, power of main engine etc.

Data sources for specific variables are shown in Table 1 below.

Table 1: List of DCF economic variables and data sources

Variable Group	Variables	Data sources
Income	Gross value of landings	Logbooks and sales notes
	Income from leasing out quota or other fishing rights	Vessel accounts
	Other income	Vessel accounts
Labour costs	Personnel costs	Vessel accounts
	Value of unpaid labour	Vessel accounts
Energy costs	Energy costs	Vessel accounts
Repair and maintenance costs	Repair and maintenance costs	Vessel accounts
Other operating costs	Lease/rental payments for quota or other fishing rights	Vessel accounts
	Non-variable costs	Vessel accounts
	Variable costs	Vessel accounts
Subsidies	Direct subsidies	Vessel accounts
	Subsidies on investments	EMFF payments
Capital costs	Consumption of fixed capital	Combination of vessel accounts, questionnaire and PIM method
Capital value	Tangible asset value (replacement)	Vessel accounts
	Value of quota and other fishing rights	Questionnaires/vessel accounts
Investments	Investments in tangible assets, net	Questionnaires
Financial position	Long/short Debt	Vessel balance sheets
	Total assets	Vessel balance sheets
Employment	Engaged crew	Questionnaire
	FTE (national)	Questionnaire
	FTE harmonised	Questionnaire
	Total hours worked per year (engaged crew)	Questionnaire
	Unpaid labour	Questionnaire
Fleet	Mean age of vessels	UK Fishing Register
	Mean LOA of vessels	UK Fishing Register
	Number of vessels	UK Fishing Register
	Total vessel's power	UK Fishing Register
	Total vessel's tonnage	UK Fishing Register
Effort	Days at sea	Logbooks
	Energy consumption	Questionnaire and coefficients defined
	Fishing days	Logbooks
	GT days at sea	Logbook and fleet register
	GT fishing days	Logbooks and fleet register

Variable Group	Variables	Data sources
	kW days at sea	Logbooks and fleet register
	kW fishing days	Logbooks and fleet register
	Number of fishing trips	Logbooks

Table 2. Costs and income indicators collected by Seafish

Variable group	Variable
Turnover	Fishing Income (value of landings provided by MMO)
	Non-fishing Income
	Quota leased out
Vessel Owners Costs	Insurance
	Repairs
	Gear
	Hire & Maintenance
	Other vessel Expenses
Fishing costs	Commission
	Harbour Dues
	Fuel costs
	Subscriptions & Levies
	Shore labour
	Boxes
	Ice
	Bait
	Crew Travel
	Food Stores
	Quota Leasing
	Days Purchased
	Other Fishing Expenses
	Crew Share

Table 3. Seafish fleet segment definitions

	Seafish Segments	Main Area	Main DAS Gear	Main Species by value	Main Gear Type	Power Main Engine	Vessel Length	Value of landings
1	Area VIIA demersal trawl over 10m	7A	Demersal trawls and seines				>= 10m	
2	Area VIIA nephrops over 250kW	7A	Demersal trawls and seines	Nephrops		>= 250 kW	>= 10m	
3	Area VIIA nephrops under 250kW	7A	Demersal trawls and seines	Nephrops		<250 kW	>= 10m	
4	Area VIIb-k trawlers 10-24m	7de, 7fg, 7 other	Demersal trawls and seines	Not Nephrops			>= 10m & <24m	
5	Area VIIb-k trawlers 24-40m	7de, 7fg, 7 other	Demersal trawls and seines	Not Nephrops			>= 24m & <40m	
6	UK Gill netters over 10m		Drift Nets and Fixed Nets	Not Nephrops			>= 10m	
7	UK Longliners over 10m		Gears using hooks	Not Nephrops			>= 10m	
8	Low activity vessels over 10m						>= 10m	< £10,000
9	Low activity vessels under 10m						< 10m	< £10,000
10	Miscellaneous vessels over 10m						>= 10m	
11	North Sea beam trawl over 300kW	NS	Beam Trawl	Not Nephrops		>= 300 kW	>= 10m	
12	North Sea beam trawl under 300kW	NS	Beam Trawl	Not Nephrops		< 300 kW	>= 10m	
13	North Sea nephrops trawl over 300kW	NS	Demersal trawls and seines	Nephrops		>= 300 kW	>= 10m	
14	North Sea nephrops trawl under 300kW	NS	Demersal trawls and seines	Nephrops		< 300 kW	>= 10m	
15	North Sea and West of Scotland demersal trawl over 24m	NS, WoS		Not Nephrops			>= 24m	
16	North Sea and West of Scotland demersal pair trawls and seines	NS, WoS	Demersal trawls and seines	Not Nephrops	Paired Trawl		>= 10m	
17	North Sea and West of Scotland demersal seiners	NS, WoS	Demersal trawls and seines	Not Nephrops	Scottish Seiner		>= 10m	
18	North Sea and West of Scotland demersal trawl under 24m, over 300kW	NS, WoS	Demersal trawls and seines	Not Nephrops		>= 300 kW	>= 10m & <24m	
19	North Sea and West of Scotland demersal trawl under 24m, under 300kW	NS, WoS	Demersal trawls and seines	Not Nephrops		< 300 kW	>= 10m & <24m	
20	UK pelagic trawl over 40m		Pelagic: Trawl, Seiner / Purse Seiner	Mackerel			>= 40m	
21	UK pots and traps 10m-12m		Pots and Traps				>= 10m & <12m	
22	UK Pots and traps over 12m		Pots and Traps				>= 12m	

