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Shetland's Maritime Economy

Ian R. Napier

April 2022



Shetland's Maritime Economy

Ian R. Napier

(ian.napier@uhi.ac.uk)

April 2022

www.shetland.uhi.ac.uk/research/statistics/reports

UHI Shetland

Port Arthur

Scalloway

Shetland ZE1 0UN

Tel: 01595 772000

Email: Shetland@uhi.ac.uk

Web: www.shetland.ac.uk

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Introduction

This report summarises available information on Shetland's seafood industries (fishing, aquaculture and seafood processing) and the contribution that they make to the islands' economy.

Updates

- ◆ April 2022: New edition incorporating latest economic data (2017), aquaculture data (2020) and fish landings data (2021).

Shetland's Economy¹

Shetland's economy is dominated by maritime industries, and in particular by the seafood industries: fish catching, aquaculture and seafood processing. The total value of the economic output from the seafood industries was some £440 million in 2017 (when the last detailed analysis of Shetland's economy was carried out). That was more than one-third of the total (35%) and almost two-thirds (63%) of the value of the outputs of the non-service sector of the economy (Figure 1, Figure 2, Table 1).

Other maritime sectors of the economy (engineering² and sea transport) contributed a further £31 million to the value of the maritime sector of Shetland's economy, bringing the total to £471 million (37%) or two-thirds (68%) of the non-service sector (Table 1, Figure 2).

In contrast, the value of the economic output from the oil industry in Shetland was only £4.4 million in 2017, less than 1% of the total³.

Agriculture accounted for £17.4 million of economic output in 2017 (1.4% of the total) and textiles – primarily knitwear – for £2.7 million (0.2%).

Although tourism is not included as a separate category its value in 2017 was estimated as £23 million (2%), mainly across the accommodation, retail and catering sectors.

Other significant elements of the Shetland Economy in 2017 included warehousing (7%; including oil storage), public administration (6%), retail (6%), construction (6%), health (5%), and schools (4%).

¹ The most recent available data on Shetland's economy are for 2017: Black, J., Connolly, K. & Spowage, M. (2021). *Shetland Economic Accounts 2017*. Report by the Fraser of Allander Institute, University of Strathclyde, for Shetland Islands Council. Available at: <https://strathprints.strath.ac.uk/76956/>.

² Engineering is included in the maritime category as most engineering activity in Shetland is marine oriented

³ The apparent value of the oil industry in Shetland's economy is substantially less than in previous economic analyses because most oil-related activity in Shetland has been re-categorised as service sector activity (warehousing).

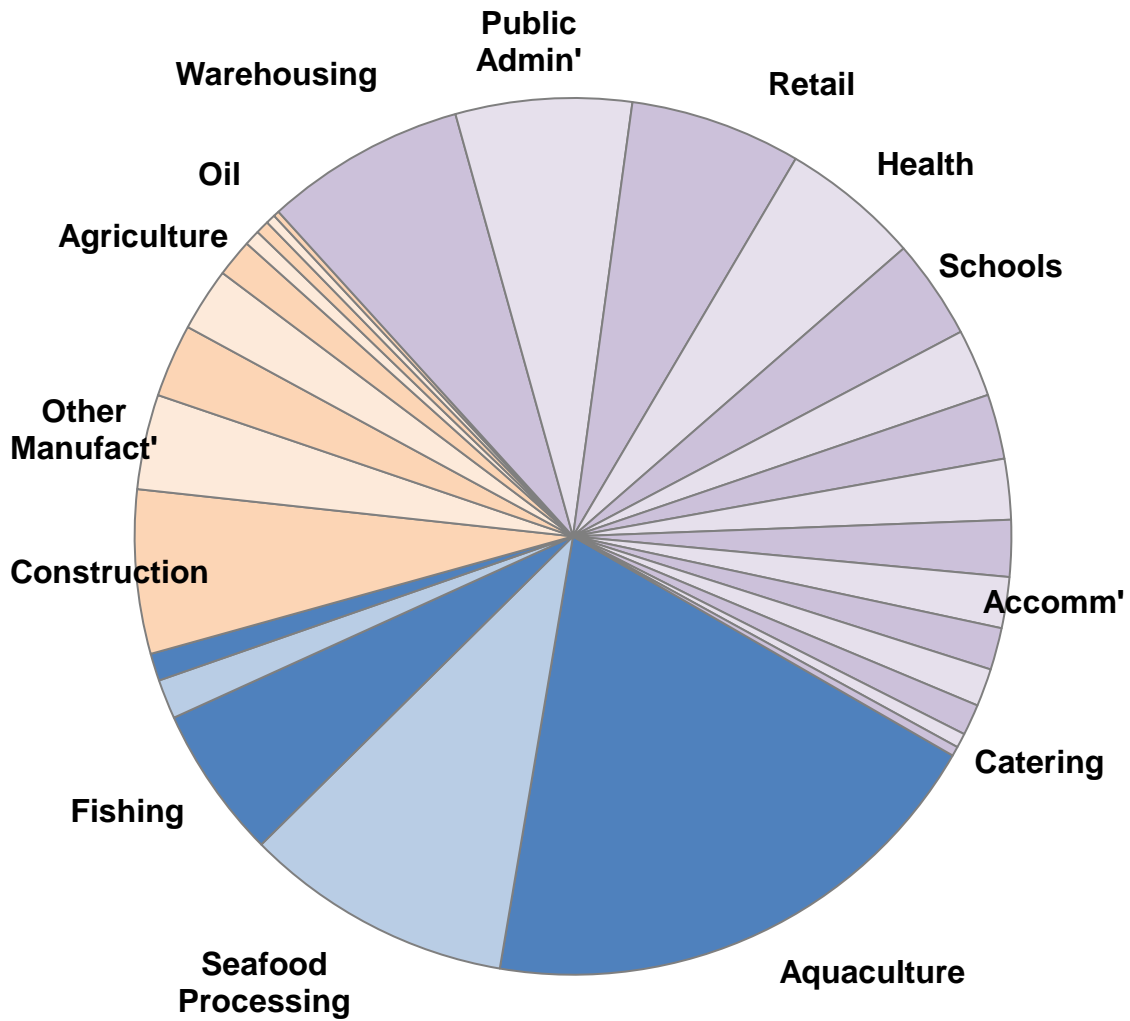


Figure 1 Breakdown of the Shetland economy in 2017 with key sectors highlighted. (Total value of output. For full details see Table 1).

Table 1 Breakdown of the value of the output of the Shetland economy in 2017 by sector. Note: 'Engineering' is included in the 'Maritime' category as most engineering activity in Shetland is marine oriented. (Data from Table 3.1 in Black et al, 2021.)

