

The background of the slide is a photograph of a red and white fishing boat named "CHARMEL" with the number "0822" on its side. The boat is on the water, and a yellow buoy is visible in the distance. A teal diagonal graphic overlay covers the left side of the image.

# Economics and inshore fisheries – making decisions in the real-world

Arina Motova  
Chief Economist  
30<sup>th</sup> January 2020, ISF London

## This session:

- **Reading and interpreting Seafish statistics**
  - Economic data for fisheries management
  - Data collection – how we do it
  - Outputs – evidence bases – what they mean
  - Bespoke analyses, Economic Impact Assessments
- **Economics of sustainable fishing**
  - How do you understand sustainability?
  - Reference points
  - Economics and political choice
  - Trade-offs

# Reading and interpreting the Seafish statistics




# Economic Data collection

## QUAY ISSUES

Animated film, followed by questions.



- Current data collection practices
- DCF – EU Data Collection Framework
- MMO / Marine Scotland / IFISH database
- Seafish data collection
  - Review and discuss Seafish survey form for economic data

Interviewer: _____	Date: _____
	
Location: _____	
<b>Fishing Vessel Accounts Permission Form</b>	
<p>Industry organisations, RACs and fisheries departments need accurate information on fleet economics to contribute to better fisheries management and be able to assess the impact of management measures on the fishing fleet.</p> <p>To provide this essential information, Seafish conducts surveys to report on the financial performance of all major segments of the UK fishing fleet.</p> <p>So that we get enough accurate information, it would help if you supply your year-end accounts. In return, we can offer a personal benchmark report for your vessel.</p> <p>Your information will be used <b>anonymously</b>, for Seafish reports and in contribution to fisheries economics working groups in Europe and the UK. We will only ever publish averages and other aggregated figures and <b>no individual vessel will be identified in any of our outputs.</b></p> <p>Seafish is not a regulatory body and the purpose of this survey is not to record illegal activity, however as an arm's length government body, we are required to pass any notice of illegal activity to the relevant bodies.</p>	
<b>VESSEL AND OWNER DETAILS</b>	
Vessel Name: _____ Vessel PLN: _____ Vessel Length: _____	
Vessel Owner Name (print): _____	
Vessel Skipper Name (print): _____	
Tel no. of vessel owner: _____ E-mail of vessel owner: _____	
<b>FUEL CONSUMPTION – we want to estimate litres of fuel per day at sea for your vessel</b>	
1. How much fuel do you use per day? _____ litres/gallons	
2. How many trips (a trip = one landing) did your vessel make in 2015? _____	
3. How many days at sea was your average trip? _____	
<b>CREW – we want to estimate the number of full time equivalent jobs on board your vessel</b>	
4. How many on-board jobs, including skipper, did your vessel support in 2015? _____	
4a. Full Time (over 37 hours per week) _____ 4b. Part time _____	
5. Did you employ any foreign crew in 2015? Yes / No 5a. If Yes, how many? _____	
5b. Which countries did any foreign crew come from? _____	
6. How many workers, including skipper, were on board per trip? _____	
7. On average, how many hours per day did each crew member work? _____	
<b>VESSEL – we want to estimate the capital value of the UK fleet, starting with your vessel</b>	
8. What year did you purchase this vessel? _____ 8a. How much did you pay for the vessel? £ _____	
9. Was the vessel new or second hand when you purchased it? New / Second hand	
10. What is the insured / balance sheet value of your vessel? £ _____	
11. Did you make any investment in your vessel in 2015, e.g. New engine, bulbous bow, etc.? Yes / No	
12. What did you buy? _____ 12a. How much did you spend? £ _____	