	Seafish Segments	Main Area	Main DAS Gear	Main Species by value	Main Gear Type	Power Main Engine	Vessel Length	Value of landings
23	South West beam trawl under 250kW	7de, 7fg, 7 other	Beam Trawl			< 250 kW	>= 10m	
24	South West beam trawl over 250kW	7de, 7fg, 7 other	Beam Trawl			>= 250 kW	>= 10m	
25	UK demersal trawls and seines under 10m		Demersal trawls and seines				< 10m	
26	UK drift and fixed nets under 10m		Drift Nets and Fixed Nets				< 10m	
27	UK pots and traps under 10m		Pots and Traps				< 10m	
28	UK hooks under 10m		Gears using hooks				< 10m	
29	West of Scotland nephrops trawl over 250kW	WoS	Demersal trawls and seines	Nephrops		>= 250 kW	>= 10m	
30	West of Scotland nephrops trawl under 250kW	WoS	Demersal trawls and seines	Nephrops		< 250 kW	>= 10m	
31	UK scallop dredge over 15m		Dredges	Scallops, queen scallops, cockles			>= 15m	
32	UK scallop dredge under 15m		Dredges	Scallops, queen scallops, cockles			<= 15m	

Appendix B: Achieved sample rates

Sample rates for vessel characteristics and fishing income is 100% as these data are taken from administrative data sources.

Sample rates below are for non-fishing income and costs, taken from financial accounts.

Seafish Fleet Segment	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Area VIIA demersal trawl	13%	27%	21%	8%	0%	40%	11%	25%	13%	21%
Area VIIA nephrops over 250kW	20%	12%	17%	26%	15%	22%	16%	17%	13%	10%
Area VIIA nephrops under 250kW	15%	6%	24%	22%	13%	18%	26%	22%	21%	25%
Area VIIBCDEFGHK 24-40m	0%	21%	7%	7%	0%	0%	8%	8%	9%	8%
Area VIIBCDEFGHK trawlers 10-24m	17%	22%	17%	5%	15%	15%	18%	18%	17%	20%
Gill netters	5%	8%	8%	20%	18%	11%	14%	23%	23%	23%
Longliners	4%	4%	8%	0%	8%	8%	7%	13%	12%	14%
Low activity over 10m	1%	3%	9%	4%	8%	6%	7%	6%	4%	2%
Low activity under 10m	0%	1%	1%	1%	2%	2%	3%	3%	3%	2%
North Sea beam trawl over 300kW	36%	56%	70%	56%	63%	18%	9%	40%	22%	0%
North Sea beam trawl under 300kW	17%	19%	56%	69%	64%	39%	35%	50%	36%	35%
North Sea nephrops over 300kW	47%	52%	43%	45%	47%	36%	46%	44%	55%	60%
North Sea nephrops under 300kW	22%	25%	27%	22%	13%	17%	24%	36%	35%	26%
NSWOS demersal over 24m	45%	44%	56%	51%	59%	51%	69%	72%	52%	49%
NSWOS demersal pair trawl seine	59%	59%	61%	56%	47%	45%	60%	43%	28%	36%
NSWOS demersal seiners	46%	48%	40%	47%	69%	41%	63%	63%	81%	47%
NSWOS demersal under 24m over 300kW	30%	40%	43%	44%	50%	49%	47%	47%	39%	46%
NSWOS demersal under 24m under 300kW	9%	12%	25%	14%	36%	43%	27%	27%	25%	22%
Pots and traps 10-12m	13%	9%	11%	11%	13%	16%	18%	24%	19%	16%