Sector	Total Output (£m)	% of Total	% of Non-Service
MARITIME	£470.8	37.2%	68.0%
Aquaculture	£243.8	19.3%	35.2%
Seafood Processing	£125.0	9.9%	18.1%
Fish Catching	£70.9	5.6%	10.2%
Total Seafood	£439.7	34.8%	63.5%
Engineering	£18.3	1.4%	2.6%
Sea Transport	£12.8	1.0%	1.8%
OTHER NON-SERVICE	221.8	17.5%	32.0%
Construction	£76.2	6.0%	11.0%
Other Manufacturing	£44.2	3.5%	6.4%
Land Transport	£34.0	2.7%	4.9%
Air Transport	£29.5	2.3%	4.3%
Agriculture	£17.4	1.4%	2.5%
Other Food & Drink	£7.3	0.6%	1.0%
Mining	£6.2	0.5%	0.9%
Oil	£4.4	0.4%	0.6%
Textiles	£2.7	0.2%	0.4%
SERVICE	£481.8	45.3%	---
Warehousing	£93.4	7.4%	---
Public Administration	£81.8	6.5%	---
Retail	£79.6	6.3%	---
Health	£64.5	5.1%	---
Schools	£46.4	3.7%	---
Wholesale	£31.5	2.5%	---
Other Services	£30.1	2.4%	---
Social Work	£28.2	2.2%	---
Electricity, Gas & water	£26.3	2.1%	---
Accommodation	£23.7	1.9%	---
Technical & Prof Services	£19.5	1.5%	---
IT & Real Estate Services	£17.6	1.4%	---
Financial Services	£14.5	1.1%	---
Catering	£6.7	0.5%	---
Communications	£4.4	0.3%	---
College	£4.4	0.3%	---
Tourism	£23.0	1.8%	---
TOTAL	£1,265.1	100%	---

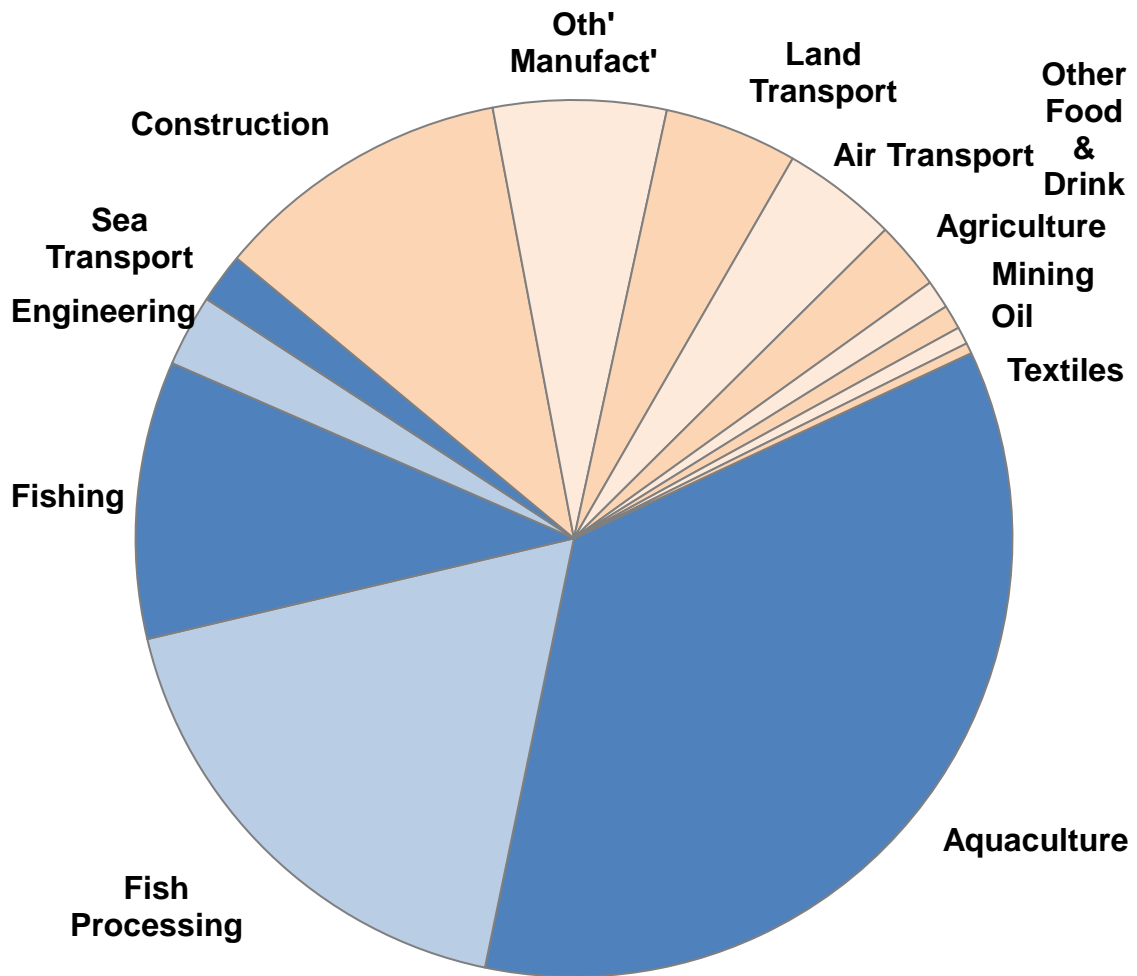


Figure 2 Breakdown of the non-Service sectors of the Shetland economy in 2017 with key sectors highlighted. (Total value of output. For full details see Table 1).

Fish Landings – All Species¹

Just under 49,000 tonnes of fish and shellfish, worth some £70 million, were landed in Shetland in 2021 (Table 2, Figure 3). That was 9% less than in 2020 by weight, and 4% less by value.

Table 2 The weight and value of all fish and shellfish landed in Shetland in 2021 and 2020, and the percentage changes in each from 2020 to 2021.

