Future-Proofing the Seafood Industry

A Strategic Analysis of the

North East Scotland Seafood Processing Sector

June 2020

Commissioned by the North East Scotland Fisheries Local Action Group (NESFLAG)

with support from Seafood Scotland and Opportunity North East

Part-funded by the European Union's European Maritime and Fisheries Fund

EXECUTIVE SUMMARY.

Introduction and Context

This study, "Future Proofing the Seafood Industry", commissioned by Aberdeenshire Council on behalf of the North East Scotland Fisheries Development Partnership (NESFDP) and funded by NESFLAG, Seafood Scotland and Opportunity North East (ONE), provides a detailed analysis of the strategic position of the Seafood Processing sector in NE Scotland, immediately pre Covid19 lockdown. The study has been delivered by BDA Ltd.

The study provides a rigorously researched evidence base and its conclusions are being incorporated into the separate Seafood Transformation Project (STP) led by ONE. Government, industry and representative organisations have agreed that a Business Case is required for a STP to draw together the key actions, to test the justification for the potential public and private investment and to design the programmes needed to address the issues identified in this study, and thereby significantly grow the Scottish seafood processing sector. At the time of publication of this study, the STP Business Case is at draft stage being reviewed by key partners – Scottish Government, Aberdeenshire Council, Seafood Scotland, Scottish Enterprise, Scottish Seafood Association and representative processors.

The commissioning organisations and authors of this "Future Proofing the Seafood Industry" study believe that while there are challenges, not least resulting from Covid19, there is a strong case for investment in this major part of the Scottish food manufacturing sector through an ambitious Transformation Project and that it can be an important element of the national food and drink recovery plan as the economy emerges from lockdown.

Readers are encouraged to review the findings and to consider how they can play a part in a unified approach to growing the sector.

Background to the Strategic Analysis.

In 2019, Aberdeenshire Council issued an Invitation to Quote (ITQ) for the provision of a strategic analysis of the North East of Scotland seafood industry infrastructure, and subsequent recommendations for development and delivery of a value proposition unique to the seafood industry in the North East.

The UK Government's 'Sustainable Fisheries for Future Generations' white paper (July 2018) painted a positive picture, however, it was suggested that profitability within the on-shore processing sector was under pressure. Following the referendum outcome in 2016 that the UK should leave the European Union, scenarios were identified under which quota for Scottish vessels might increase, resulting in an increase in landings to Scottish ports.

The Scottish Government considered that to maximise the value of those increased landings, adding value within Scotland required a robust Scottish processing sector to maintain and potentially increase a presence in both primary and secondary processing. There was however no clear understanding of processing capacity within the Scottish seafood processing sector, nor a clear indication of what level an increase of fish landings the Scottish seafood processing sector could cope with before the "added value" potential was lost from Scotland.

In June 2018, the North East Scotland Fisheries Development Partnership (NESFDP) highlighted a possible danger that onshore investment might be insufficient to grasp the full opportunity for economic growth in the processing and added value sectors. If an uplift in landings by Scottish vessels did materialise, could these by-pass the Scottish processing sector, and transfer directly to value adders elsewhere in the UK or near continent?

In March 2019, Marine Scotland sought consultation primarily from the catching and landing sector[1] while Seafood Scotland developed a strategy document setting out recommendations for the seafood industry supply chain[2].

With the concentration of Scottish processing capacity in Aberdeen, Peterhead, Fraserburgh and other smaller communities, the North East Scotland Fisheries Local Action group (NESFLAG) promoted the need for a high impact, strategic analysis of the seafood supply chain in North East Scotland.

[1] Future of Fisheries Management in Scotland: National Discussion Paper.
[2] Changing Tides.

The key aim of the analysis was:

> "To provide a strategic analysis of the current status of the seafood processing industry, and to support development of an implementation plan that facilitates maximisation of the local economic impact from any future increase in landings".

In late summer 2019, work on the strategic analysis commenced with the key aim of delivering a comprehensive, evidence based study culminating in a deliverable action plan. Methodology consisted of:

- Desk research.
- Face to face interviews with as many processing businesses in North East Scotland as possible.
- A standard question questionnaire to determine a wide range of data for each business.
- Identification of critical driving forces and external risks for the processing 3ector**,** using PESTEL analysis (**P**olitical, **E**conomic, **S**ocial, **T**echnological, **E**nvironmental, **L**egal). A total of 33 factors within those headings that were considered as directly relevant to the strategic review.
- Identification of key opportunities and challenges that all sectors of the processing industry believed lay ahead.
- Particular evaluation of the capacity of the on-shore processing industry to handle increased volumes of fish landed at the key ports of Peterhead and Fraserburgh.

By early 2020, a draft strategic analysis document was available and was presented to the funding partners.

However, by this time the impact of Covid 19 on the Scottish, UK and international economies was all too clear.

Virtually overnight, much of the white fish export trade from North East Scotland to European supermarkets, the hospitality sector, and food service businesses has been lost. Almost all of Scotland's shellfish exports destined for the restaurant sector in France, Spain and Italy have been devastated. Many UK domestic markets for Scottish processors have been badly impacted.

Recovery for affected businesses – virtually the whole sector, if it comes and to what degree of former volumes in the short to medium term, will be partly dependent upon the actions of foreign governments as to when their domestic restrictions are lifted. It seems inevitable that in the short term there will be some business failures, with long term and possibly lasting damage to the entire supply chain.

Against this unprecedented background, lengthy discussions have taken place with the funding partners of this Strategic Analysis whether it would be appropriate and timely to publish such an Analysis. The unanimous decision was that to secure prosperity and stability in the long term, perhaps very long term, there must be the highest levels of immediate support for, and confidence in, the whole fisheries sector in Scotland, and for the purposes of this Strategic Analysis, the industry in North East Scotland.

It was concluded that the findings of the Strategic Analysis provided a basis from which the industry can move forward, and secure the broadest and most sustainable future for the very long term by way of:

- A clear datum point on the position of the industry in North East Scotland in late 2019.
- Its strengths, weaknesses, opportunities and threats.
- Infrastructural weaknesses and threats to be addressed in support of long-term development.
- Means by which individual businesses and the sector as a whole could achieve maximum exploitation undoubted strengths and opportunities that exist.

The Seafood Industry in North East Scotland.

Seafood processing is one of the largest contributors to the food and drink sector in North East Scotland, estimated to be worth in the region of **£700 million** to the North East out of a total of **£2.2 billion** of overall food manufacturing turnover.

In 2018 landings at the North East ports of Aberdeen, Peterhead and Fraserburgh are shown below with a 2014 comparison[3], this being the year in which a previous survey of capacity was undertaken: -

[3] Scottish Sea Fisheries Statistics 2018.

	2014		2018	
Landing Centre	**Tonnage**	**Value (£'000)**	**Tonnage**	**Value (£'000)**
Aberdeen	1,090	£ 3,261	963	£ 5,393
Peterhead	184,071	£ 163,998	170,227	£ 183,637
Fraserburgh	26,880	£ 40,035	27,990	£ 44,238
Total	212,041	£ 207,294	199,180	£ 233,268

Scottish Sea Fisheries Statistics 2018 show that North East ports, principally Fraserburgh and Peterhead, made up:

- 57% (199,180 tonnes) of the volume of fish landed in Scotland by Scottish, UK and foreign registered vessels (348,064 tonnes).
- 45% (£233,268,000) of the total value of landings in Scotland (£520,618,000) demonstrating the importance of the North East to Scotland as a landing centre for Scottish fish and shellfish.
- The number of fishermen employed in North East Scotland totalled 1,300, representing 27% of the total number of fishermen employed in Scotland (4,860).
- Fraserburgh has the largest concentration of fishermen with 774 with Peterhead having 413 fishermen. There are 113 fishermen employed in Aberdeen.

Prior to embarking upon developing a strategy for seafood processing in North East Scotland, it was considered essential to carry out an in-depth audit of the current nature and capacity of the industry to establish a firm baseline and solid foundation upon which recommendations for a practical and deliverable strategy could be made.
A total of 64 seafood processors were interviewed in Aberdeen, Peterhead, Fraserburgh and the rural areas, representing over 90% of the 72 seafood processing businesses in North East Scotland. Separate discussions and interviews took place with local fishermen, Producer Organisations and Fish Salesman's. Input was sought from Seafish, Scottish Seafood Association, Seafood Scotland, Aberdeenshire Council and Aberdeen City Council as well as other assistance agencies.

As complete a picture has been obtained of the current state of the fish processing industry in North East Scotland, broken down by five identified sectors being **whitefish, pelagic, shellfish, manufacturers and value adders and salmon.**

Information obtained and presented in this study comprises:

- Number of businesses by location and size.
- Sectors within which each business operates, and their employee numbers.
- Nature and source of raw materials.
- A breakdown of market and customer type.
- Key performance issues and challenges by sector.
- An assessment of the capacity and willingness of processing businesses to deliver a significant uplift in processing capacity.

Strengths, weaknesses, opportunities and threats were then identified for each of the five sectors, and common themes across the industry as a whole identified.

Taking all findings into account, a strategy has been suggested that could provide a road map to stabilising the current industry, and setting out means by which long-term growth and strength can be encouraged. This is termed:

Towards Future Proofing the Seafood Industry in North East Scotland.

All of the sectors operate independently of each other, with different supply chains some of which are more efficient and integrated than others. Each of the sectors has its own internal challenges and opportunities which require individual strategic responses. Whitefish faces greater challenges in terms of its sustainability and this is discussed in full in this study.

However, 12 overarching strategic areas are common to all 5 sectors and could be considered to provide '**Strategic Pillars'** upon which the future sustainability and success of the seafood industry rests.

The Twelve Strategic Pillars for Seafood Processors.

- **stabilisation**
- **integration**
- **collaboration**
- **diversification**
- **premiumisation**
- **reputation**
- **innovation**
- **simplification**
- **automation**
- **internationalisation (foreign direct investment)**
- **representation**
- **facilitation**

Finally, an action plan has been put forward with input and support from stakeholders, and this plan focus upon the key aims of being **stretching, focused, practical, and deliverable.**

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Context

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This study and its conclusions should also be seen in the context of other potential developments in the sector, including the Scottish Seafood Centre of Excellence project at Fraserburgh which could provide the facilities to deliver some of the key actions, and Scottish Seafood Association initiatives in standards, skills and waste.

The commissioning organisations and authors of this "Future Proofing the Seafood Industry" study believe that while there are challenges, not least resulting from Covid19, there is a strong case for investment in this major part of the Scottish food manufacturing sector through an ambitious Transformation Project and that it can be an important element of the national food and drink recovery plan as the economy emerges from lockdown.