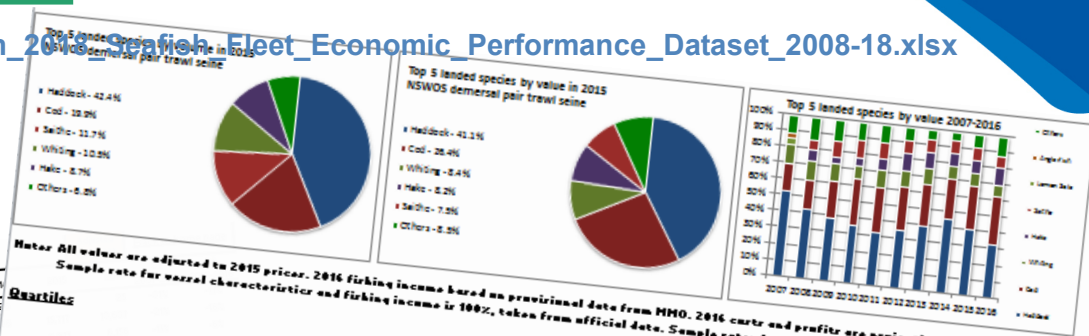
<b>QUOTA &amp; FISHING RIGHTS</b>	
13. Please estimate the value of your quota units at the end of 2015 £ _____	
14. Please estimate the value of your vessel licence (inc. entitlements) £ _____	
<b>GENERAL</b>	
15. Currently, what are the major factors affecting the financial performance of your fishing business?	
16. What are your expectations/ambitions for your fishing business over the next few years?	
17. Did your vessel take part in any income generating activities other than fishing in 2015? If yes, what?	
<p><i>Some of the data for this survey is gathered from financial year end accounts.</i></p> <p><i>All information obtained will be treated in strict confidence in line with Seafish policy.</i></p> <p>I am the vessel owner and I hereby give permission for Seafish to obtain from my accountant my complete financial accounts for <b>2015/2016</b> and the next three financial years (until <b>2018/2019</b>).</p> <p>Signature: _____ Print Name: _____</p> <p>OR</p> <p>I am the vessel owner and I hereby give permission for Seafish to obtain from my accountant my complete financial accounts for <b>2015/2016</b>.</p> <p>Signature: _____ Print Name: _____</p>	
<b>ACCOUNTANT CONTACT DETAILS:</b>	
Name of Accountancy firm: _____ Contact name: _____	
Accountant Address: _____ Accountant Tel: _____	
Accountant Email: _____	
Would you like to receive the following?	To receive these outputs, please provide full postal address:
Personal vessel benchmark report: <input type="checkbox"/>	
2015 Economic report (email): <input type="checkbox"/>	
Quay Issues Magazine: <input type="checkbox"/>	

# Seafish time series in Excel – let's take a look

• [https://seafish.org/media/Publications/March\\_2018-English\\_Fleet\\_Economic\\_Performance\\_Dataset\\_2008-18.xlsx](https://seafish.org/media/Publications/March_2018-English_Fleet_Economic_Performance_Dataset_2008-18.xlsx)

Variable		Trend 2009-2016	2006	2007	2008	2009	2010	2011	2012	2013	2014
Segment totals	Active vessels (#)		41	36	39	37	38	34	30	28	201
	Power (kW)		11,783	11,362	10,574	10,385	13,198	17,415	16,242	15,564	15,564
	Registered Tonnage (GT)		7,344	6,936	7,419	7,246	7,665	6,988	6,576	6,376	6,376
	VCU (unit)		14,433	11,049	14,877	14,544	15,177	13,128	12,639	12,125	11,111
	Landings (tonnes)		18,812	18,836	19,079	21,083	22,197	19,302	21,821	25,008	25,008
	Fishing Income (£ million)		28.8	30.1	27.8	27.1	33.7	31.3	31.0	35.0	35.0
	Days at Sea (days)		7,048	6,710	6,011	6,841	6,652	5,439	4,713	4,590	220
	FTEs (#)				288	294	276	255	232	220	220
	Length (m)		23.4	24.2	24.1	24.4	24.5	24.6	25.2	25.4	25.4
	Power (kW)		434	482	476	497	505	512	541	556	556
Vessel characteristics (Average per vessel)	Registered Tonnage (GT)		179	193	190	196	202	206	219	228	228
	VCU (unit)		361	329	301	393	399	404	423	433	433
	Landings (tonnes)		458.6	524.3	489.2	569.8	584.1	567.7	727.4	893.2	893.2
	Fishing Income (£'000)		703.4	836.3	711.6	733.1	887.0	938.9	1,033.7	1,248.4	1,248.4
	Days at Sea (days)		172	196	175	185	175	160	157	164	164
	Vessel Age (year)		23	21	22	23	23	22	24	24	24
	Landing per day at sea (tonnes)		2.67	2.82	2.80	3.08	3.34	3.55	4.63	5.45	5.45
	Average price per tonne landed (£)		1,533	1,530	1,455	1,287	1,510	1,654	1,421	1,339	1,339
	Landing per kW day at sea (kg)		5.88	5.75	5.77	6.10	6.50	6.73	8.29	9.77	9.77
	Fishing income per kW day at sea (£)		9.01	9.36	8.40	7.89	9.87	11.13	10.35	11.02	11.02
Performance indicators	Total cost per kW day at sea (£)		1.76	1.90	1.75	1.56	1.97	1.97	1.27	1.20	1.20
	Operating profit per kW day at sea (£)		1.77	1.56	0.66	0.46	1.01	1.27	1.20	1.20	1.20
	Fishing Income per FTE (£'000)				7.6	5.4	12.4	14.2	13.6	13.6	13.6
	Operating profit per FTE (£'000)				103.4	836.3	711.6	733.1	887.0	938.9	1,033.7
	Fishing Income (£'000)		25.0	27.7	9.6	12.0	9.6	41.2	37.1	37.1	37.1
	Non Fishing Income (£'000)		728.4	864.0	721.2	745.0	836.5	980.1	1,071.4	1,071.4	1,071.4
	Total Income (£'000)		87.0	105.6	124.4	103.7	112.2	137.8	143.1	143.1	143.1
	Fuel (£'000)		199.6	258.8	206.8	215.3	224.4	240.6	265.1	265.1	265.1
	Crew share (£'000)		157.3	186.2	166.1	212.7	217.1	201.2	201.2	201.2	201.2
	Other Fishing Costs (£'000)		444.5	550.7	459.3	531.7	616.3	701.2	769.8	769.8	769.8
Income, costs and profit (Average per vessel)	Total Fishing Costs (£'000)		145.3	170.5	165.8	170.7	193.8	813.3	866.5	866.5	866.5
	Total Vessel Costs (£'000)		590.4	721.2	665.2	702.4	806.1	873.3	949.9	949.9	949.9
	Total Costs (£'000)		337.6	401.6	262.8	257.3	314.8	329.6	366.6	366.6	366.6
	Gross Value Added (£'000)		138.0	142.8	56.0	42.6	30.4	106.8	105.0	105.0	105.0
	Operating Profit (£'000)		13.1	25.3	30.5	32.9	36.9	39.5	43.0	43.0	43.0
	Depreciation (£'000)		13.2	24.5	24.1	0.8	0.1	0.6	2.2	2.2	2.2
	Interest (£'000)										
	Other Finance Costs (£'000)		111.7	32.4	1.5	0.1	43.1	54.3	45	45	45
	Net Profit (£'000)										