Seafish Fleet Segment	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Pots and traps over 12m	11%	5%	14%	10%	22%	31%	27%	23%	18%	22%
South West beamers over 250kW	55%	54%	77%	82%	84%	16%	20%	73%	83%	38%
South West beamers under 250kW	41%	32%	37%	22%	30%	32%	39%	38%	17%	36%
Under 10m demersal trawl/seine	7%	10%	12%	7%	11%	13%	11%	10%	14%	9%
Under 10m drift and/or fixed nets	3%	3%	7%	7%	10%	5%	8%	12%	11%	8%
Under 10m pots and traps	6%	5%	7%	5%	8%	12%	13%	15%	12%	11%
Under 10m using hooks	6%	8%	5%	5%	10%	7%	5%	9%	12%	9%
WOS nephrops over 250kW	6%	16%	25%	17%	25%	38%	33%	41%	45%	33%
WOS nephrops under 250kW	14%	17%	30%	20%	31%	26%	25%	24%	22%	17%
UK scallop dredge over 15m	15%	26%	17%	18%	31%	26%	31%	30%	34%	20%
UK scallop dredge under 15m	6%	3%	10%	11%	13%	13%	18%	14%	15%	13%
Inactive	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%

Appendix C: Example of Fleet Survey Questionnaire 2020

seafish

Here to give the UK seafood sector
the support it needs to thrive.

Fleet Survey Form

Before completing this form, please read the accompanying guide, 'How to fill in your Fleet Survey Form'.

Fill in this form in **CAPITAL LETTERS using black or blue biro only**, writing in the space provided.
If you need extra space please write on a separate sheet (indicating the relevant question number).
We may contact you if we need to verify any of your answers or if you have opted for an in-depth interview.

All information collected is treated as **strictly confidential**.

Please return your completed survey form in the prepaid envelope by 30 September 2020.

If you have any comments or questions please get in touch:
Email: fleet.survey@seafish.co.uk   **Tel:** 07876 035 759

Section 1: Your details

Surname:

First name:

Title: Mr   Mrs   Miss   Ms

            Other (e.g. Rev, please specify):

Telephone number:

Postal address:

Post town/city:

Postcode:

Email address:

Please turn over to Section 2 >

FOR OFFICIAL USE ONLY:

Survey form ID number:

1

Section 2: Your vessel(s)

Please complete the details below for **all vessels** that you own (including part or co-ownership).

If you own more than one vessel please choose one of these as your **'primary vessel'** for the questions in **Section 3**. Indicate your primary vessel with a tick in the 'Primary vessel?' column below.

Vessel name	Vessel PLN	Overall length **(meters)**	Primary vessel?

Please continue to Section 3 >

Section 3: Your vessel value, activity and employment

If you have **more than one vessel**, please answer the following questions for your **primary vessel** as indicated in **Section 2**. You may complete these questions for your other vessels on a separate form or over the phone (contact us to discuss in more detail).

Unless otherwise stated all questions relate to the **calendar year 2019** (i.e. from 1 January to 31 December).

Section 3a: Value of your vessel and fishing rights

1. **In what year did you purchase your vessel?**

2. **Was the vessel new or second hand?** New: Second hand:

3. **How much did you pay for the vessel and licence?** *(See guidance note 1)*
    Please estimate the value of the vessel and the licence separately.

    Value of vessel: £ Value of licence: £

4. **How much was the vessel worth in 2019?** *(See guidance note 2)*
    Please estimate the value of the vessel and the licence separately.

    Value of vessel: £ _____   Value of licence: £ _____

5. **Did you hold any quota units for this vessel in 2019?**

    Yes: ___ *(Go to question 5a)*   No: ___ *(Go to question 6)*

    If yes to question 5…
    5a. **Please estimate the value of the quota units for this vessel in 2019.** *(See guidance note 3)*

    Value of quota units: £ _____

6. **Did you make any major investments in the vessel in 2019?** *(See guidance note 4)*

    Yes: ___ *(Go to question 6a)*   No: ___ *(Go to question 7)*

    If yes to question 6…
    6a. **What investments did you make?**
    Please list each of your investments and their cost below.