Readers are encouraged to review the findings and to consider how they can play a part in a unified approach to growing the sector.

Introduction and Adopted Methodology.

Background to the Study.

In 2019, Aberdeenshire Council issued an Invitation to Quote (ITQ) for the provision of a strategic analysis of the North East of Scotland seafood industry infrastructure, and subsequent recommendations for development and delivery of a value proposition unique to the seafood industry in the North East.

The UK Government's 'Sustainable Fisheries for Future Generations' white paper (July 2018) painted a positive picture. Empirical evidence from the catching sector seemed to confirm this position by way of an uplift in commissioning of new vessels. However, it was suggested that profitability within the processing sector was under pressure. The implications of international trade agreements for perishable seafood, access to suitable labour, and future support for onshore investment, innovation and marketing, were all identified as challenges to the industry. Brexit was identified as both a significant threat and opportunity.

Under certain circumstance resulting from Brexit, the Scottish Government anticipated that quota for Scottish vessels could increase, resulting in an increase in landings to Scottish ports. To maximise the value of those increased landings, adding value within Scotland required a robust Scottish processing sector to maintain and potentially increase a presence in both primary and secondary processing.

However, there was no clear understanding of the current processing capacity of the Scottish seafood processing sector, nor a clear indication of what level an increase of fish landings the Scottish seafood processing sector could cope with before the "added value" potential was lost from Scotland.

In June 2018, the North East Scotland Fisheries Development Partnership (NESFDP) highlighted a possible danger that onshore investment might be insufficient to grasp the full opportunity for economic growth in the processing and added value sectors. If an uplift in landings by Scottish vessels did materialise, these could by-pass the Scottish processing sector, and transfer directly to value adders elsewhere in the UK or near continent.

In March 2019, Marine Scotland sought consultation primarily from the catching and landing sector[4] while Seafood Scotland developed a strategy document setting out recommendations for the seafood industry supply chain[5].

The North East Scotland Fisheries Local Action group (NESFLAG) promoted the need for a high impact, strategic analysis of the seafood supply chain which considered integration of the sectors from the catching sector's regulation, capacity and capabilities, through the processing and additional value adding activities, to end-consumer behaviours, but with clear focus on the first sale and processing sector. The geographical focus of this work was to be North East Scotland.

The key aim of the analysis was:

> "To provide a strategic analysis of the current status of the seafood processing industry, and to support development of an implementation plan that facilitates maximisation of the local economic impact from any future increase in landings".

Strategy Objectives.

To deliver the project aim, the following objectives were considered necessary:

1. Delivery of a high-level strategic analysis of the external landscape for the North East Scotland (NES) seafood industry.
2. Delivery of a systematic review of all existing and relevant strategies of professional and industry bodies across the multiple sectors of the seafood industry, to incorporate a comprehensive drawing together of all strategies and operating plans that apply to the different sectors across the NES industry.
3. Delivery of a high-level strategic analysis of the seafood industry value-chain by applying a range of strategic analysis tools to the evidence gathered by the previously delivered systematic review.
4. Synthesis of all previous analyses to produce specific, measurable, realistic and time-bound recommendations and responsibilities for the seafood industry value-chain that when implemented, will contribute to the stability, profitability, and economic sustainability of the NES seafood industry. The recommendations will be in a form that can be delivered to the relevant levels of governance.

Methodology.

Methodology expected would apply to the four key sectors identified, these being:

- Catching & landing;
- First sale & processing;
- Value-adding, logistics & marketing;
- End of chain users and consumers

To meet strategy objectives, the suggested methodology included:

- Application of a strategic analysis tool (e.g. PESTEL or an equivalent) to deliver a discussion of the critical driving forces and macro-risks that are currently affecting the industry;
- Identification and discussion of a small number of the most impactful critical uncertainties, risks and opportunities (i.e. those uncertainties that are likely to have an impact of the largest magnitude on the industry);
- Application of the two most impactful uncertainties within a scenario planning matrix, and a discussion of the implications arising from the resulting range of plausible scenarios.

Risks and opportunities to be considered as a minimum included:

- Future fishing quotas are dependent upon the status of the UK being an independent coastal state;
- Future financial status is dependent upon the fiscal regime governing the UK seafood industry;
- Future productivity of the industry is dependent upon the accessibility of appropriately skilled labour;

[4] Future of Fisheries Management in Scotland: National Discussion Paper.
[5] Changing Tides.

- Future industry value-chain efficiency, and economic return is dependent upon the availability and allocation of inward investment;
- Future demand for NES seafood is dependent upon effective global positioning, deliberate global marketing, and the efficiency of the global routes to market.

2.1 The Seafood Industry in the UK.

In its *Industry Profiles* in 2018, Seafish estimated that in 2017 there were **355 seafood processing sites** in the UK employing a total number of **16,318 full-time staff**, along with **626 part-time (FTE) staff** and **2,247 seasonal (FTE) staff**. The seafood processing industry therefore supported a total of **19,191 FTE jobs in the UK** in 2018.

In 2017 Seafish estimated that there were over **139 seafood processing sites** in Scotland **supporting 8,899 processing jobs** (Industry Profiles).

Based on 2017 figures the turnover for the seafood industry in the UK amounted to £3.4 billion generating an overall operating profit of £390 million, and a GVA of £794 million.

In the same year, there were 2,065 active Scottish-based fishing vessels. This had increased by 32 from 2016.

2.2 The Seafood Industry in North East Scotland.

Seafood processing is one of the largest contributors to the food and drink sector in North East Scotland, estimated to be worth in the region of **£700 million** to the North East out of a total of **£2.2 billion** of overall food manufacturing turnover.

In 2018, landings at the North East ports of Aberdeen, Peterhead and Fraserburgh are presented in the table below which includes a 2014 comparison, this being the year in which a previous survey of capacity was undertaken[6]: -

	2014		2018	
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In 2018, North East ports, principally Fraserburgh and Peterhead, made up 57% of the volume of fish landed in Scotland by Scottish, UK and foreign registered vessels (348,064 tonnes), and 45% of the total value of £520,618,000. This clearly demonstrates the importance of the North East to Scotland as a landing centre for Scottish fish and shellfish. The average value of the catch is skewed by large landings of pelagic fish at Peterhead.

In 2018, the number of fishermen employed in North East Scotland totalled 1,300, representing 27% of the total number of fishermen employed in Scotland (4,860). Fraserburgh has the largest concentration of fishermen with 774 (60%), with Peterhead having 413 fishermen (32%). There are 113 fishermen employed in Aberdeen.

Definition of Seafood Processor.

For this study, seafood processors have been defined as businesses which process fish or shellfish, at least some of which is for sale to 3rd party businesses. A number of the designated processors also sell their processed products through their own retail outlets.

Seafood buyers, traders, and retailers who only process fish for their own retail outlet/outlets have been excluded from the study.

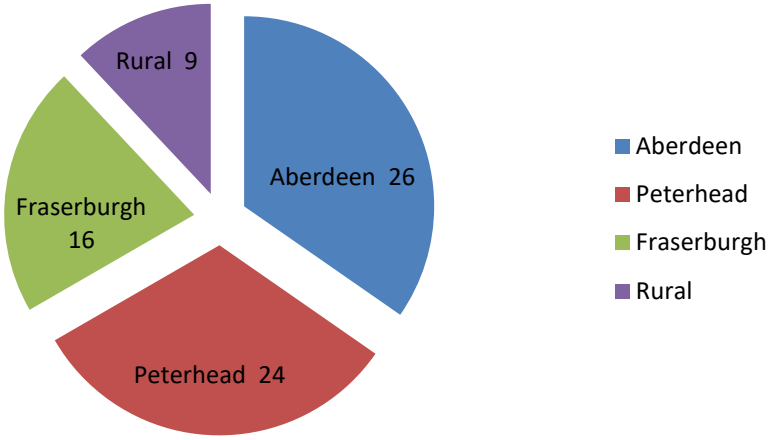
The chart indicates that 65% of seafood processing sites in North East Scotland are located in Aberdeen and Peterhead, with Fraserburgh the location for over 20%.

[6] Source - Scottish Seafish Industry Statistics 2018

12% of seafood processing sites are located in rural areas particularly in towns and villages along the north and east coasts of Aberdeenshire, as well as at Mintlaw (Macduff Shellfish). The vital contribution made by these businesses is described in the employment section of this report (Section 4).

The survey carried out as part of the preparation for this report indicates that the total number of seafood processing businesses in North East Scotland is **72,** with the number of sites amounting to 75.

Distribution and Location of North East Scotland Seafood Processing Sites.



2.3 The Structure of the Seafood Industry in North East Scotland

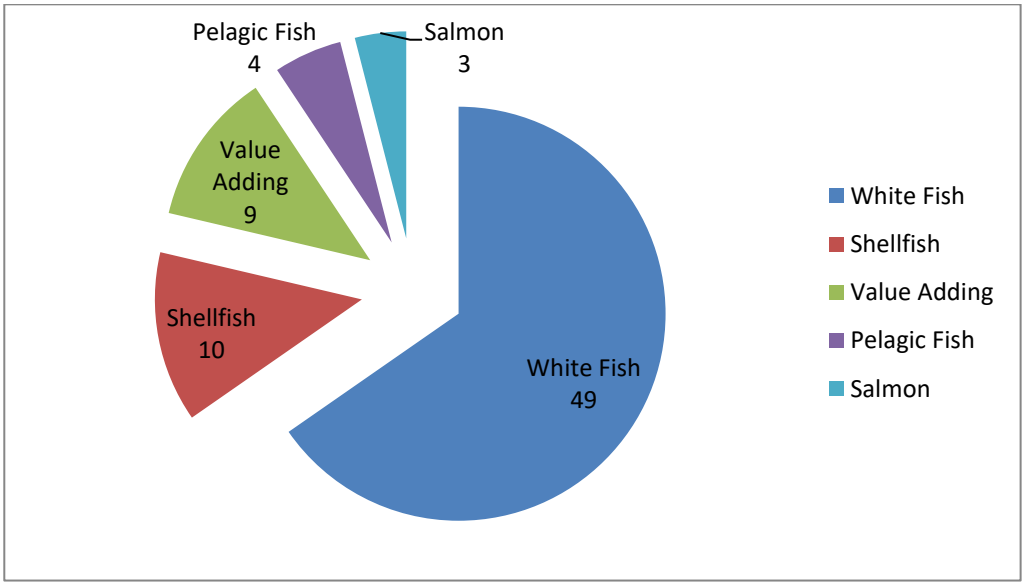
The seafood industry in North East Scotland can be divided into 5 separate and distinct sectors. The separate sectors are whitefish, pelagic fish, shellfish, value-added and salmon. Sector numbers and locations are as follows. Classification of the site is based upon the nature of the majority of the volume of fish/shellfish being processed).