Notes All values are nominal values. 2016 fishing income based on provisional data from MMO. 2016 costs and profit based on provisional data from MMO. Sample rate for vessel characteristics and fishing income is 100%, taken from official data. Sample rates for non-fishing income and costs vary due to avail.



Notes All values are adjusted to 2015 prices. 2016 fishing income based on provisional data from MMO. 2016 costs and profit are projections. Sample rate for vessel characteristics and fishing income is 100%, taken from official data. Sample rates for non-fishing income and costs vary due to avail.

Variable	Most profitable quartile	Middle two quartiles	Least profitable quartile	Segment average
Active vessels (#)	7	15	7	29
Length (m)	25.2	26.3	24.7	25.6
Power (kW)	453	585	539	542
Registered Tonnage (GT)	204	270	214	240
VCU (unit)	388	463	423	435
Landing (tonnes)	1,079.9	1,069.9	620.0	963.7
Fishing Income (£'000)	1,596.7	1,564.2	927.1	1,419.2
Days at Sea (days)	203	203	170	195
Vessel Age (year)	26	22	26	24
Landing per day at sea (tonnes)	5.32	5.28	3.45	4.94
Average price per tonne landed (£)	1,479	1,462	1,495	1,472
Landing per kW day at sea (kg)	11.57	9.74	6.91	8.97
Fishing income per kW day at sea (£)	17.10	12.78	10.34	13.19
Total cost per kW day at sea (£)	14.31	10.93	9.15	11.28
Operating profit per kW day at sea (£)	2.79	1.85	1.19	1.91
Annual catch of fuel (£'000)	91.8	118.7	97.4	107.1
Annual fuel use (litre)	257,571	332,933	273,214	300,328
Fuel use per day (litre)	1,270	1,642	1,607	1,541
Cost of fuel per day (£)	493	585	573	549
Cost of fuel per tonne landed (£)	85	111	157	111
Total income (£'000)	1,694	1,659	983	1,504
Operating costs (£'000)	1,434	1,433	976	1,299
Operating profit (£'000)	260	226	107	206

Notes All values are nominal values. Quartiles are based on operating profit margin. Sample rate for vessel characteristics and fishing income is 100%, taken from official data. Sample rates for non-fishing income and costs vary due to avail.



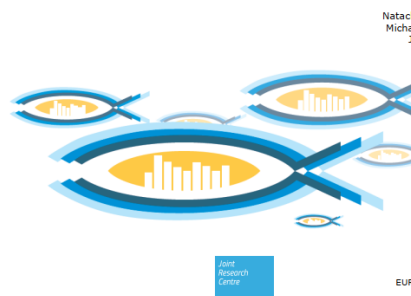
# • STECF Annual Economic Report



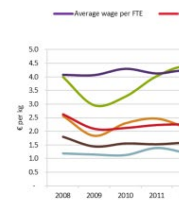
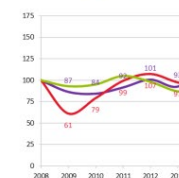
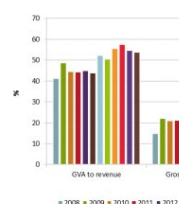
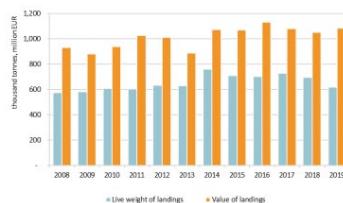
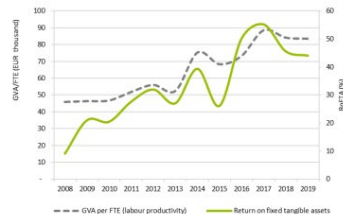
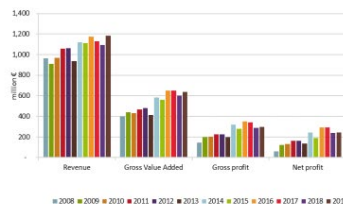
JRC SCIENCE FOR POLICY REPORT