ALL Species	Tonnes	£ m
2021	48,796	£69.9
2020	53,853	£73.2
% change	-9%	-4%

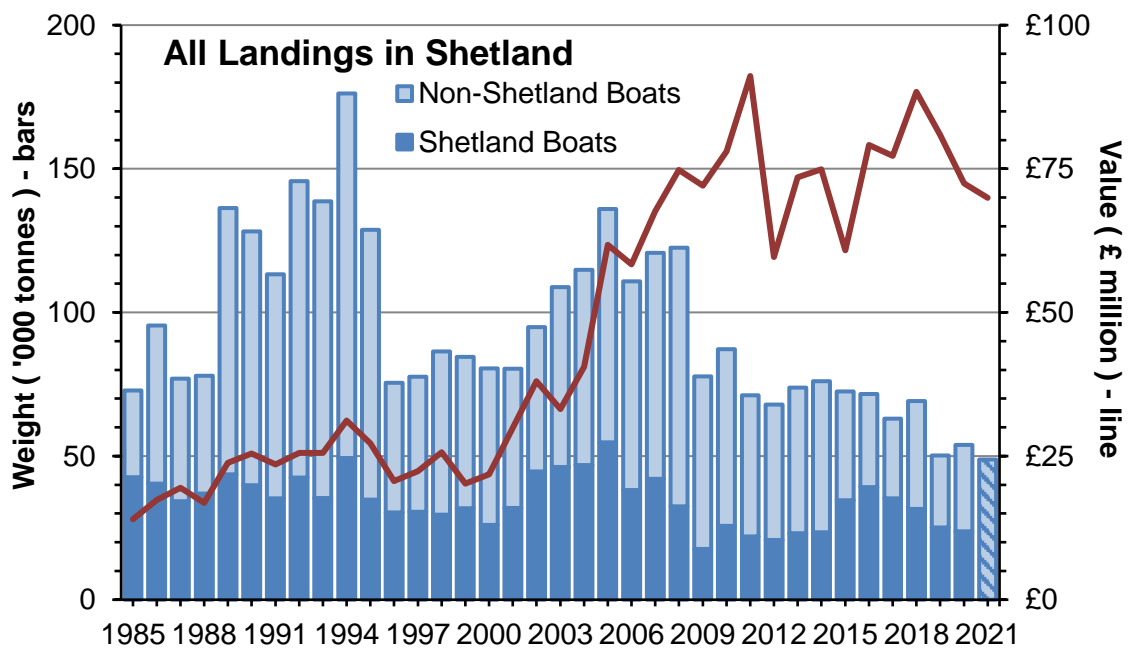


Figure 3 The weight (bars) and value (line) of all fish and shellfish landed in Shetland from 1985 to 2021. The weight landed in 2021 is the total by all boats.

¹ Fish landings data for 2021 are derived from an analysis of data published by the UK Marine Management Organisation (MMO): *Monthly UK Sea Fisheries Statistics*. Available at: <https://www.gov.uk/government/collections/monthly-uk-sea-fisheries-statistics>.

Data for the years to 2020 are from *Shetland Fisheries Statistics 2020*. Available at: <https://www.shetland.uhi.ac.uk/research/statistics/reports/fisheries/>.

Fish Landings – Whitefish

Note: These figures include landings of squid and Nephrops which although technically shellfish are landed predominantly by whitefish boats in Shetland.

Just under 17,000 tonnes of whitefish, worth some £36 million were landed in Shetland in 2021 (Table 3, Figure 4), about 10% less than in 2020 by weight or 4% less by value.

The decrease in whitefish landings over the last two years can be attributed mainly to cuts in quotas for some key species.

Table 3 The weight and value of whitefish landed in Shetland in 2021 and 2020, and the percentage changes in each from 2020 to 2021.

Whitefish	Tonnes	£ m
2021	16.974	£36.0
2020	18,662	£38.3
% change	-10%	-4%

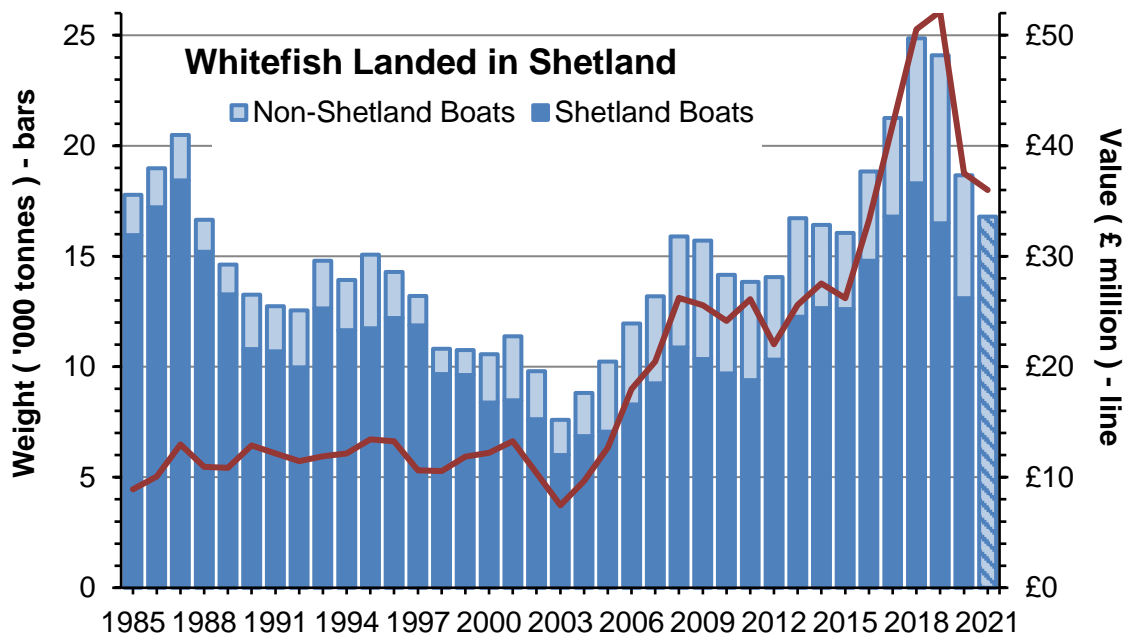


Figure 4 The weight (bars) and value (line) of all fish and shellfish landed in Shetland from 1985 to 2021. The weight landed in 2021 is the total by all boats.

Fish Landings – Pelagic Fish

About 30,000 tonnes of pelagic fish, worth some £30 million were landed in Shetland in 2021 (Table 4, Figure 5). That was about 10% less by weight but only 2% less in value.

Table 4 The weight and value of pelagic fish landed in Shetland in 2021 and 2020, and the percentage changes in each from 2020 to 2021.