Classification of Seafood Processing Sites in NE Scotland.

	White Fish	Shellfish	Value-Adding	Pelagic Fish	Salmon	Total
Aberdeen	20	1	4	0	1	26
Peterhead	13	4	2	4	1	24
Fraserburgh	11	2	3	0	0	16
Rural	5	3	0	0	1	9
Total	**49**	**10**	**9**	**4**	**3**	**75**
Total %	**65%**	**14%**	**12%**	**5%**	**4%**	**100%**

For this study, value adding businesses include seafood product manufacturers i.e. International Fish Canners, Joseph Robertson, Nor Sea Foods, Thistle Seafoods and Young's Seafood as well as those which add value to currently undervalued by-products i.e. Anglo Nordic, Mapco and Pelagia.

Sector Classification and Location of North East Scotland Seafood Processing Sites.



Aberdeen has the largest number of whitefish sites (20 in total or 41%) with Peterhead and Fraserburgh the location for 13 and 11 sites (26% and 22% respectively). There are 5 whitefish businesses based in the villages of Sandend, Whitehills, Macduff, Gourdon and Johnshaven.

2.4. Seafood Industry Employment in North East Scotland

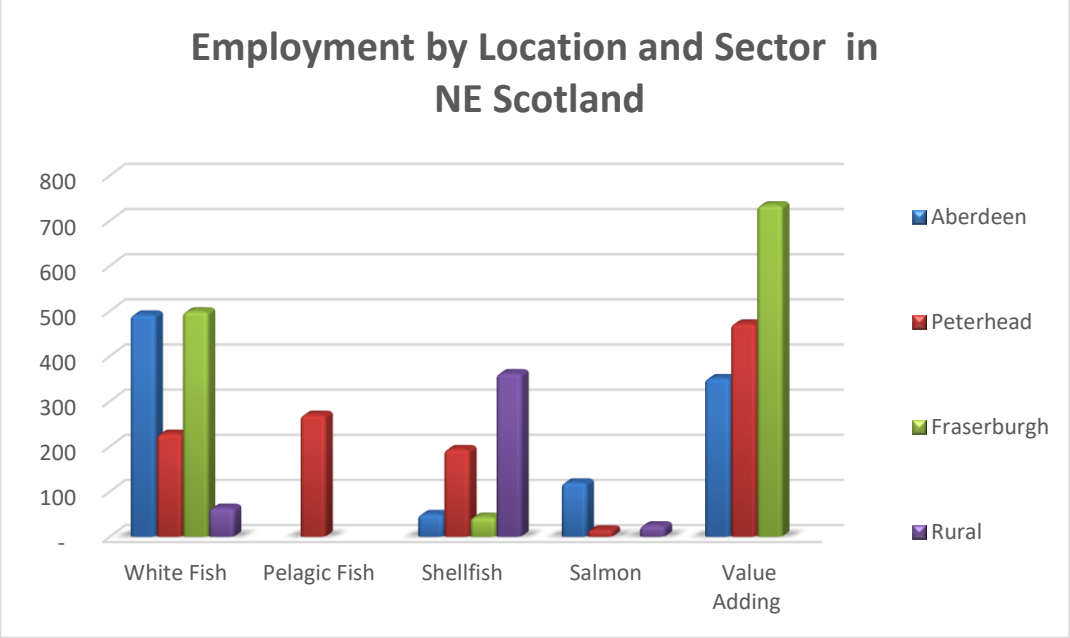
From survey work undertaken for the study, employment including full-time and part-time FTE jobs on seafood processing sites in North East Scotland totals **3,920.**

Seasonal FTE jobs, which are of vital importance to the pelagic sector in particular, add a further 140 FTE jobs to this total.

Employment by Location and Sector in NE Scotland.

	White Fish	Pelagic Fish	Shellfish	Salmon	Value Adding	Total
Aberdeen	492	0	50	120	351	1,013
Peterhead	228	270	194	15	472	1,179
Fraserburgh	499	0	44	0	734	1,277
Rural	64	0	362	25	0	451
Total	**1,283**	**270**	**650**	**160**	**1,557**	**3,920**

Value adding processors located in Aberdeen, Peterhead and Fraserburgh support the largest number of jobs 1,557 (40%) with total employment in the next largest sector, whitefish supporting 1,283 jobs (33%). The shellfish sector supports 650 jobs (16%) with the pelagic sector supporting 270 jobs (7%) all of the latter jobs based in Peterhead. The salmon sector employs 160 staff (4%).



The chart demonstrates a concentration of whitefish employment in Aberdeen and Fraserburgh with shellfish employment concentrated in Peterhead and in the rural area. However, the figure for rural shellfish employment is heavily skewed by the number of staff employed by Macduff Shellfish at Mintlaw (over 300).

Value adding employment is high in Aberdeen, Peterhead and Fraserburgh, exceeding the employment in the whitefish sector in both Fraserburgh and Peterhead, particularly Peterhead, where more than twice the number of jobs is supported by value adding businesses as compared with whitefish processors.

The importance of seafood processing to the rural areas of Aberdeenshire, particularly in small coastal villages, cannot be overemphasised.

Although the processors based in these villages are often relatively small in size, they make a valuable contribution to the local economy e.g. George Downie at Whitehills employs over 30 staff, making it one of the largest employers in the local area.

Macduff Shellfish at Mintlaw makes a vital contribution to the economy of not only the town and surrounding area, but also to the North East of Scotland and the country as a whole.

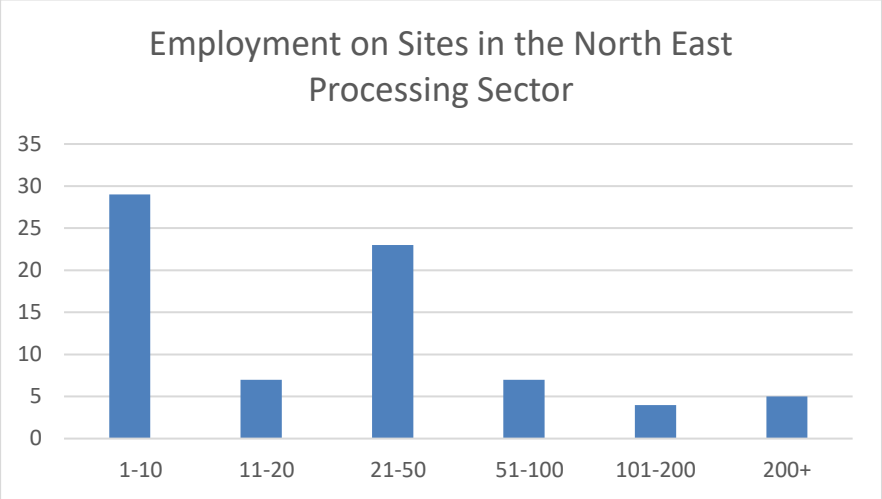
Rural-based seafood processing businesses support over 450 jobs in the North East of Scotland.

Employee Numbers by Size of Enterprise.

The table below sets out the employee numbers of seafood processing sites in North East Scotland.

Employee Numbers	Number of sites	%
1 – 10	29	40%
11 – 20	7	9%
21 – 50	23	31%
51 – 100	7	9%
101 – 200	4	5%
200+	5	6%
Total	**75**	

The table above indicates that, in terms of size, there is a concentration of seafood businesses employing between 1-10 staff (40%) and between 21-50 staff (31%).



There are 29 sites owned by processors which are micro-businesses employing 10 or fewer staff. These are mainly whitefish processors based in Aberdeen (12) and Peterhead (9). They are often family-owned businesses located in premises which require investment in upgrading. In Aberdeen these premises are often owned but on leased ground, although in Peterhead they tend to be leased buildings on leased ground. In Aberdeen, particularly in the North Dee Business Quarter, there is pressure on seafood processors to relocate which currently restricts direct investment.

There are 23 processors classified as small businesses employing between 21 and 50 staff. These are mainly whitefish processors in Aberdeen (6), Peterhead (5) and Fraserburgh (5). These businesses also tend to be family owner-managed enterprises.

3. Seafood Processing – Sector Trends.

3.1 Trends in Number of Seafood Processing Sites in North East Scotland

The number of seafood processing units in the UK has been reducing since 2004. At that time there were 573 seafood processing units. This figure reduced to just over 400 sites by 2012 with the decline increasing, albeit at a slower rate through to 2018, when 355 sites were identified. (Seafish – Industry Profiles)

UK employment in the seafood processing sector also declined between 2004 and 2016, dropping by 35%. However, between 2016 and 2018 Seafish calculated that FTE jobs in the seafood industry increased, although some of this change could be due to seasonality in the workforce as prior to 2018, job number calculations were based on employment at the end of the summer, while in 2018 the census was carried out at the end of the year.

The table below which is taken from the N-E Scotland: Seafood Processing Strategy produced by BDAplus in 2014, indicates the number of North East Scotland seafood processing sites which were identified at that time.

	White Fish	Shellfish	Value Adding	Pelagic	Salmon	Total
Aberdeen	25	1	2	0	1	29
Peterhead	18	2	1	3	1	25
Fraserburgh	9	3	2	1	0	15
Macduff	1	1	0	0	0	2
Portsoy/Sandend	1	0	0	0	1	2
Whitehills	1	0	0	0	0	1
Mintlaw	0	1	0	0	0	1
Gourdon	2	1	0		0	3
Total	**57**	**9**	**5**	**4**	**3**	**78**

The table indicates that there was a total of 78 processing sites in 2014 with this figure reducing to 75 in 2019, a drop of 4%.

Over this period the total number of whitefish sites in North East Scotland reduced from 57 to 49, a drop of 9 (16%). However, 2 businesses (one in Aberdeen and one in Peterhead) which had been included in the whitefish sector in the 2014 survey were, in 2019, redesignated by BDAplus to the value adding sector for the purposes of this study, reducing the overall actual drop to 7(12%).

The number of whitefish sites increased by 2 in Fraserburgh, with Aberdeen and Peterhead each losing 5 whitefish sites. The sites which ceased producing were generally operated by small scale whitefish businesses which ceased trading due to the retirement of the owners. One of the additional businesses in Fraserburgh was a new start, with the other moving from Aberdeen.