Scientific, Technical and Economic Committee for Fisheries (STECF)

The 2019 Annual Economic Report on the EU Fishing Fleet (STECF 19-06)



Natach Micha  
JRC Research Centre



## Data dissemination tool

STECF Home News and Communications Meetings Final Reports Data Dissemination About STECF How to get involved

EU Fleet economic performance - 2018

Data - ms	Data - fs clustered	Landings by species - ms	Value of landings by species - fs	Live weight by species - fs	Effort by subregion	Effort by gear						
Country	GBR - Uni...	Variable g... (All)	Variable	(All)								
MS	Variable group	Variable	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
GBR	Capacity	Average vessel age (year)	24	25	26	27	26	27	27	27	28	29
		Average vessel length (metre)	22	21	22	22	23	20	21	21	21	21
		Engine power (thousand kW)	889	849	848	816	810	808	799	794	791	796
		No. Vessels (#)	6,706	6,681	6,531	6,467	6,435	6,376	6,338	6,307	6,304	6,263
		Vessel tonnage (thousand GT)	216	210	217	204	203	202	198	196	194	200
Capital		Depreciated historical value (million €)										
		Depreciated replacement value (million €)	587	521	564	517	473	477	627	774	592	
		Financial position (%)	54	57	48	42	46	29	28	29	33	
		Fishing rights (million €)	913	936	963	1,180	1,379	1,048	1,379	1,854	1,285	
		Investments (million €)	45	65	94	46	58	99	84	100	108	
Catches		Recreational catches in weight (tonne)										
	Effort	Days at sea (thousand day)	456	433	429	420	412	401	428	432	431	380
Employment		Energy consumption (million litre)	319	312	311	296	280	273	281	279	282	
		Fishing days (thousand day)	378	348	343	337	337	323	325	304	321	325
		GT fishing day (thousand GT-fishing day)	24,678	24,541	24,632	22,118	21,474	20,864	21,723	21,706	22,174	23,247
		KW fishing days (thousand KW-fishing day)	82,968	80,418	79,716	74,133	71,872	69,734	71,729	69,713	72,256	73,565
		No. Fishing trips (thousand)	202	231	229	231	231	227	226	219	231	217
		FTE (harmonised) (#)	8,699	9,549	9,245	9,034	8,563	7,870	7,769	8,223	8,888	
		FTE (national) (#)	8,699	9,549	9,245	9,034	8,563	7,870	7,769	8,223	8,888	
		Total employed (person)	12,614	12,212	12,703	12,405	12,445	12,235	11,845	12,107	11,757	
Enterprises		Enterprises with 2 to 5 vessels (#)	615	549	563	562	577	548	564	561	563	644
		Enterprises with more than 5 vessels (#)	5	6	5	5	6	8	10	7	9	11
		Enterprises with one vessel (#)	5,375	5,348	5,242	5,150	5,032	4,945	5,062	4,928	4,868	4,654
Expenditure		Annual depreciation (million €)	68	64	66	67	66	66	71	74	56	
		Crew wage costs (million €)	203	197	193	214	230	200	254	273	287	
		Energy costs (million €)	183	112	149	180	196	178	176	135	115	
		Other non-variable costs (million €)	75	72	117	119	115	107	70	72	66	
		Other variable costs (million €)	142	139	136	164	166	156	178	217	221	
		Repair costs (million €)	80	80	80	87	86	76	110	127	123	
		Rights costs (million €)	26	33	27	34	35	40	35	51	47	
		Unpaid labour (million €)	12	12	11	12	12	10	12	11	14	
	Income	Direct income subsidies (million €)	0	0	0	0	0	0	0	0	0	

Data submitted by variable and year at national level.



Figure 5.23 United Kingdom: Main trends in economic performance indicators (absolute value, panel 1a/top left and relative value, (panel 1b/top middle); cost structure (panel 1c, top right); productivity (panel 2a); key input/outputs (panel 2b); efficiency (panel 2c); landings (panel 3a); average price (EUR / kg) of top species (panel 3b) and incomes (panel 3c). Nowcast figures for 2018 and 2019  
Data source: STECF data submissions under the STECF 2019 Fleet Economics (2018/2019/2020/2021). All monetary values have been adjusted for inflation, constant prices (2015).