Feature/item	Estimated cost of feature/item

Section 3b: Fuel consumption and other activities

7. **On average, how many <u>litres</u> of fuel did the vessel use per day at sea?** *(See guidance note 5)*

    _____ litres

8. **Was the vessel used for any other income generating activities in 2019?** *(See guidance note 6)*

    Yes: ___ *(Go to question 8a)*   No: ___ *(Go to question 9)*

    If yes to question 8…
    8a. **Which of the following income generating activities was the vessel involved in?**
    Please tick all that apply.

    Oil/Guarding: ___   Renewable Energy: ___   Aquaculture: ___   Tourism: ___   Scientific: ___

    Other (please specify): _____

Please turn over to Section 3c >

Section 3c: Employment

9. **How many on-board jobs including the skipper did this vessel support in 2019?** *(See guidance note 7)*
   Please indicate how many were full-time i.e. at least 37 hours per week; and how many were part-time i.e. less than 37 hours per week.

   Full-time jobs: [＿＿＿＿] *(Complete question 10)*   Part-time jobs: [＿＿＿＿] *(Complete question 11)*

If your vessel supported any full-time jobs in 2019…

10. **Please indicate the average number of days per month and average number of hours per day they worked.** *(See guidance note 8)*

    Full-time: Average days per month: [＿＿＿＿]   Average hours per day: [＿＿＿＿]

If your vessel supported any part-time jobs in 2019…

11. **Please indicate the average number of days per month and average number of hours per day they worked.** *(See guidance note 8)*

    Part-time: Average days per month: [＿＿＿＿]   Average hours per day: [＿＿＿＿]

12. **Additional notes on working patterns.**
    If you would like to tell us anything else about working patterns on your vessel e.g. seasonality, please write in the space below.

13. **Did you have any additional help in 2019?** *(See guidance note 9)*
    For example family or friends that helped on board or on shore and were not paid conventionally.

    Yes: [＿＿] *(Go to question 13a)*   No: [＿＿] *(Go to Section 4)*

If yes to question 13…

13a. **Please estimate the total number of people and total number of hours of additional help in 2019.**
     (See guidance note 10)

     Total number of people: [＿＿＿＿]   Total number of hours: [＿＿＿＿]

Please continue to Section 4 >

Section 4: Financial data

As part of our Fleet Survey we also collect financial data to estimate industry-wide costs and earnings.

This means we can show the value of the UK Fishing Fleet and the impacts of changing management measures. Industry and Government use this information to assess impacts and make decisions affecting industry such as negotiating quota, access arrangements and trade relationships.

If you contribute your financial data we will send you a **free personal benchmark report** for your fishing vessel.

To find out more about how we protect your individual data see **'The Fleet Survey explained'** leaflet enclosed.

14. **Would you like to contribute your financial data to the sample and get a free benchmark report?**

Yes: ☐ *(go to question 14a)*   No: ☐ *(go to Section 5)*

If yes to question 14…

14a. **How would you like to supply your financial data?** *(See guidance note 11)*
*Please select **ONE** of the options below and follow the instructions to contribute your financial data.*

I will enclose a copy of my year-end accounts with my completed survey form: ☐

If you select this option **please enclose a copy of your accounts with your survey form** in the prepaid envelope *(Go to Section 5)*.

or

I would like Seafish to contact my accountant to request a copy of my year-end accounts: ☐

If you select this option **please sign the accounts declaration on the next page** and complete your accountants details so that we may contact them to request the data *(Go to question 15)*.

or

I do not have a copy of financial accounts and will complete Section 7 of this form: ☐

If you select this option **please ensure you complete Section 7: Financial estimates on page 12 of this form.** For now please proceed to Section 5. *(Go to Section 5)*.

Please turn over to complete Section 4 >

15. Accounts Declaration: *(See guidance note 12)*

If you selected the option 'I would like Seafish to contact my accountant to request a copy of my year-end accounts' in question 14a…

> You only need to complete this section if you wish Seafish to contact your accountant to request financial data. Please indicate the time period you would like to contribute financial data and sign the relevant accounts declaration below.
>
> Most people who submit financial data this way sign up for three years. It means that even if you don't complete a survey form next time we can still contact your accountant and you can still get a free personal benchmark report. **Why not join the 92% who contribute data for multiple years?**

I am the vessel owner and I hereby give permission for Seafish to obtain from my accountant my complete financial accounts for 2019/2020 and the next three financial years (until 2022/2023).