The number of value-adding businesses increased from 5 to 9 between 2014 and 2019, although this is due to the transfer of 2 sites from the whitefish sector to value adding and the inclusion of an additional processor of by-products (Pelagia). These businesses add value to undervalued fish by-products such as fish heads/frames and offal.

With regard to pelagic sites the total number has remained the same at 4, all located in Peterhead. Although the Lunar pelagic site in Fraserburgh is no longer operating, the Lunar site at Dales now processes more pelagic fish than whitefish with it therefore being redesignated as a pelagic site.
In 2019 the number of salmon sites remained at 3, the same as it was in 2014.

3.2 Trends in Employment in the Seafood Industry and of the Scotland

Between 2014 and 2019 employment in the seafood industry in the North East of Scotland has remained relatively static. Total employment of full-time and part-time FTE staff has reduced only marginally from **3,964** in 2014 to **3,920** in 2019.

Although the number of whitefish processing businesses has reduced those ceasing to trade have been relatively small-scale and therefore the impact has been minimal.

In February 2020 whitefish processor Prime Seafoods went into liquidation with the loss of over 60 jobs. However, over 50 of the employees were able to secure posts with other fish processors within days of the closure. This reflects the high demand for staff in the whitefish processing sector.

3.3 Trends in Seafood Landings

The large majority of fish and shellfish processed in North East Scotland are landed at local and Scottish ports, particularly at Peterhead. In order to develop an appropriate strategy, it is necessary to view trends in landings over the past few years.

The tables below indicate the volumes of landings at Peterhead and Fraserburgh and Aberdeen in 2014 and 2018.

Landing Centre

	2014		2018	
	Tonnage	**Value(£'000)**	**Tonnage**	**Value(£'000)**
Aberdeen	1,090	£ 3,261	963	£ 5,393
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Fraserburgh	26,880	£ 40,035	27,990	£ 44,238
Total	212,041	£ 207,294	199,180	£ 233,268

Landing by Sector

	Demersal Tonnes			Pelagic Tonnes			Shellfish Tonnes		
	2014	2018	%	2014	2018	%	2014	2018	%
Aberdeen	7	2	-60%	8	9	12%	1,075	952	-12%
Peterhead	53,881	64,736	12%	127,243	102,728	-20%	2,947	2,764	-7%
Fraserburgh	6,209	10,616	70%	14,061	11,297	-20%	6,610	6,077	-8%

Landing by Value

	Demersal(£'000)			Pelagic(£'000)			Shellfish(£'000)		
	2014	2018	%	2014	2018	%	2014	2018	%
Aberdeen	10	13	30	10	10	-0	3,241	5,371	65
Peterhead	78,012	100,694	30	76,312	73,891	-3	9,673	9,052	-6
Fraserburgh	8,007	16,596	106	11,679	7,879	-32	20,349	19,762	-2

The tables above demonstrate the dominance of the port of Peterhead as the principal landing centre for whitefish and pelagic fish in North East Scotland, and indeed the country as a whole.

With regard to volume, 86% of white fish are landed at Peterhead along with 96% of pelagic fish.

Not only does Peterhead have 86% of white fish direct landings, but when consigned catches are taken into account, this figure increases, further underlining the dominance of Peterhead in regard to the whitefish sector. Many fishermen landing at ports in the north and west of Scotland have recognised the benefit of transferring their catches to Peterhead for sale as higher prices are generally secured.

With regard to shellfish, 62% of volume is landed at Fraserburgh Harbour although this represents only 6,000 tonnes, less than 10% of the volume of demersal fish landed at Peterhead.

The figures indicate that between 2014 and 2018, the total volume of landings reduced from 212,041 tonnes to 199,180 tonnes although the value rose from £207,294m to £233,268m.

However, over the five years the volume of white fish landed at Peterhead increased by 12% in volume rising from 53,881 tonnes to 64,736 tonnes. Demersal fish landings at Fraserburgh also increased from 6,209 tonnes to 10,616 tonnes, a rise of 70% between 2014 and 2018.

The value of demersal fish landed at Peterhead increased by 30% from £78,012,000 to £100,694,000 between 2014 and 2018. The value of white fish landings also rose in Fraserburgh, increasing from £8,007,000 to £16,596,000, a rise of 106%.

When consigned landings are taken into account at Peterhead in the 5 years 2014 – 2018, volumes sold through fish market increased by 24% and prices increased by 44%. This is remarkable in such a short period of time. In 2019, the volume and value of whitefish reduced slightly, by 6% in volume, although the value at £126,617,625 reduced by only 2%.

Over five years, pelagic fish landings declined in volume by 20% at both Fraserburgh and Peterhead, although tonnages of 102,728 in Peterhead and 11,297 and Fraserburgh, remained substantially higher than the total volume of demersal landings (75,354 tonnes).

Shellfish landings have declined in volume slightly between 2014 and 2018 at Peterhead, Fraserburgh and Aberdeen. Total volume reduced from 10,632 tonnes to 9,793 tonnes (-8%). However, the value of shellfish landings increased slightly from £33,263m to £34,185m (3%).

Shellfish landings continue to be primarily centred at Fraserburgh, with the port having 62% of the total volume, and 58% of the total value of shellfish landings in North East Scotland in 2018.

4. Critical Driving Forces and External Risks – PESTEL Analysis.

PESTEL analysis is principally designed to derive maximum benefit for a single organisation to identify macro (external) forces facing that organisation, however the principles used in a PESTEL analysis can be adapted for use within this fisheries strategic sector review.

Our review of the basis of undertaking a PESTEL analysis identified around 120 different factors that could be considered as relevant for consideration within the analysis, however we concluded that many were only of marginal relevance, if any. For example, political factors such as voter participation rates, and defence expenditure would be of little or no relevance to the study.

PESTEL analysis covers the following areas:

- **Political factors** – how does the Government intervene in the economy and what are the impacts.
- **Economic factors** – these impact upon business management and how a business operates and make decisions.
- **Social factors** – cultural aspects, health consciousness, population growth rate and age distribution are among relevant factors.
- **Technological factors** - what are the likely impacts of R&D activity, automation, technology incentives and the rate of technological change.
- **Legal factors** – discrimination law, consumer law, health and safety law all impact upon how a business operates.
- **Environmental factors** – an increasingly significant area to include weather, climate, and climate change.

Selected PESTEL Factors.

A total of 33 factors within those headings that were considered as directly relevant to the strategic review, and incorporated within the detailed questionnaire used to guide interviews and produce the most meaningful survey possible.

Political Factors.

- **Government stability / instability**. Did businesses believe that the current political climate provided them with stability to make business decisions in both the short and long term?
- **Tax policies**. Did local and national tax regimes impact upon decision making including local taxes such as business rates?
- **Government regulation / deregulation**. Did businesses feel constrained and were there areas where changes might benefit them?
- **Import / export regulations including tariffs**. What were current impacts and what was the industry view with particular reference to a likely outcome of Brexit trade agreements?
- **Size of Government budgets.** How might future budgetary planning impact upon fiscal intervention by way of revenue and capital grant support?

Economic Factors.

- **Interest, inflation and exchange rates.** How were businesses impacted if at all? For importers / exporters, were currency fluctuations significant?
- **Availability of credit.** Were businesses constrained or otherwise in their own development plans, and how were suppliers and customers impacted?
- **Disposable income and propensity to spend.** Did businesses consider how to best manage and exploit consumer's discretionary spending?
- **Unemployment trend including seasonal**. Did businesses see opportunities or threats if unemployment rates continued to decline domestically and in export markets?
- **Price fluctuations**. How significant was the impact with particular reference to raw material costs?

Social Factors.

- **Population size, growth rate and demographics**. Were businesses taking trends and forecast changes into account in planning growth and products?
- **Immigration and emigration rates**. Against a perception that reduced immigration potentially impacted upon labour availability, how were businesses planning to mitigate any negative aspects?
- **Per capita income and average disposable income**. If domestic and export market economies continued to grow, how might this impact upon development opportunities and investment?
- **Health consciousness**. As consumers gained an increasing awareness of responsibility for health issues and health eating, were there opportunities for seafood businesses?
- **Vegetarianism and veganism**. The rate of change in numbers of individuals moving to these lifestyle changes was increasing. Did this offer short and/or long-term opportunities and long-term threats?
- **Buying habits**. How might the seafood sector best respond to continued trends towards on-line shopping, direct delivery and growth in fast food delivery services. Was the sector perceived to be more at risk given the high level of chilled produce?
- **Ethical concerns.** Seafood remained very largely non-impacted by consumer concerns in other sectors such as red meat and poultry production but might that position change and if so, what mitigation might be possible?
- **Product quality and customer service.** What trends were identifiable and would investment in new technologies and products was likely to be required in future to match rising expectations?
- **Environmental concerns.** High profile consumer campaigns against discards at sea had resulted in the Landings Obligation. What other future issues did the sector perceive as relevant and what mitigation was possible?

Technological Factors.

- **Product innovations.** What scope existed for innovation and what level of investment would be needed to deliver these. Would the pace of innovation change as consumers sought new eating experiences and what was required to maintain the seafood supply chain?
- **Automation.** Did businesses consider automation as desirable and practicable and would it provide a response to any concerns over labour supply?
- **Awareness and access to new technology.** If automation was a route to follow, were seafood processors fully appraised of possibilities, and could they exploit them, taking into account funding implications and physical requirements such as factory space and services?
- **Technology incentives.** If technology and automation were options, how important did businesses believe support was in the form of Government intervention by way of revenue / capital grant. What incentives might encourage them to invest?
- **R & D activity.** How committed were businesses to research and development and did they have the resources to deliver meaningful results?
- **Levels of innovation.** How innovative in products and production techniques did processors require to be to maintain competitiveness and consumer support?
- **Internet and communications and new communications technologies.** Was there any widespread perception as to how these might change and whether initiatives to date to exploit them had been worthwhile?

Environmental Factors.

- **Weather.** If weather extremes were to become more frequent, what impacts would arise for processors for example reduced supply of fish at market as vessels could not get to sea. What mitigation was possible?
- **Climate and climate change.** What implications arose for the processing sector both in raw material supply and in consumer markets?
- **Air and water pollution.** How might future processing be impacted by increased standards for pollution and were issues such as changes in species distribution and increases in marine plastics likely to impact on consumers purchasing of wild caught fish. What consumer pressure might arise in further reductions in environmental pollution?