# • Seafish single year reports



Economics of the UK Fishing Fleet 2018

Table 1. Fleet size, activity, fishing income (nominal figures) and main stocks, 2017–2018

Segment	Number of vessels		Average days at sea		Average fishing income (£'000)	
	2017	2018	2017	2018	2017	2018
Area VISA demersal trawl	14 ↓	10 ↓	139 ↑	129 ↓	302 ↑	328 ↑
Area VISA nephrops over 250kW	30 ↓	31 *	137 *	145 ↑	254 ↑	268 ↓
Area VISA nephrops under 250kW	36 ↓	33 ↓	126 ↓	136 ↑	160 *	173 ↑
Area VIBCEFGHK 24–40m	13 ↑	13 *	254 ↓	243 *	1,522 ↓	1,523 *
Area VIBCEFGHK trawlers 10–24m	61 *	58 *	163 *	147 ↓	263 ↑	194 ↓
North Sea beam trawl over 300kW	9 *	7 ↓	110 ↓	240 ↑	1,482 ↓	1,660 ↑
North Sea beam trawl under 300kW	20 ↓	21 ↑	104 *	103 *	96 ↓	105 ↑
North Sea nephrops over 300kW	63 ↑	42 ↓	204 *	193 ↓	713 ↑	610 ↓
North Sea nephrops under 300kW	70 ↑	62 ↓	127 ↓	123 *	181 ↓	180 *
NEWS demersal over 24m	43 *	44 *	116 ↓	224 ↑	2,098 ↑	2,387 *
NEWS demersal pair trawl seine	25 *	25 *	113 *	221 ↑	1,919 ↑	1,913 *
NEWS demersal seiners	17 ↑	15 ↑	150 *	158 *	1,361 ↑	1,395 *
NEWS demersal under 24m over 300kW	27 ↑	45 ↑	180 ↓	202 ↑	1,110 ↑	1,038 ↓
NEWS demersal under 24m under 300kW	18 ↑	19 ↑	87 ↓	110 ↑	243 ↓	211 ↑
South West beamers over 250kW	26 ↑	26 *	226 ↑	209 ↓	989 ↑	943 *
South West beamers under 250kW	22 *	25 ↑	228 *	219 *	740 ↑	648 ↓
UK scallop dredge over 15m	89 *	81 ↓	175 ↓	173 *	494 *	497 *
UK scallop dredge under 15m	208 ↑	204 *	94 ↓	94 *	142 ↓	141 *
Under 10m demersal trawl/seine	174 ↓	153 ↓	88 ↓	88 *	77 ↑	75 *
Under 10m drift and/or fixed nets	184 ↓	209 ↑	83 *	77 ↓	43 *	44 *
Under 10m pots and traps	1,155 ↑	1,113 *	86 ↓	82 *	59 *	63 ↑
Under 10m using hooks	235 ↑	204 ↓	59 ↓	58 *	36 ↓	39 ↑
WOS nephrops over 250kW	43 ↓	30 ↓	179 *	174 *	330 ↓	290 ↓
WOS nephrops under 250kW	75 ↓	62 ↓	150 ↓	153 *	175 *	173 *
Gill netters	30 *	26 ↓	160 ↓	168 *	466 ↓	527 ↑
Longliners	28 ↑	30 ↑	176 *	177 *	657 ↓	472 ↓
Pots and traps 10–12m	176 *	184 *	151 ↓	148 *	144 *	158 ↑
Pots and traps over 12m	92 *	98 ↑	193 *	189 *	491 ↑	546 ↑
Miscellaneous	20 ↑	23 ↑	161 ↑	125 ↓	2,618 ↑	2,034 ↓
Low activity over 10m	47 ↓	42 ↓	24 ↑	23 *	4 *	5 ↑
Low activity under 10m	1,633 *	1,552 *	19 ↓	19 *	3 *	3 *
Pelagic over 40m	26 *	25 *	68 *	74 ↑	9,397 *	10,829 ↑

## Trend:

- ↓ 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

20





- 



- **How we give advice**

- STECF
- Government working groups, projects, meetings
- Enquiries, presentations, conferences
- Industry meetings, workshops, discussions
- Ad-hoc enquiry service