Pelagic Fish	Tonnes	£ m
2021	29,831	£29.6
2020	33,049	£30.3
% change	-10%	-2%

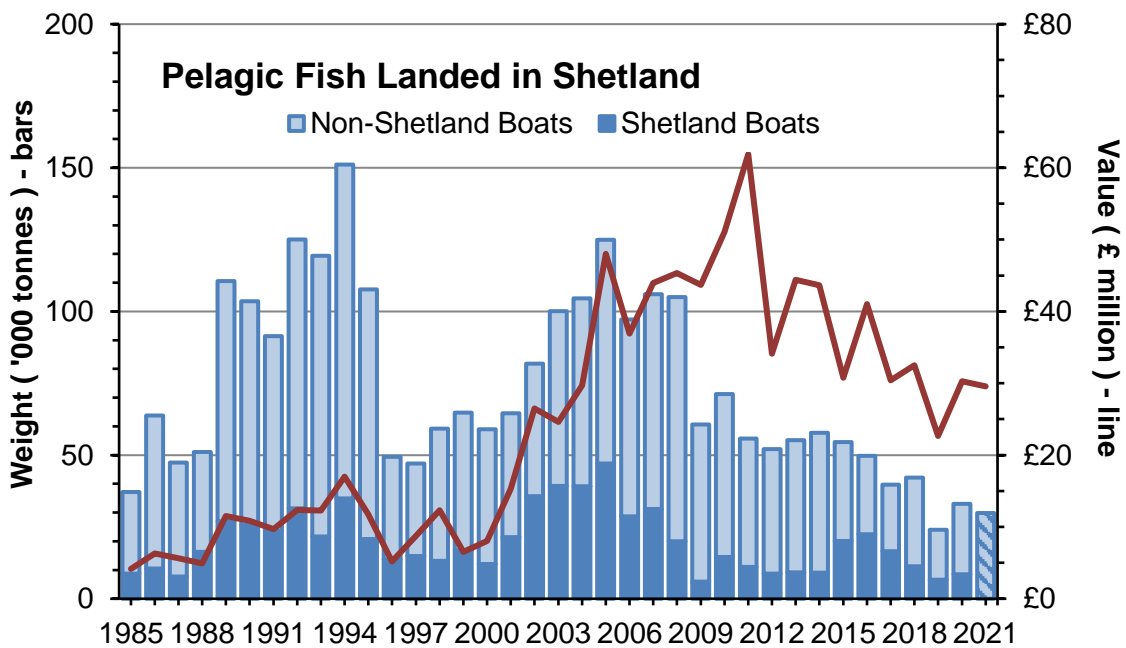


Figure 5 The weight (bars) and value (line) of pelagic fish landed in Shetland from 1985 to 2021. The weight landed in 2021 is the total by all boats.

Fish Landings – Shellfish

Note: These figures do not include landings of squid and Nephrops which in Shetland are landed predominantly by whitefish boats.

Almost 2,200 tonnes of shellfish, worth £4.4 million were landed in Shetland in 2021 (Table 5, Figure 6). That was very slightly more than in 2020 in weight, although 7% less in value.

The fall in the value of shellfish landings in 2021 may have been a consequence of the impact of the Covid pandemic on market demand for shellfish in the UK and abroad.

Table 5 The weight and value of shellfish landed in Shetland in 2021 and 2020, and the percentage changes in each from 2020 to 2021.

Shellfish	Tonnes	£ m
2021	2,170	£4.4
2020	2,143	£5.1
% change	+1%	-7%

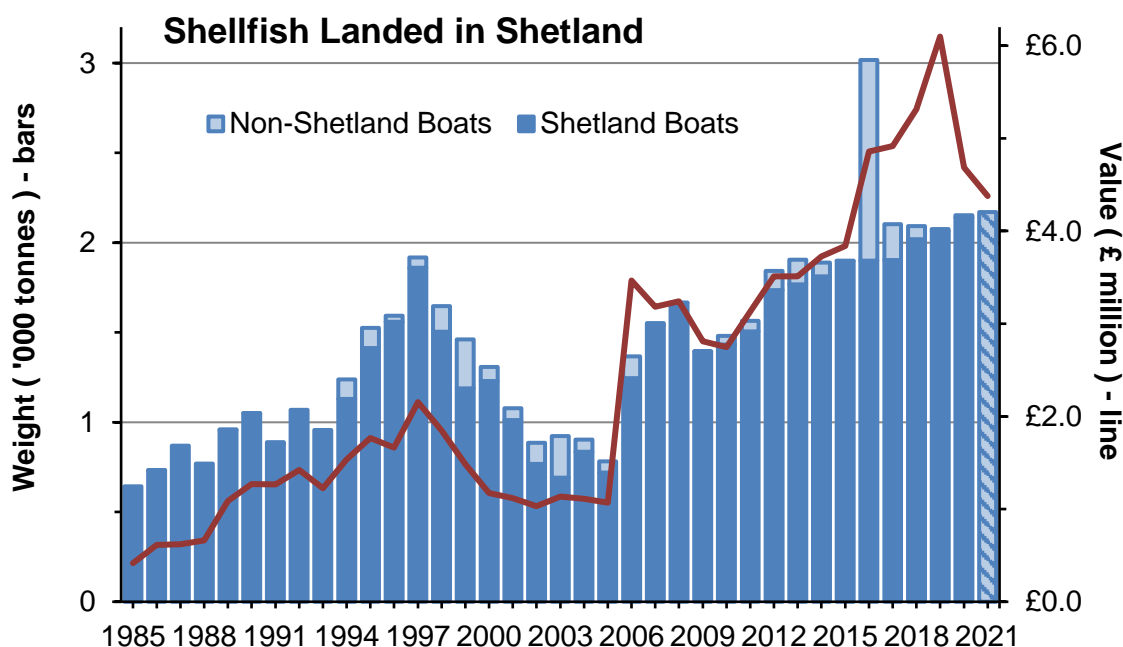


Figure 6 The weight (bars) and value (line) of shellfish landed in Shetland from 1985 to 2021. The weight landed in 2021 is the total by all boats (but landings by non-Shetland boats were probably negligible).

Fish Landings – National Context

Landings of fish and shellfish in Shetland in 2021 accounted for 12% of all the landings in the UK and 17% of all the landings in Scotland (Figure 7). For finfish only (excluding shellfish) the proportions were higher: 16% of all landings in the UK and 19% of all landings in Scotland were made in Shetland.