Legal factors.

- **Discrimination laws.** Were businesses fully appraised of relevant legislation and what measures were taken to address any perceived weaknesses?
- **Employments laws.** Were businesses aware and compliant?
- **Consumer protection laws.** Again, were businesses aware and compliant in relation to supply of product?
- **Modern slavery.** Instances had already arisen and been reported in relation to fishing vessels. What measures were being implemented given that in an overall supply chain, large purchasers such as supermarkets increasingly required suppliers to adhere to codes of conduct?

5. Structure of Survey of Processors / Stakeholders and Results.

Prior to embarking upon developing a strategy for seafood processing in North East Scotland, it was considered essential to carry out an in-depth audit of the current nature and capacity of the industry to establish a firm baseline and solid foundation upon which recommendations for a practical and deliverable strategy could be made. The design of the questionnaire included the **Critical Driving Forces and External Risks** outlined in section 4.

In order to establish this baseline, over 90% of the 72 seafood processing businesses in North East Scotland were interviewed, as well as 2 local fishermen, 2 producer organisations and 2 fish salesman's offices. Separate discussions were carried out with Seafish, Scottish Seafood Association, Seafood Scotland, Aberdeenshire Council and Aberdeen City Council as well as other assistance agencies. The outcome of these discussions is presented elsewhere in this report.

A total of 64 seafood processors were interviewed in Aberdeen, Peterhead, Fraserburgh and the rural areas, with all bar two interviewed face-to-face.

In order to introduce consistency and structure, a questionnaire was prepared, a copy of which was provided to each processor.

5.1 Processor's Questionnaire

The questionnaire determined the type of business e.g. whitefish processor, and its location.

1. Processors were asked if their premises/sites were owned or leased, the size of the facilities and, where appropriate their make-up e.g. production/chill storage/cold storage. Yard space was also noted as this could provide opportunities for facilities expansion.

2. The volume of fish/shellfish purchased, including a list the main species was obtained along with whether the raw materials purchased were fresh or frozen. Information was also obtained on whether the fish purchased were destined for processing or resale.

3. Information on the source of the fish/shellfish purchased (Scottish, UK, import) was obtained along with the main landing centres used (Peterhead, Fraserburgh, other Scottish ports, imports/contract purchases).

4. The type of products produced was ascertained (fresh, frozen, value-added).

5. The market destination for the products produced by the processor (local, Scotland, UK, export EU and export rest of world) was ascertained with percentages logged where a range of markets were supplied.

6. The customer type (hotel/restaurant direct, retail (UK/international), wholesale (UK/international), foodservice (UK/international) was noted.

7. The nature of the management, managers/directors age and succession plan for the business were determined, along with the skills of the managers/directors and their attitude to taking external advice.

8. The number of full-time, part-time and seasonal staff was noted along with the numbers of local as compared with migrant workers.

9. In order to gauge confidence in the future of the seafood processing industry in North East Scotland, processors were asked to forecast whether or not they anticipated increases in supplies, sales, profits and staff numbers.

10. To assess the key challenges for seafood processors they were asked to select what they considered were the key performance issues in operating their businesses. These included the volume and regularity of supplies, staff availability, skills availability, staff retention/ recruitment, staff training, fuel & energy

costs, distribution/transport, factory overheads, repairs & maintenance, environmental health compliance, imports supplying customers direct, customer price increase resistance, credit (late payment), cash flow, bank funding and business rates.

11. To assess current and available capacity processors were asked to estimate their current utilisation of facilities on a percentage basis. They were also asked to indicate whether they had plans to expand or upgrade their facilities or relocate.

12. In order to assess market development opportunities, processors were asked to indicate whether they intended to break into new markets and, if so, in which markets they considered the principal opportunities to be. Processors were asked to indicate their relationship with producers i.e. direct purchases/ imports or auction.

13. In order to determine utilisation and attitude to new technology processors were asked to indicate automated parts of their existing production processes and whether they considered that automation could play a future role in improving the efficiency/productivity of their processes.

14. Processors were asked for their views on the future of seafood processing in their sector including supplies, markets, regulation and efficiency of the supply chain.

15. Where appropriate, a SWOT analysis was used as a tool to obtain the processor's view on the strengths, weaknesses, opportunities and threats to the sector which they operated.

5.2 Results from the Survey – Premises and Landownership.

Of the total number of seafood processing buildings in North East Scotland 80% are owned and 20% are leased. This is positive in regard to opportunities to expand if there is sufficient land on site.

63% of the seafood processing sites are leased indicating the investments made by local authorities and port authorities in providing sites. These authorities e.g. Aberdeenshire Council and Peterhead Port Authority continue to invest in upgrading facilities for seafood processors in their leased properties.

In the case of Aberdeen Harbour Board, the seafood processing sites in the North Dee Business Quarter, formerly owned by the organisation and leased to whitefish processors, were sold some years ago to developers in anticipation of redevelopment. This places the future of 8 whitefish processing businesses in that area at risk. Two of these businesses employ more than 20 staff although the others employ less than 10. The two larger businesses are planning to relocate, but uncertainty over their future has not encouraged investment by other fish processing companies in this part of Aberdeen. In the five years 2014 – 2018, five white fish processors ceased trading in this area mainly due to the retirement of the owners.

Aberdeen Harbour Board continues to lease land to fish processing enterprises in other parts of the harbour area e.g. Sinclair Road.

Of the 26 sites occupied by fish processors in Aberdeen 15 employ up to 20 staff. 12 of these businesses employ less than 10 staff with clusters in the North Dee Business Quarter, as well as South Esplanade East Sinclair Road and South Esplanade West.

In Peterhead, property ownership in the seafood industry is considerably lower with 14 premises owned and 10 premises leased. Peterhead Port Authority owns seafood processing units in Volum Street and Albert Street which accommodate 8 small-scale whitefish processing enterprises. The Authority has plans to upgrade these units in the near future.

Of the 24 seafood businesses in Peterhead, 11 employ less than 20 staff.

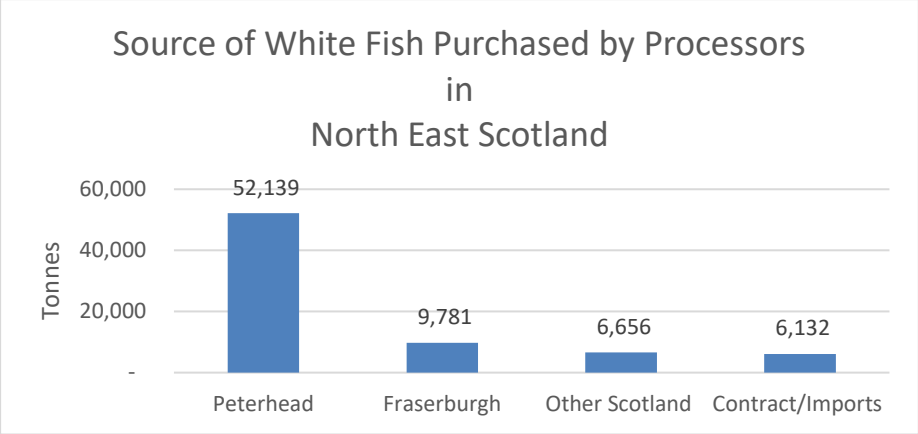
Fraserburgh has 12 processors who own their premises with 4 businesses in leased units. One third of these businesses employ less than 20 staff.

In the rural areas all seafood processing premises are owned.

In regard to ownership of sites 63% are leased with roughly the same percentages in Aberdeen, Peterhead and Fraserburgh.

5.3 Results from the Survey – Sources of Fish/Shellfish Processed in North East Scotland.

5.3.1 Whitefish.



From the interviews carried out it is estimated that 74,708 tonnes of whitefish are purchased annually by whitefish processors based in North East Scotland, with 66% (49,059 tonnes), sourced from the Peterhead Fish Auction. This dominant position has been growing over the years with Fraserburgh, which supplies 13% of the whitefish, gaining importance as a shellfish landing centre. For the purposes of this study the grading/repacking of whole fish is considered processing, as is the freezing of whole fish, as it involves changing the nature of the product.

It is noteworthy that 9% of whitefish raw materials are sourced from other Scottish ports with, for example, processors in Aberdeen purchasing supplies from Shetland.

Annual figures produced by Peterhead Port Authority indicate that in 2019, a total of 64,326 tonnes of whitefish were sold through the auction either from direct or consigned landings. This suggests that 76% of the white fish sold through the Peterhead Fish Auction are processed by local businesses, with 24% being transferred out of the area for processing elsewhere.

This figure is lower than is estimated by most whitefish processors and, indeed, by Peterhead Port Authority. Anecdotally figures in excess of 30% and sometimes 40% have been quoted although no evidence has been presented to back up this assertion.

The difference may be due to over-optimism in terms of the processors when they were asked to estimate their annual purchases. These were often based on estimated 'average' weekly purchases which did not adequately take into account spells of lower landings. The lower figure may also be due to locally based processors underestimating what they sell onto 3rd party processors out with the area.

Alternatively, the higher figures of 30% or over may have been simply plucked from the air yet been accepted as fact. Additional work needs to be done to arrive at a more accurate figure.

5.3.2 Pelagic Fish.

Pelagic processing companies process approximately 100,000 tons of herring, mackerel and blue whiting annually.

100% of the catch comes from Scottish sources. All landings are made at Peterhead, supplying the 3 large scale and 1 smaller scale pelagic processing enterprises in the town.

5.3.3 Shellfish.

Shellfish companies in North East Scotland process approximately 40,000 tonnes of langoustine, crabs, lobsters and other shellfish per annum.

61% of the shellfish processed come from Scottish sources, with 35% from the rest of the UK and 4% from imports. The larger shellfish processors source a significant proportion of their raw materials from English waters utilising road transport to Scotland. Smaller scale processors tend to use mainly Scottish raw materials.

Macduff Shellfish, based in Mintlaw has a dominant position in the sector particularly since its takeover by Clearwater, a large-scale Canadian shellfish group.

5.3.4 Added Value – Food Manufacturing.

Whitefish value adding manufacturing businesses based in North East Scotland purchase approximately 27,000 tonnes of raw materials, over 80% of which are sourced from abroad. These large-scale food manufacturers purchase container loads of frozen block fillets from suppliers in Norway, Iceland, Denmark, Russia and China. The manufacturing process and supply to supermarkets, requires that guaranteed volumes of raw materials are available as and when needed, and that the most competitive prices are secured. Locally landed catches cannot compete in terms of regularity of supply and price.