- **Informing decisions**

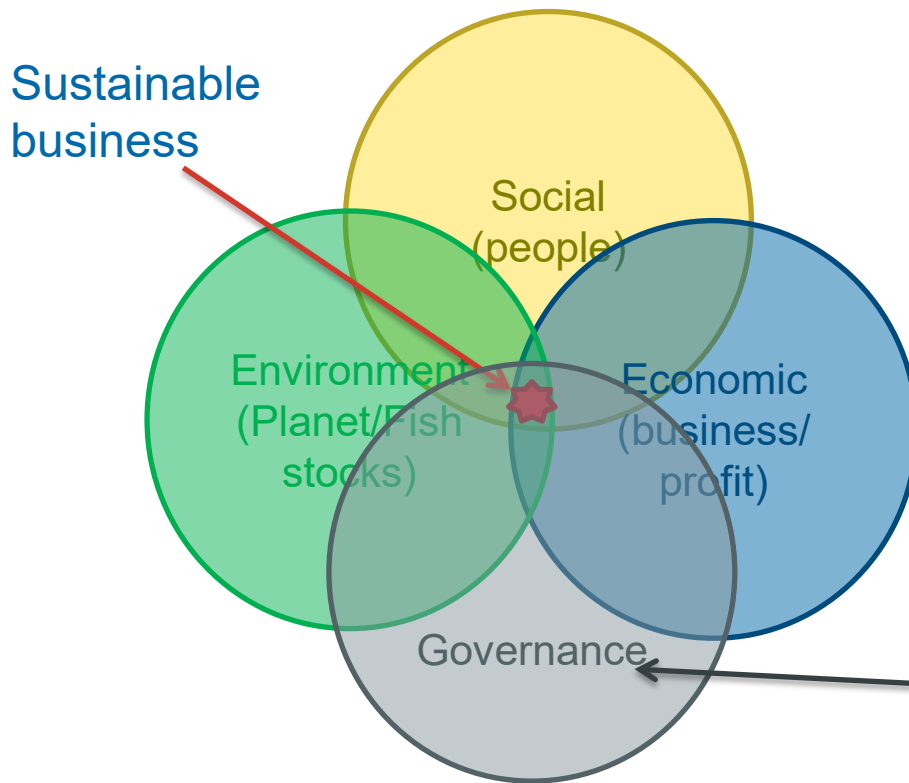
- Evidence
- Expert advice on “how to achieve...”
- Expert advice on “what would happen if...”
- Not advising what “should” be done



# Economics of sustainable fishing

# How do you understand sustainability?

## Spheres of sustainability:



## sustainability

*noun*

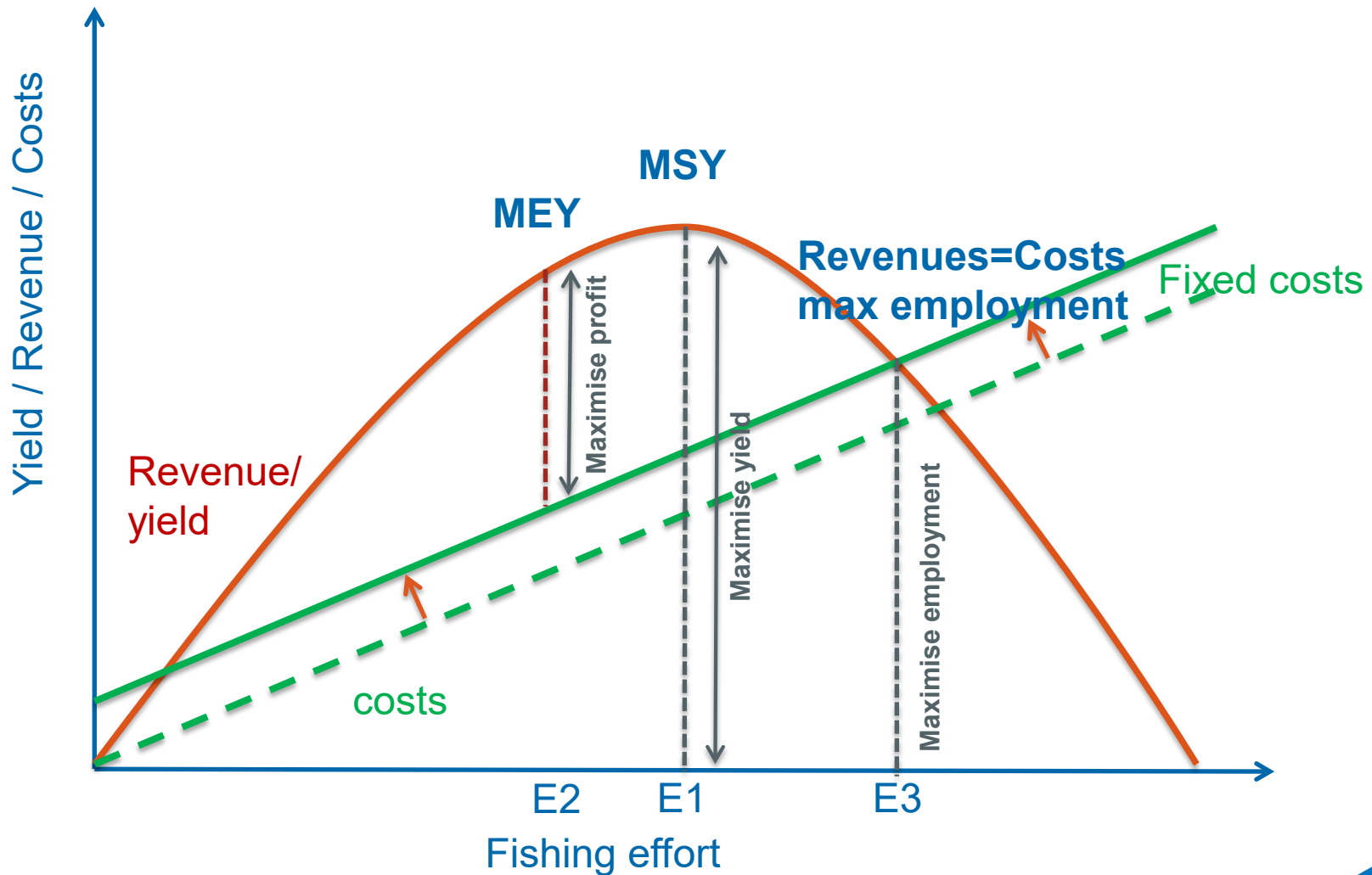
1. the use of natural products and energy in a way that does not harm the environment
2. the ability to continue or be continued for a long time.