In 2021 (Table 6):

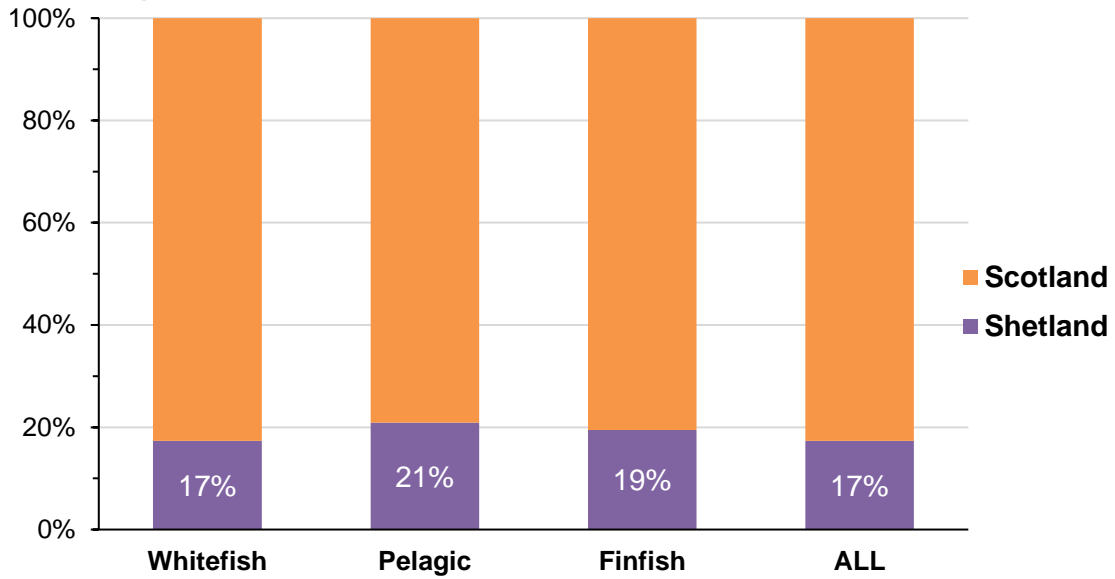
- ◆ The weight of finfish landed in Shetland was only slightly less than the total in England, Wales and Northern Ireland.
- ◆ More pelagic fish were landed in Shetland than in all of England, Wales and Northern Ireland.

Table 6 The weight and value of fish and shellfish landed in 2021 in Shetland, Scotland, England, Wales and Northern Ireland and totals for England, Wales and Northern Ireland (EWNI) and the whole UK. (All fishing boats. Scotland figures include landings in Shetland.)

	Whitefish		Pelagic Fish		All Finfish		All Fish & Shellfish	
	'000 t.	£ m	'000 t.	£ m	'000 t.	£ m	'000 t.	£ m
Shetland	16.5	£35.1	29.8	£29.6	46.4	£64.6	48.8	£69.9
Scotland	95.2	£174.6	142.7	£122.9	237.9	£297.4	281.7	£428.9
England	20.2	£74.3	7.9	£3.3	28.1	£77.6	88.8	£234.8
Wales	0.6	£2.2	0.0	£0.0	0.6	£2.2	5.0	£11.0
N. Ireland	2.3	£2.6	16.6	£9.4	18.9	£12.0	28.1	£30.2
Total EWNI	23.1	£79.1	24.5	£12.7	47.6	£91.9	125.6	£282.1
Total UK	118.4	£253.7	167.2	£135.6	285.6	£389.3	407.4	£710.9

Note: The figures in this table for landings in Shetland differ slightly from those presented earlier in this report as landings of squid and Nephrops are included with shellfish rather than whitefish.

Landings in Scotland



Landings in the UK

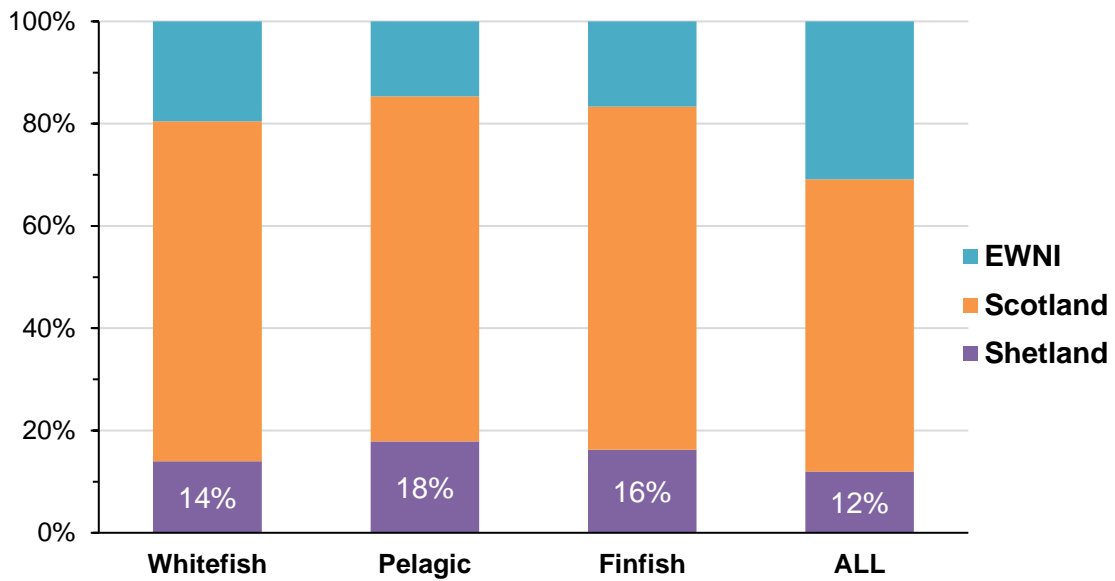


Figure 7 The proportions of all fish and shellfish landed in Scotland (top) and the UK (bottom) in 2021 that were landed in Shetland, the rest of Scotland and England, Wales and Northern Ireland ('EWNI').

Fish Landings from Shetland Waters¹

It is estimated that UK fishing boats landed just under 200,000 tonnes of fish and shellfish caught within the 'Shetland EEZ' (that is, that part of the UK Exclusive Economic Zone adjacent to Shetland) annually from 2016 to 2018.

That represents almost one-third (32%) of all the fish and shellfish landed by UK and EU boats from the UK EEZ.

The total quantity of fish caught around Shetland is almost certainly significantly higher than these figures suggest as they do not include landings by non-EU fishing boats (Norwegian, for example).

Table 7 The estimated average weight and value of fish and shellfish landed from the 'Shetland EEZ' annually from 2016 to 2018 by UK and EU fishing boats.