Value adding pelagic businesses purchases approximately 15,000 tonnes of raw materials from both foreign and Scottish sources. Purchasing decisions are based on availability of supplies and price.

5.3.5 Added Value – By-Products Processing.

Businesses which add value to undervalued by-products source their raw material locally, mainly from the white fish and pelagic fish sectors.

It is noteworthy that in regard to volume Pelagia, the fish meal manufacturer based in Aberdeen, is by far the largest fish processor by volume in North East Scotland.

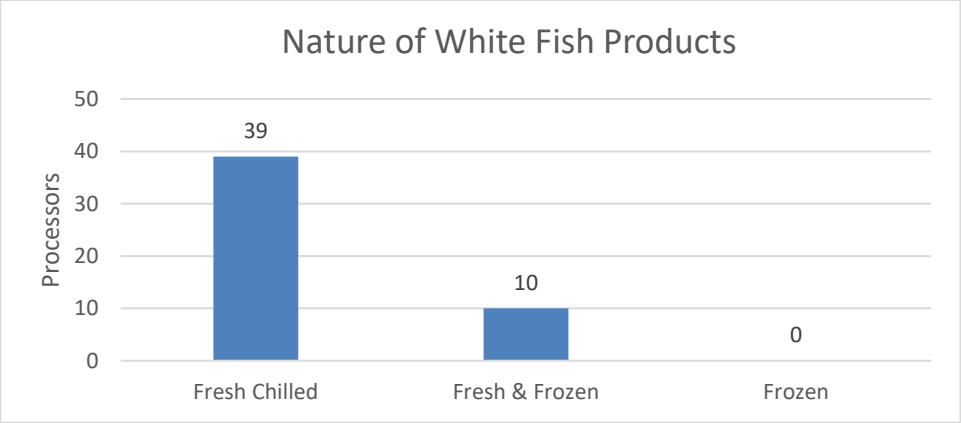
5.3.6 Salmon.

Approximately 3,000 tonnes of salmon are processed by North East based business. This salmon is sourced from Scotland and from imports.

5.4 Results from the Survey – Products.

As indicated in the table overleaf, 39 (80%) of whitefish processors sell fresh chilled products only.

This creates a requirement to ensure that products are processed quickly and transferred to customers in as short a time as possible, so that they arrive in prime condition.

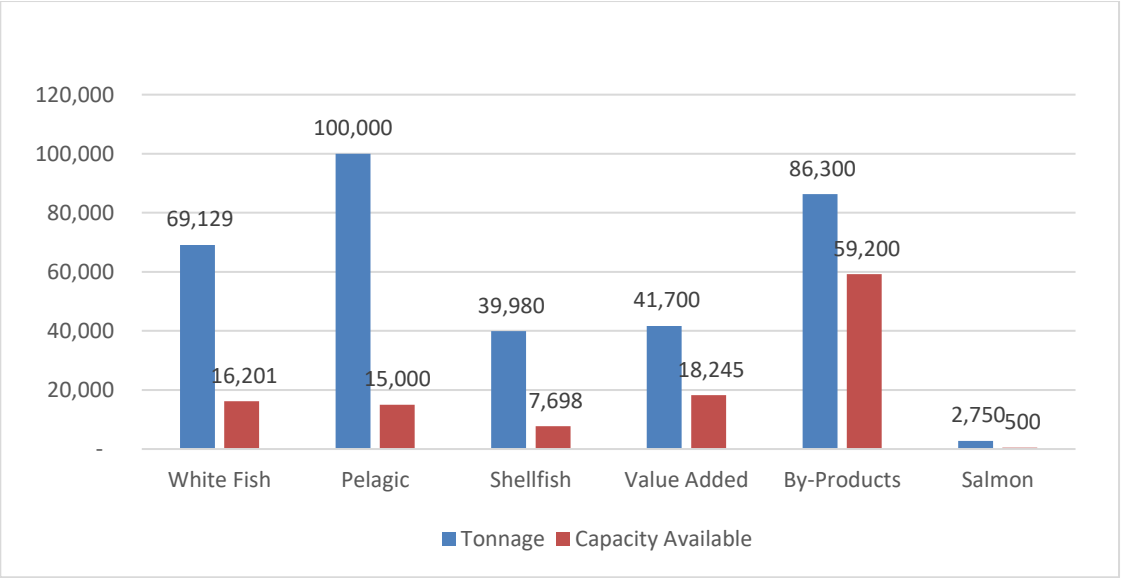


The large majority of pelagic products are sold in a frozen format although some hand filleting is undertaken with fillets sold in a fresh format.

Shellfish are sold in a fresh, frozen and cooked format, with some limited live shellfish supplied.

Value added products are sold in a final pack format ready for supermarket shelves. This format can include vacuum packed plastic, over wraps, or tins.

5.5 Results from the Survey – Processing Capacity in North East Scotland.



The table above indicates that there are approximately 100,000 tonnes of pelagic fish processed, 86,000 tonnes of value-added by-products, 69,000 tonnes of white fish, 42,000 tonnes of value-added manufactured products, 40,000 tonnes of shellfish and 3,000 tonnes of salmon processed in North East Scotland.

As part of the survey processors were asked to indicate their current processing capacity and how this capacity could be increased e.g. by extending the premises, installing additional plant/equipment or increasing the number of production shifts. The table indicates that there is very little capacity to increase production in the pelagic, whitefish and shellfish sectors.

In the pelagic sector an additional 15,000 tonnes (15%) is all that can be accommodated, whilst in the white fish sector, 16,201 tonnes (23%) is the available potential increase in capacity.

In the shellfish sector there is capacity for processing an additional 7,698 tonnes (19%). However, this figure is skewed by the dominance of Macduff Shellfish which has significant potential capacity available.

In the value-added manufactured products sector, 18,245 tonnes (44%) is available although this figure is skewed by the Young's Seafoods facility in Fraserburgh.

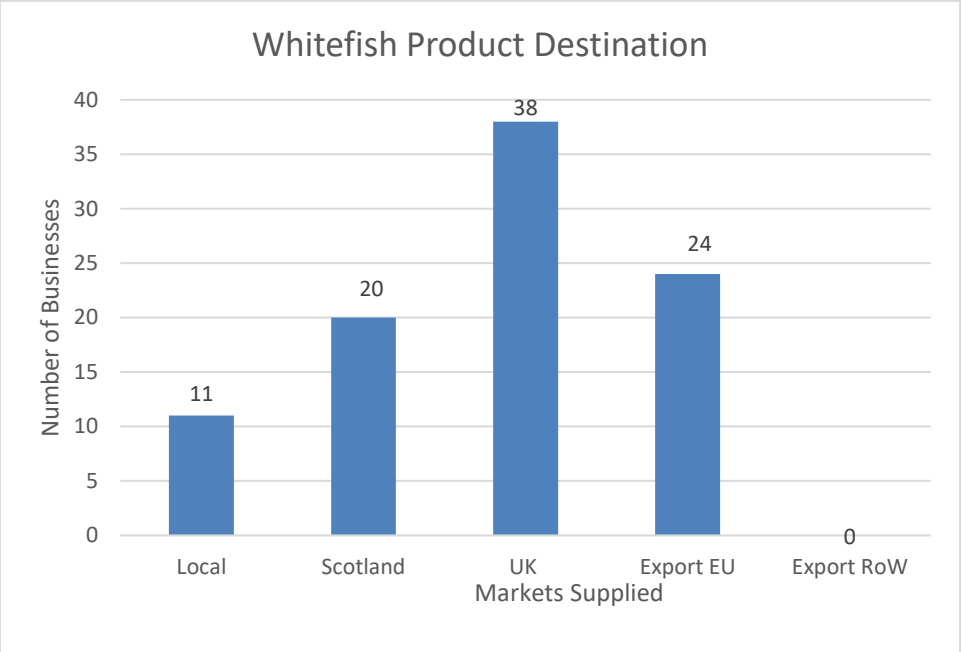
In the value-added by-products sector although it appears that 59,200 tonnes capacity is available, this figure is skewed by the potential available at Pelagia, Aberdeen.

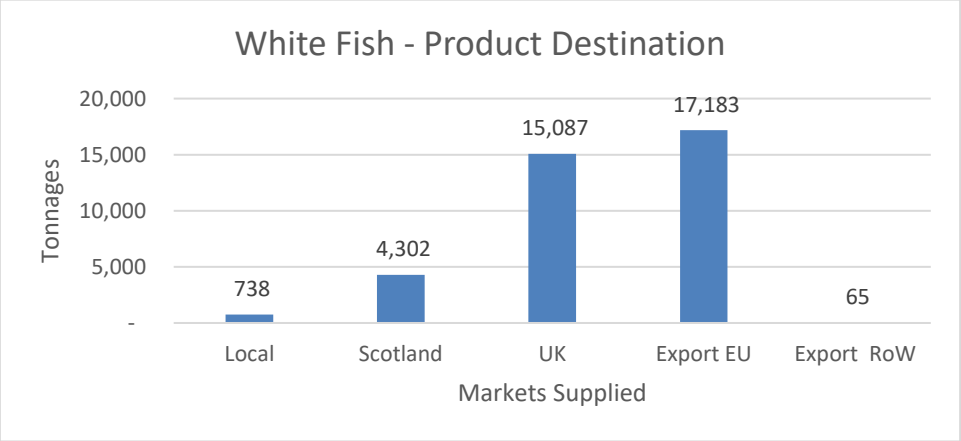
5.6 Results from the Survey – Market Profile.

5.6.1 Product Destination

Whitefish

The whitefish processing sector is characterised by businesses which supply a range of markets within the UK and abroad.