Signature:	
Print name:	
Date	

or

I am the vessel owner and I hereby give permission for Seafish to obtain from my accountant my complete financial accounts for 2019/2020.

Signature:	
Print name:	
Date	

16. Accountants details: *(See guidance note 13)*

Name of accountancy firm:	
Accountant contact name:	
Accountant telephone:	
Accountant email:	
Accountant postal address:	

Please continue to Section 5 >

Section 5: Recent business performance and future outlook

These questions are about your overall recent business performance and your longer- term expectations. If you want to say more on this topic we encourage you to have a discussion with one of our researchers. Let us know if you want to do this by selecting 'yes' to question 20.

There are some more detailed questions on COVID-19 in Section 6 where you can tell us about the effect it has had on your business.

17. Overall how would you rate your business performance over the last 12 months?

Excellent: ☐   Above average: ☐   Average: ☐   Below average: ☐   Poor: ☐

17a. In the past 12 months, what factors have affected your business performance?
Please select all that apply from the list below, indicating whether the effect was positive or negative.

	Positive	Negative		Positive	Negative
Abundance of target catch	☐	☐	Access to labour	☐	☐
Price for catch	☐	☐	Previous investment decisions	☐	☐
Weather	☐	☐	Political conditions (e.g. Brexit)	☐	☐
Access to fishing grounds	☐	☐	Rules and regulations	☐	☐
Access to markets	☐	☐	Demand for seafood	☐	☐
Operating costs (e.g. fuel, repairs, gear)	☐	☐	Climate change and/or sea temperature	☐	☐
The value of the pound	☐	☐	Access to port infrastructure	☐	☐
Quota	☐	☐	COVID-19	☐	☐
Other (please specify):				☐	☐
Other (please specify):				☐	☐
Other (please specify):				☐	☐

18. Overall how would you rate your outlook for your business performance in the next 3-5 years?

Very good: ☐   Good: ☐   Neutral / Unsure: ☐   Bad: ☐   Very bad: ☐

Please turn over to complete Section 5 >

18a. In the next 3-5 years, what factors do you think will affect your business performance?
Please select all that apply from the list below, indicating whether you think the effect will be positive or negative.

	Positive	Negative		Positive	Negative
Abundance of target catch	☐	☐	Access to labour	☐	☐
Price for catch	☐	☐	Previous investment decisions	☐	☐
Weather	☐	☐	Political conditions (e.g. Brexit)	☐	☐
Access to fishing grounds	☐	☐	Rules and regulations	☐	☐
Access to markets	☐	☐	Demand for seafood	☐	☐
Operating costs (e.g. fuel, repairs, gear)	☐	☐	Climate change and/or sea temperature	☐	☐
The value of the pound	☐	☐	Access to port infrastructure	☐	☐
Quota	☐	☐			
Other (please specify):				☐	☐
Other (please specify):				☐	☐
Other (please specify):				☐	☐

19. Given the factors you indicated above, what are your intentions or ambitions for your fishing business over the next 3-5 years?
Please tick all that apply.

Expand the business: ☐   Maintain the business at current size and activity level: ☐

Downsize the business: ☐   Sell the business: ☐   Retire: ☐   Don't know: ☐   *(go to question 20)*

Other (please specify): _____

19a. Please provide more details about how you intend to do this (e.g. buy another vessel, change target species, replace vessel with a smaller one).

20. We are looking to speak to some people in more detail about the factors affecting recent business performance and long-term business outlook. Would you like to speak to one of our researchers on this topic? *(See guidance note 14)*
If you answer yes one of our researchers will contact you to arrange a mutually convenient time for the discussion.

Yes: ☐   No: ☐

Please continue to Section 6 >

Section 6: COVID-19 impacts

We are assessing the impact of COVID-19 on the whole of the UK seafood industry and would like to learn more about how it has affected your business.

21. Did you stop or reduce operations at any point during lockdown?
Please tick all that apply.

Yes, complete closure: ☐ *(complete question 21a)*   Yes, reduced activity: ☐ *(complete question 21a)*

No, I did not stop or reduce activity: ☐ *(go to question 22)*

If yes to question 21…

21a. Please indicate the duration of complete closure and/or reduced activity in weeks.

Complete closure: ☐ weeks   Reduced activity: ☐ weeks

22. Did you make any changes to your normal business operations to adapt to COVID-19 restrictions?
Please tick all that apply.