Average 2016 - 18	UK Boats		EU Boats		UK & EU Boats	
	Tonnes	£ m	Tonnes	£ m	Tonnes	£ m
Whitefish	57	£110	23	£38	80	£143
Pelagic Fish	136	£114	227	£105	363	£218
All Finfish	192	£219	250	£143	443	£361
Shellfish	4	£10	0	£0	4	£11
TOTAL	196	£229	250	£152	446	£372

¹ From: Napier, I.R. (2020). *Fish Landings from the 'Shetland EEZ'*. Available at: <https://www.shetland.uhi.ac.uk/research/statistics/reports/eez-reports/>.

Aquaculture - Salmon¹

Almost 41,000 tonnes of farmed salmon, worth just under £200 million were produced in Shetland in 2020 (Table 8, Figure 8). That was significantly more than in 2019 by weight and slightly more by value.

Table 8 The weight and value of farmed salmon produced in Shetland in 2020 and 2019, and the percentage changes in each from 2019 to 2020.

Salmon	Tonnes	£ m
2020	40,749	£197.6
2019	36,141	£190.5
% change	+13%	+4%

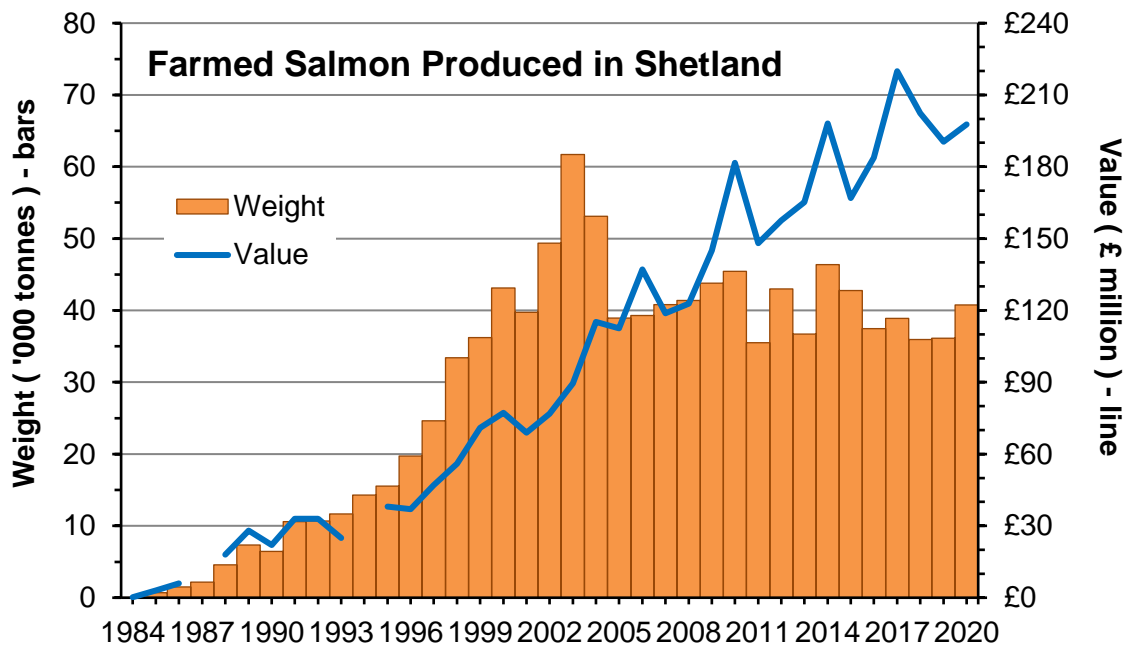


Figure 8 The weight (bars) and value (line) of farmed salmon produced in Shetland from 1984 to 2020. No values are available for 1994 and 2005.

¹ These data are derived mainly from Marine Scotland's annual *Scottish Fish Farm Production Surveys*: <https://www.gov.scot/collections/scottish-fish-farm-production-surveys/> with some additional data from the Shetland Islands Council's annual *Shetland in Statistics*.

Aquaculture - Mussels¹

Just over 4,400 tonnes of farmed mussels, worth almost £4 million were produced in Shetland in 2020 (Table 9, Figure 9). That was substantially less than in 2019, and may reflect the impact of the Covid pandemic (from March 2020) on the food service market due to the closure of restaurants, etc.

Table 9 The weight and value of farmed mussels produced in Shetland in 2020 and 2019, and the percentage changes in each from 2019 to 2020.

Mussels	Tonnes	£ m
2020	4,427	£3.9
2019	5,314	£4.9
% change	-17%	-19%

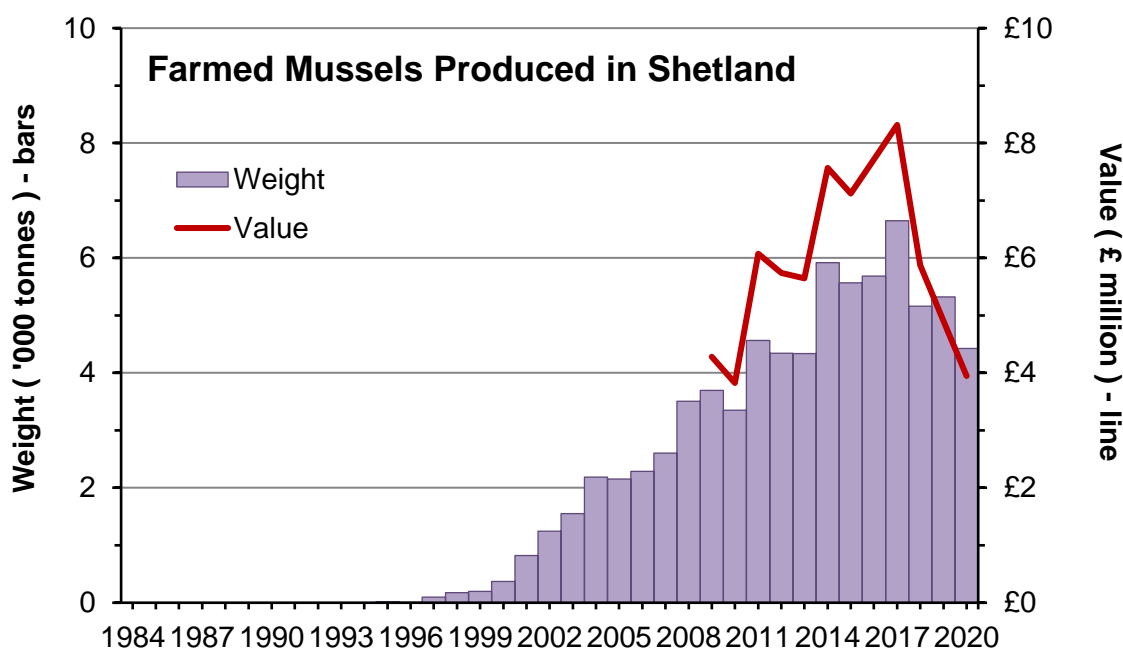


Figure 9 The weight (bars) and value (line) of farmed mussels produced in Shetland from 1984 to 2020. Values are not available prior to 2009.