*Oxford dictionary*

In fishing sector governance is an important component to ensure sustainability and create link between resource status, science and business.



# Reference points



# Simple trade-offs

Employment vs Profit

Revenues vs Resource sustainability

Today vs Tomorrow;

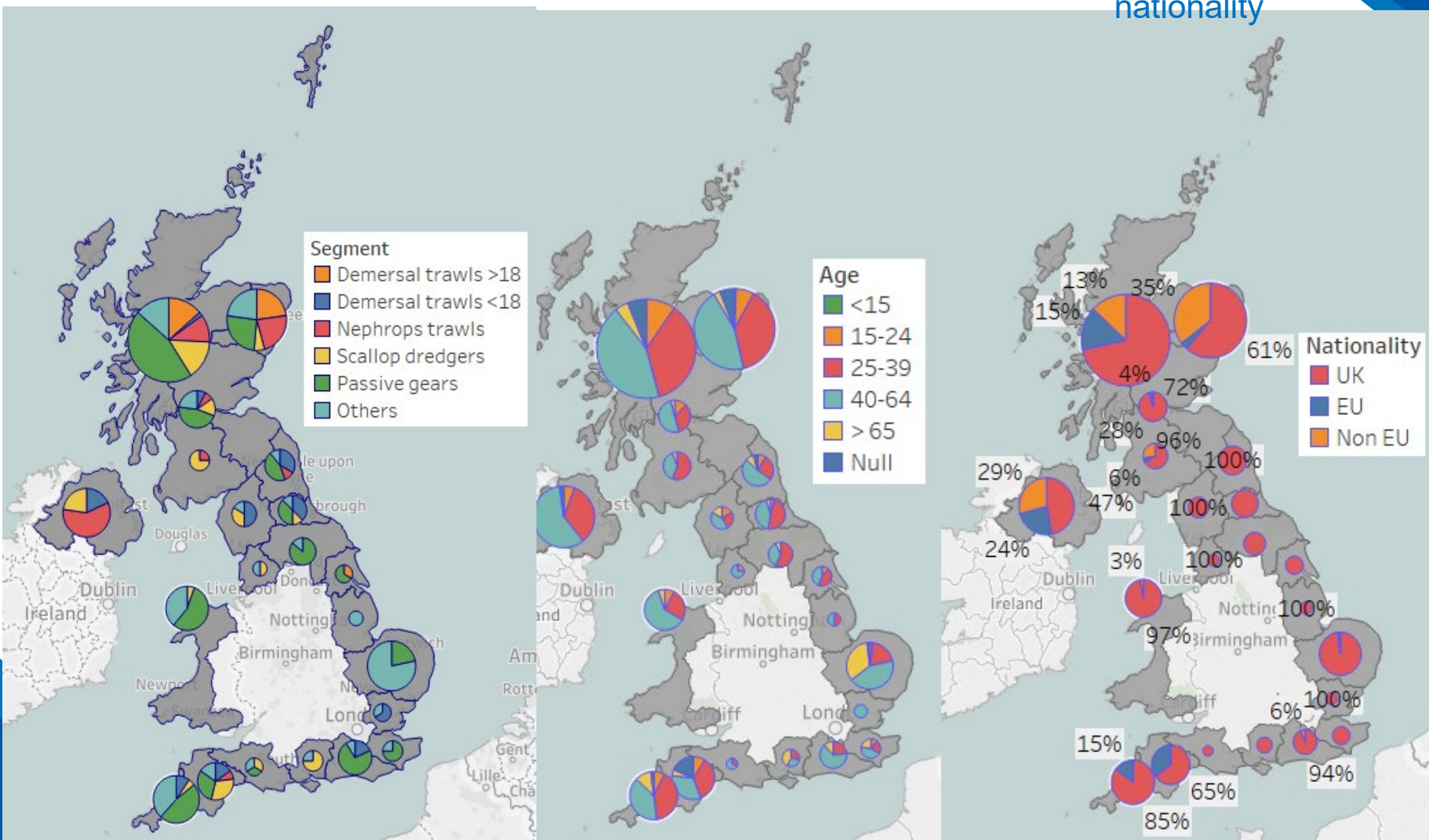
Open access vs Quota allocation

# Are we all the same?

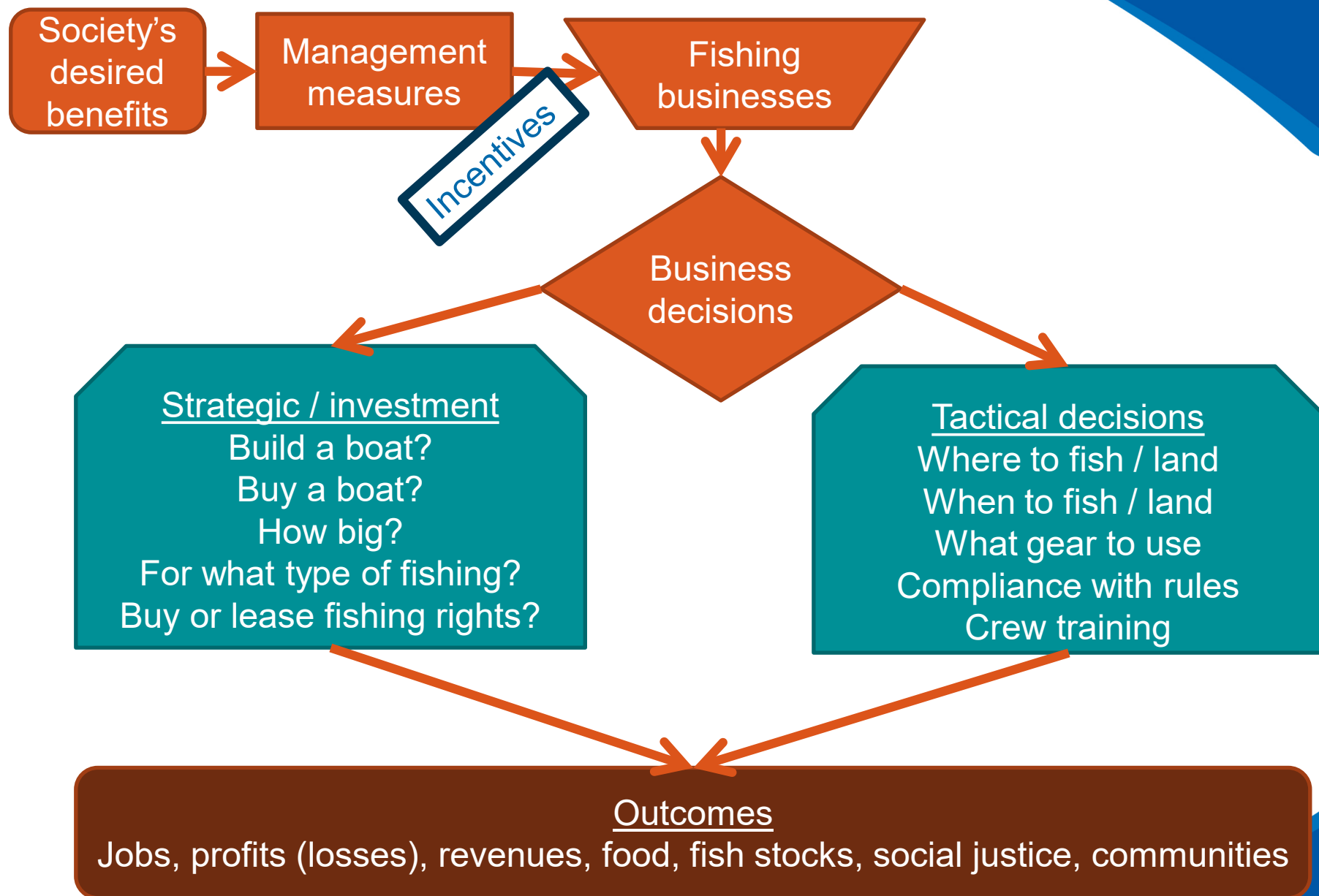
Sample,  
number of vessels

Sample,  
Age profiles

Sample,  
number of employees by  
nationality



Source: UK social pilot survey







# Incentives

- Strategic / investment decisions
- Tactical decisions

Game about incentives



# Recap of today's session:

- **Economic data for fisheries management**
- **Data collection – how we do it**
- **Outputs – evidence bases – what they mean**
- **Bespoke analyses, Economic Impact Assessments**
- **Economic advice in fisheries management**
- **Economic and sustainability principles in fisheries management**
- **Reference points and trade offs**
- **Incentives**



For further details contact:

**Arina Motova**  
Chief Economist

Phone: 0131 524 8662

Email: [arina.motova@seafish.co.uk](mailto:arina.motova@seafish.co.uk)

[seafish.org.uk](http://seafish.org.uk)

# Thank you