Labour & crew changes (e.g. shift patterns, crew from non-EEA countries): ☐

Fishing patterns (e.g. trip length/frequency, fishing grounds, target species): ☐

Markets (e.g. international vs domestic): ☐

Sales & distribution (e.g. direct and/or online sales, deliveries, etc.): ☐

No change: ☐ *(go to question 23)*

Other *(please specify)*:

22a. If you made any of the changes listed in question 22, are you now back to business as usual? (i.e. prior to COVID-19)?

Yes: ☐ *(go to question 23)*   No: ☐ *(go to question 22b)*

Please turn over to complete Section 6 >

22b. When do you expect to return to business as usual?

1-2 months: ☐   3-6 months: ☐   6-12 months: ☐   More than 12 months: ☐

Never: ☐   *(go to question 22c)*

22c. If you answered 'never' to question 22b, what are your future plans for the business?

☐

23. Have the lock-down and COVID-19 restrictions affected your business financially?

Yes: ☐   *(go to question 23a)*   No: ☐   *(go to question 24)*

23a. Please explain how you expect your business profits this financial year to compare to last financial year?
Please give an approximate percentage, e.g. 20% lower or 15% higher and explain how (e.g. fewer days at sea resulting in less income or direct sales are more profitable)

☐

24. Has your business been impacted by more unpaid orders than usual during lock-down and COVID-19 restrictions?

Yes: ☐   *(go to question 24a)*   No: ☐   *(go to question 25)*

24a. What proportion of your orders (in terms of value) has gone unpaid since the beginning of this calendar year?

☐ %

24b. Does your insurance cover these bad debt payments?

Yes: ☐   No: ☐

25. Overall what is your outlook for your business performance in the next 12 months?

Very good: ☐   Good: ☐   OK: ☐   Bad: ☐   Very bad ☐

26. Did you use any Government support measures to help your business?

Yes: ☐ *(go to question 26a)*   No: ☐ *(go to Section 7)*

26a. Which Government support measures did you use?
Please select from the list below, tick all that apply and also indicate how easy it was to access and timely each measure was by ticking yes or no.

UK-wide support measures:	I used this measure	Was this measure easy to access?		Was this measure timely?	
		Yes: No:		Yes: No:	
Statutory sick pay relief package (SMEs)	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Coronavirus job retention scheme	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Bounce back loan	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Coronavirus business interruption loan scheme	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Future Fund	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Fast Start Competition	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
VAT deferral	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Income support scheme for self-employed	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Income tax deferral for self-employed	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
England only support measures:					
England: Small business grant scheme	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
England: Domestic Seafood Supply Scheme	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Northern Ireland only support measures:					
Northern Ireland: Support for fishing industry	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Northern Ireland: Small business grant scheme	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Scotland only support measures:					
Scotland: Sea Fisheries Hardship Fund for vessels under 12m	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Scotland: Sea Fisheries Hardship Fund for vessels over 12m	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Scotland: Pivotal Enterprise Resilience Fund	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Wales only support measures:					
Wales: Fisheries grant fund	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Wales: COVID-19 grant for businesses	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
Wales: Economic Resilience Fund	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐

Any others not listed above (please specify):

		Was this measure easy to access?		Was this measure timely?	
_____	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
_____	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐
_____	☐	Yes: ☐	No: ☐	Yes: ☐	No: ☐

Section 7: Financial estimates

If you answered 'I do not have a copy of financial accounts and will complete Section 7 of this form' in question 14a…

> You only need to complete this section if you selected the option '*I do not have a copy of financial accounts and will complete the financial data section of this form*' in **Section 4: Financial Data**.

Financial Data for the Year Ending 2019

Income (£)

Fishing Income	£
Non-Fishing Income	£
Quota Leased Out	£

Expenses (£)

Fishing expenses

Commission	£
Harbour Dues	£
Subscriptions & Levies	£
Shore Labour	£
Fuel & Oil	£
Boxes	£
Ice	£
Bait	£
Crew Travel	£
Crew Agency Costs	£
Food & Stores	£
Quota Leasing	£
Days Leasing	£
Crew Share	£
Other Fishing Expenses	£

Vessel Expenses

Insurance	£
Repairs	£
Gear	£
Hire and Maintenance	£
Other Vessel Expenses	£

Other Expenses

Depreciation	£
Interest on Loan Repayments	£
Tax paid	£
Depreciation	£
Interest on Loan Repayments	£
Tax paid	£

Here to give the UK seafood sector
the support it needs to thrive.

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