¹ These data are derived mainly from Marine Scotland's annual *Scottish Shellfish Farm Production Surveys*: <https://www.gov.scot/collections/scottish-shellfish-farm-production-surveys/> with some additional data from the Shetland Islands Council's annual *Shetland in Statistics*.

Aquaculture - National Context

Shetland accounted for just over one-fifth of the farmed salmon produced in Scotland in 2020, and more than three-quarters of the farmed mussels (Table 10, Figure 10).

Table 10 The weight and value of farmed salmon and mussels produced in 2020 in Shetland and Scotland (including Shetland) and production in Shetland as a % of the Scottish total.

	Salmon		Mussels	
	'000 t.	£ m	'000 t.	£ m
Shetland	40.7	£197.6	4.4	£3.9
Scotland	192.1	£931.8	5.7	£5.0
% in Shetland	21%	21%	78%	78%

Aquaculture - Production in Scotland

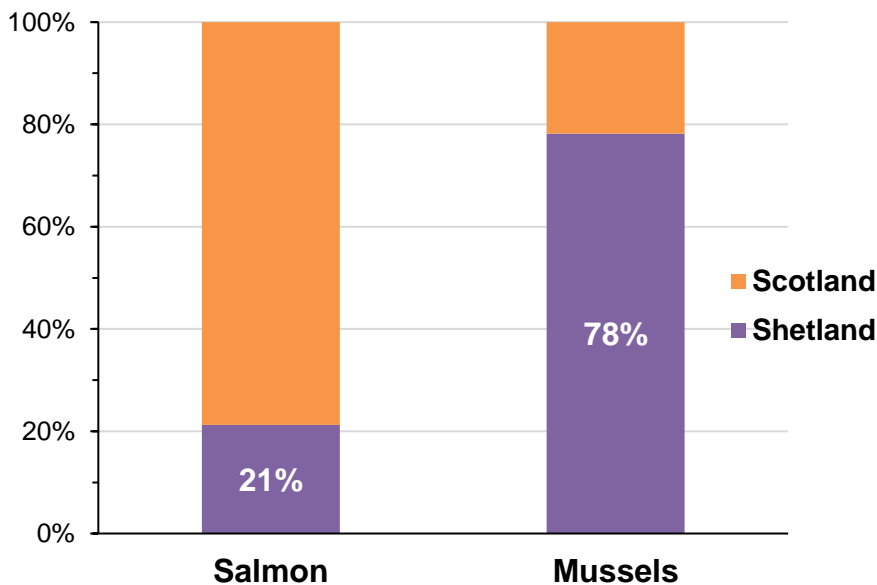


Figure 10 The proportions of the farmed salmon and mussels produced in Scotland in 2020 that were produced in Shetland and the rest of Scotland.

Seafood Processing

Data on Shetland’s seafood processing industry is not routinely collected or published.

The last detailed analysis of the Shetland economy¹ found that the value (total output) of seafood processing in Shetland was about £125 million in 2017, compared to a total value of production from fishing and aquaculture of £305 million (Table 11). The value of the seafood sector was thus 41% of the value of fish landings and aquaculture production.

While the value of the seafood processing sector in the years since (and before) 2017 is not known, it can be estimated by taking it to be 41% of the combined value of fish landings and aquaculture production in each year (which are known). On that basis, it can be estimated that seafood processing contributed about £112 million to Shetland’s economy in 2020 (Table 11, Figure 11). That is a decline from 2017, reflecting decline in both aquaculture production and fish landings over that period.

Table 11 The values (total output) of the fishing, aquaculture and seafood processing sectors of the Shetland economy in 2017, the values of the fishing and aquaculture sectors and the estimated values of the seafood processing sector and of the total seafood sector in 2020. (Assuming that processing accounted for the same proportion of the combined value of the fishing and aquaculture sectors in 2020 as it did in 2017.)

	2017	2020
	£ m	£ m
Fish Landings	£77.2	£72.4
Aquaculture Production	£228.2	£201.6
Fishing + Aquaculture	£305.4	£274.0
Seafood Processing	£125.0	£112.2
Processing as % of Fish' & Aqu'	41%	41%
TOTAL SEAFOOD	£430.5	£386.2

¹ See page 3.

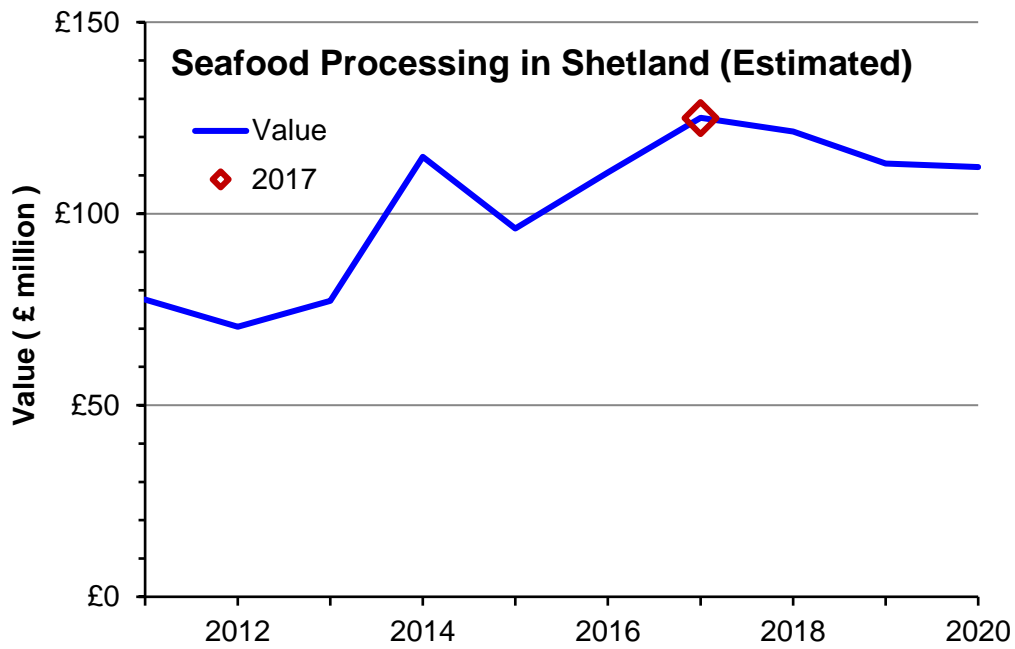


Figure 11 The estimated value of the seafood processing sector in Shetland from 2011 to 2020. (Based on the relative values of fish catching, aquaculture and seafood processing in 2017; see Table 11.)