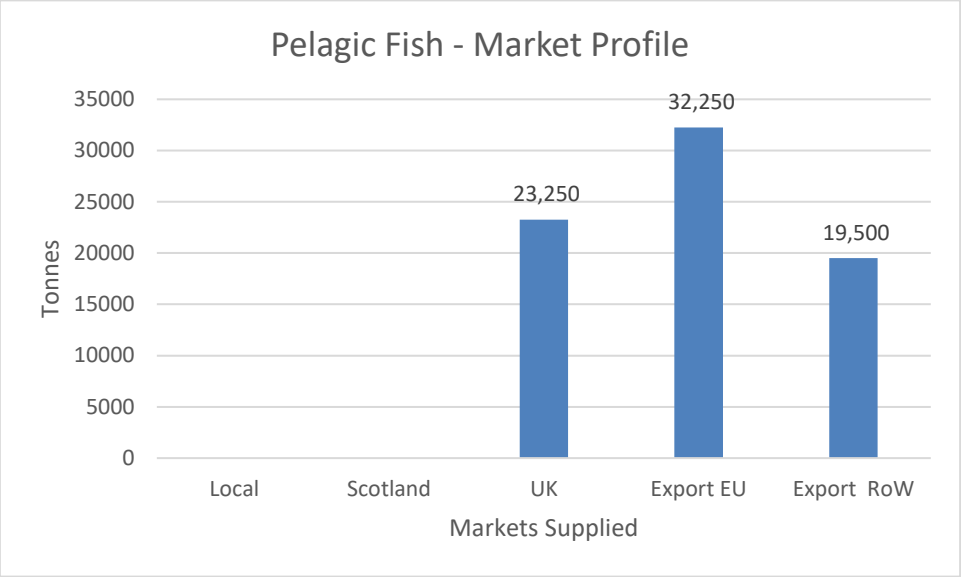
The tables above indicate that whitefish processors based in North East Scotland mainly supply EU and UK markets. Over 17,000 tons of processed whitefish and destined for the EU with almost 15,000 tons destined for the UK market.

It is perhaps surprising that less than 1,000 tonnes per annum are sold to local outlets, with just over 4,300 tonnes sold to businesses in Scotland, mainly wholesalers based in Glasgow.

The tables demonstrate the importance of the European market to the whitefish processing sector with 24 processors exporting to the EU. This underlines the reliance of the sector on EU customers and the risks to the sector if this trade is disrupted, or if significant trade tariffs are introduced.

38 businesses sell products to UK customers, substantially more than export to the EU although the tonnages are significantly less.

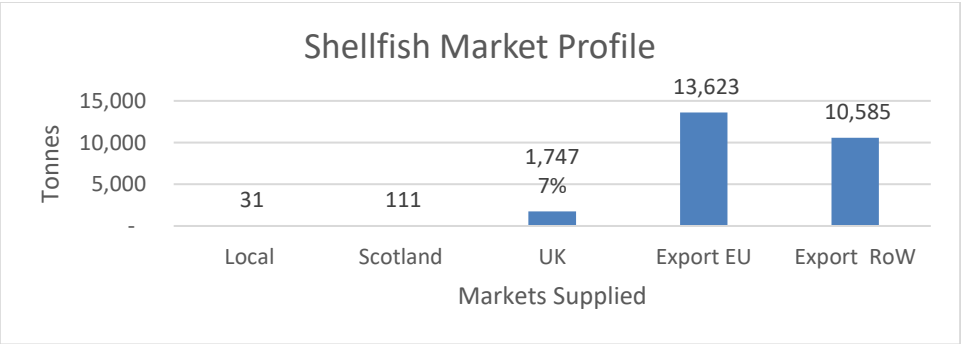
Pelagic Fish.



The 4 pelagic processors (3 large-scale) export over 32,000 tonnes of processed pelagic fish to customers in the European Union with over 19,000 tons exported to customers in the rest of the world.

Exports to the European Union represent the largest market for pelagic fish processed in North East Scotland. However, the UK market is also important with over 23,000 tons destined for customers in the UK.

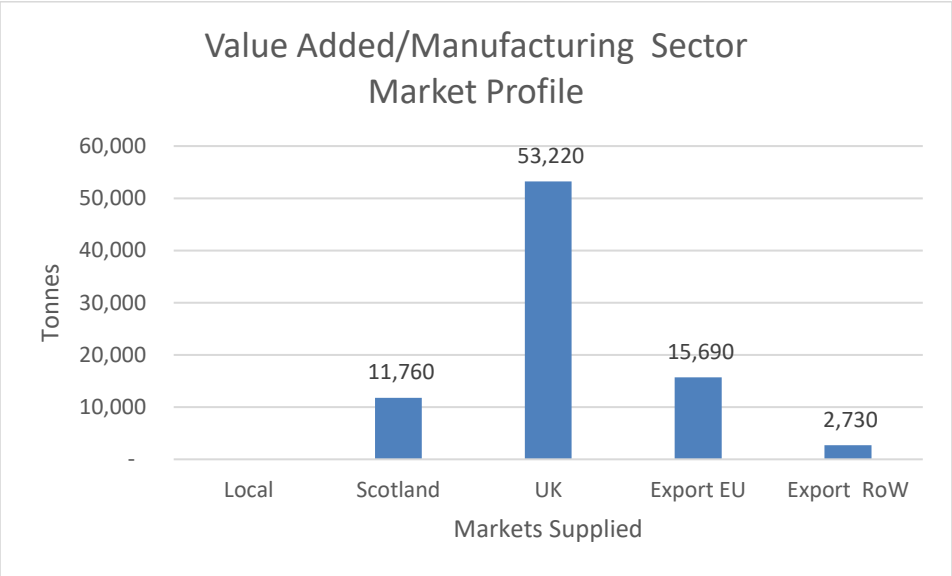
Shellfish.



Shellfish processed in North East Scotland are primarily destined for the export market, with only 1,700 tonnes sent to customers in the UK.

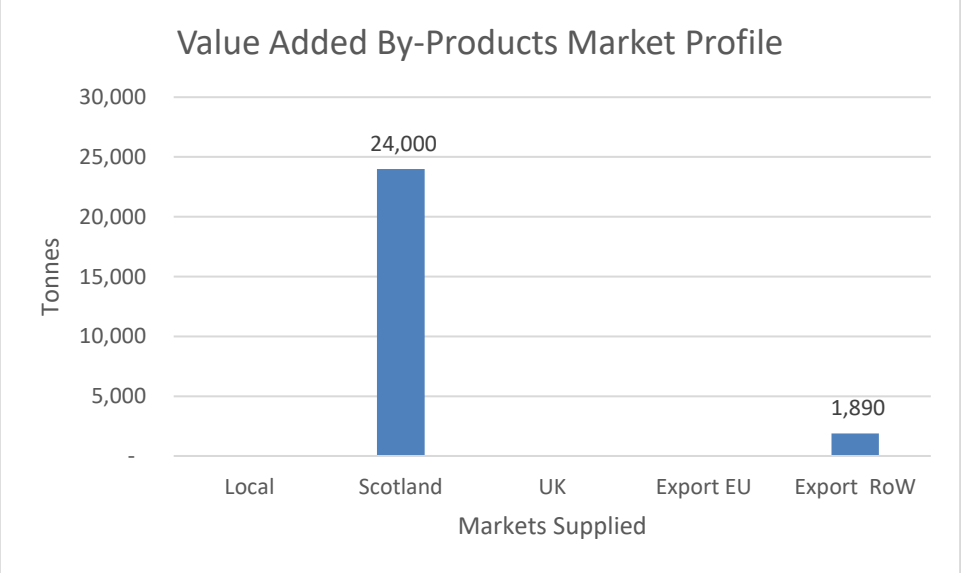
The largest volume of products, almost 13,000 tonnes is exported to the EU, with over 10,000 tonnes exported to customers in the rest of the world.

Value Added / Manufacturing.



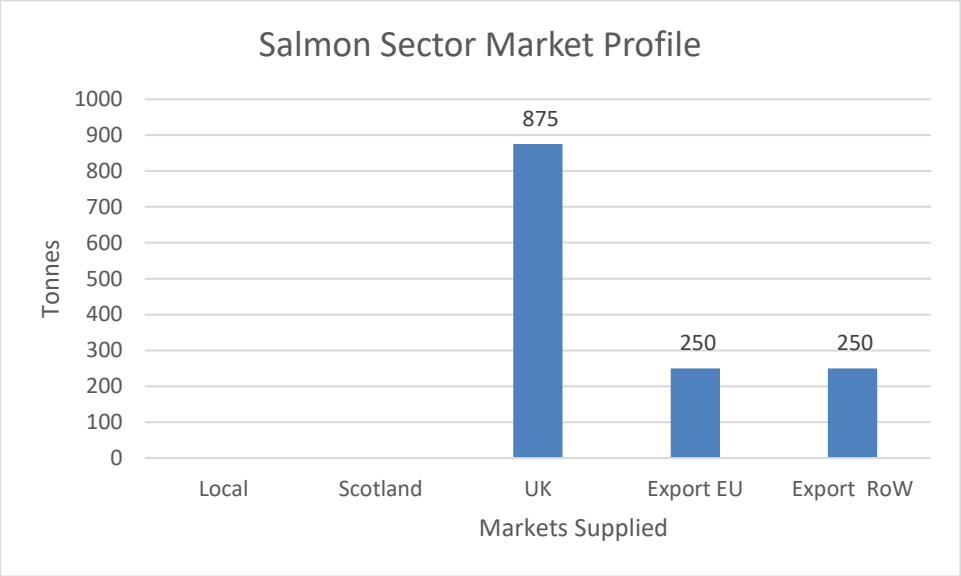
78% of value-added manufactured products produced in North East Scotland are sold into the UK market, with 19% sold into the European market, and 3% into the rest of the world.

Value Added – By Products.



Value added by-products are primarily sold into the Scottish aquaculture and agricultural sectors, although dried fish products are exported to Africa, principally Nigeria.

Salmon.

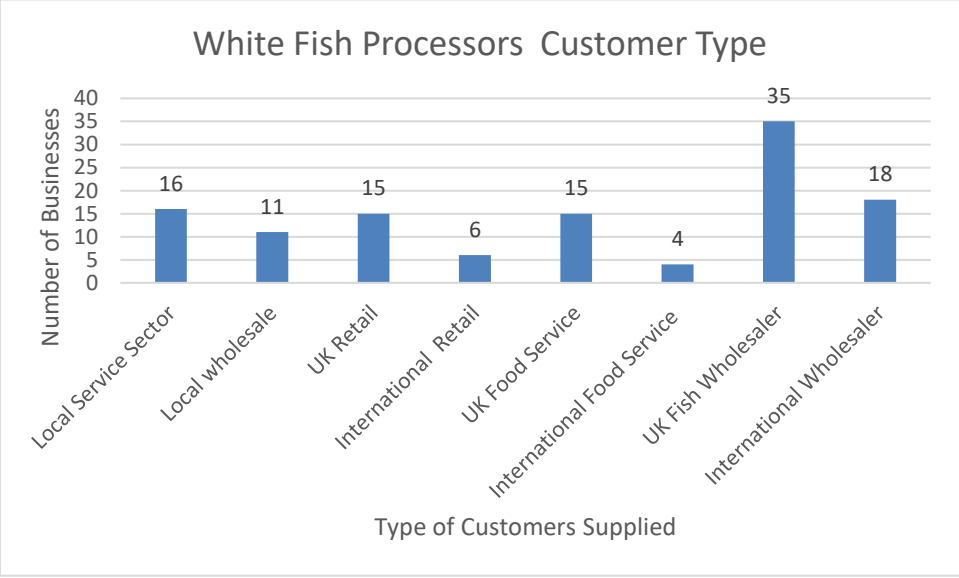


Outputs from salmon processing in North East Scotland are mainly destined for the UK market, although products are also sold to export outlets in the EU and rest of the world.