Seafood Industry

Shetland’s seafood industries (fishing, aquaculture and seafood processing) contributed £430 million to the local economy in 2017 (Table 11).

Based on the estimated value of the seafood processing sector in 2020 (see page 17), it can be estimated that the total value of the seafood industries to the Shetland economy in 2020 was about £386 million (Table 11, Figure 13).

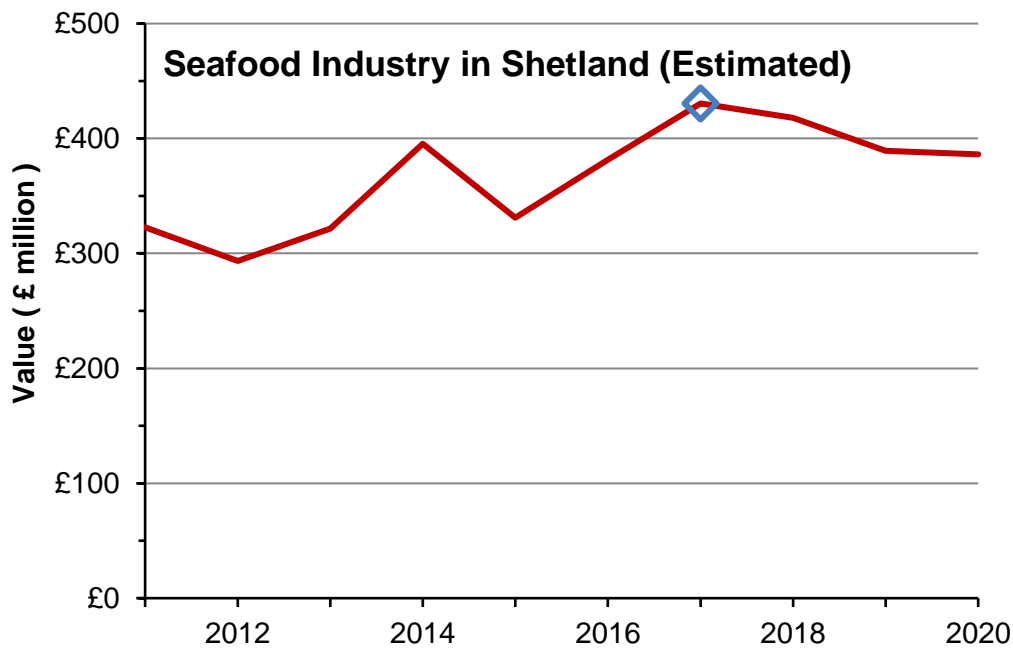


Figure 12 The estimated total value of the seafood industry (fishing + aquaculture + processing) in Shetland from 2011 to 2020. (Based on the known values of fishing and aquaculture in each year and the estimated value of the seafood sector; see Figure 11.)

Oil Industry¹

'Oil' is often the principal industry associated with Shetland and is the only other sector of the local economy for which a long-term time series of data is available. This is in the form of the annual quantity of crude oil passing through the Sullom Voe oil terminal; the industry's other principal contribution to the local economy is through the oil supply sector.

Just over five million tonnes of crude oil passed through the Sullom Voe oil terminal in 2017 (the last year for which data are available) (Figure 13). The throughput of oil has declined steadily over the last two decades, from an average of over 30 million tonnes each year in the 1990s to about 5 million tonnes in 2017. The estimated value of the throughput has fallen even more sharply in recent years due to the fall in global oil prices.

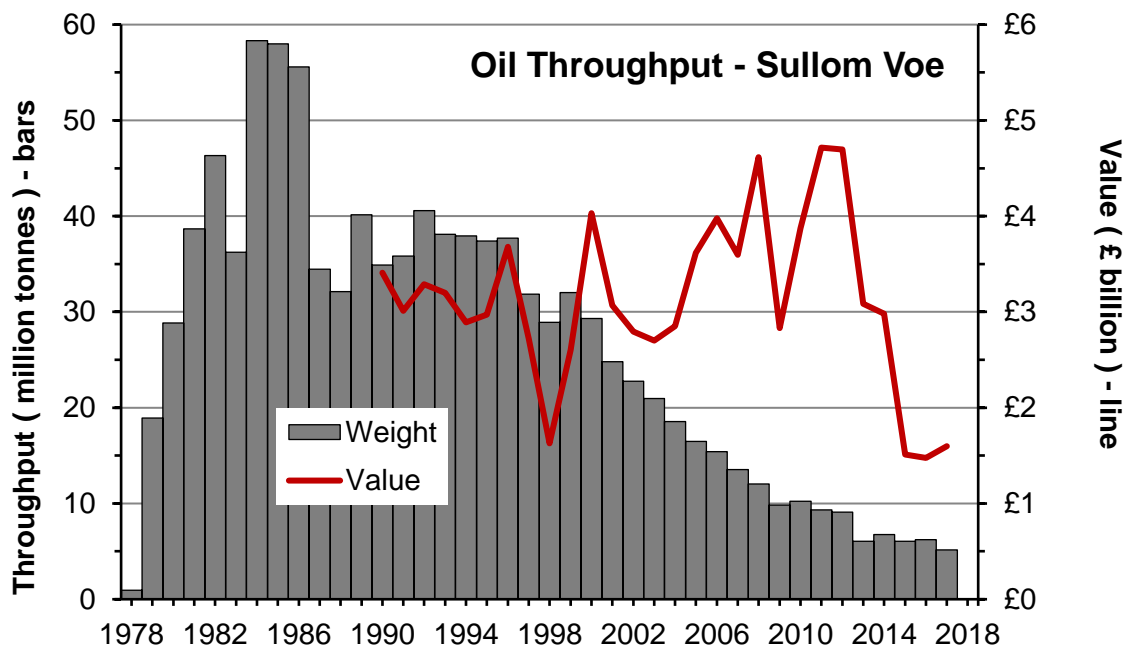


Figure 13 The weight and estimated value of crude oil passing through the Sullom Voe oil terminal annually from 1978 to 2017. Estimated values are based on annual average values of Brent Crude (\$/barrel) and \$/£ exchange rates and on an average barrel/tonne conversion factor.

¹ These data are derived from the Shetland Islands Council's annual *Shetland in Statistics* reports.