5.7 Results from the Survey - Customer Type.

Whitefish.

The customer types supplied by whitefish processors in the survey are presented the table below: –

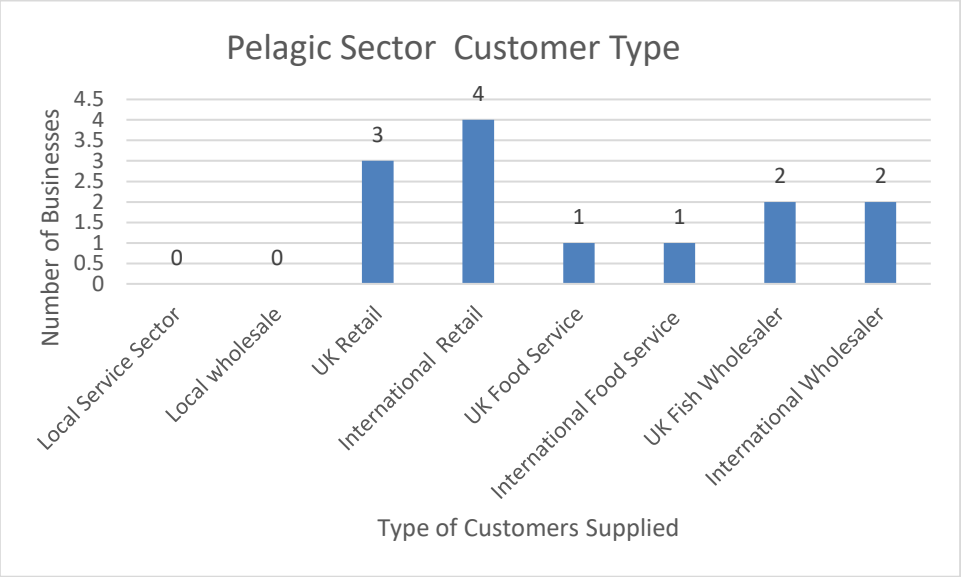


The table demonstrates the importance of the UK wholesale and international wholesale outlets for whitefish processors based in North East Scotland with a relative underrepresentation in the UK retail, UK food service, international retail and international foodservice sectors highlighted. These could provide areas of future market opportunities for whitefish businesses based in North East Scotland

Pelagic Fish

The main market for Scottish pelagic fish is the international wholesale sector with 51% of the volume of sales. Markets are worldwide but particularly in the EU, Eastern Europe and the Far East.

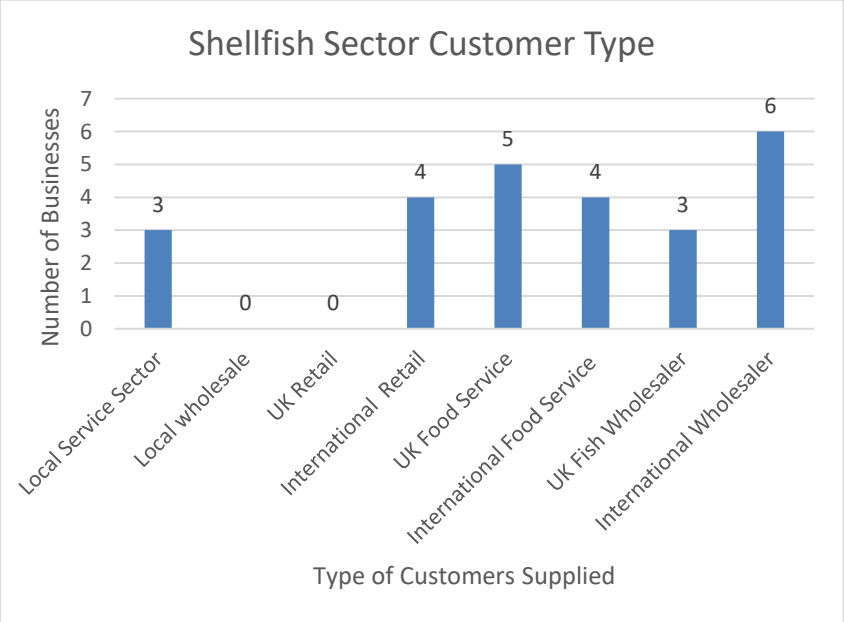
However, pelagic processors based in North East Scotland also supply UK wholesalers (14% of volume), UK retailers (12% of volume) and secondary processors (3% of volume). International retailers (12% of volume) are also supplied along with international food service companies (8% of volume).



Shellfish

In the shellfish sector most processors supply the bulk of their products to the international wholesale market. Relatively little in terms of volume is supplied to the UK market.

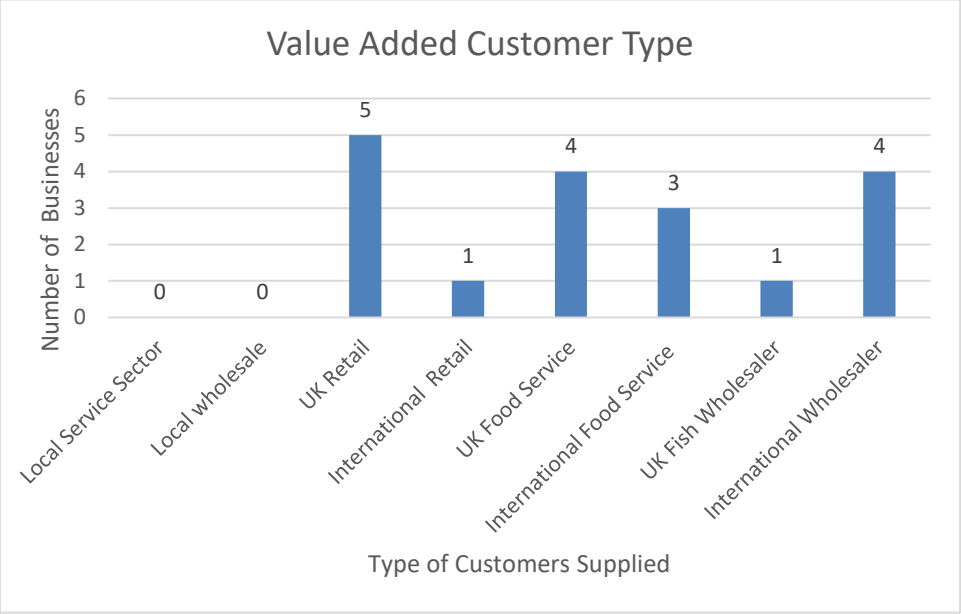
A couple of the larger processors supply international retail businesses directly with 1 also supplying the international food service sector.



Value Adding – Manufacturing

The UK multiple retail sector is the largest market for value-added manufactured products processed in North East Scotland with some businesses supplying this sector exclusively.

However, North East Scotland manufactured fish-based products also appear in the UK food service sector in the export retail sector, and in the UK and export wholesale market.



Value Adding – By-Products

In regard to the market for value added by-products processed in North East Scotland the sector is dominated by Pelagia which adds value to demersal, pelagic, salmon and blue whiting, selling its products to aquaculture, pet food, agriculture and fish oil businesses.

The other smaller scale value adders sell their products exclusively into the international wholesale market with the destination of the products being Africa, particularly Nigeria.

5.8 Results from the Survey - Customer Continuity.

Customer continuity and stability is strong in the seafood industry in North East Scotland. This is true of all sectors and all sizes of business.

Over 85% of businesses in the whitefish sector have retained the same customers for over 3 years.

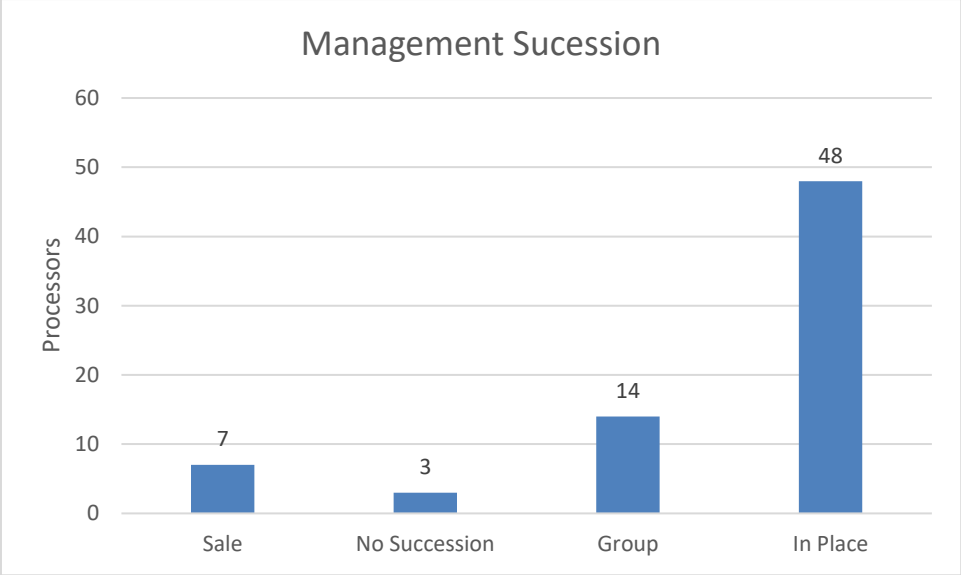
The survey suggests that accessing new customers is a relatively low priority for many whitefish processors. They expressed reluctance in developing new customers, particularly in the export market, because of the risk involved in late payment and non-payment. The preference of whitefish customers particularly in the current climate of uncertainty is to develop increased sales to existing customers.

This pattern is replicated in all other sectors.

5.9 Results from the Survey - Management/Succession.

As part of the interview processors were asked if they had a management succession plan in place

The table below indicates that succession is not a major issue for most fish and shellfish processors based in North East Scotland.



Only 3 businesses indicated they had no succession plan in place although there are 7 businesses which are currently formally or informally for sale. 5 of these businesses are involved in whitefish processing and although they are available for sale, there is no guarantee that they will be acquired.

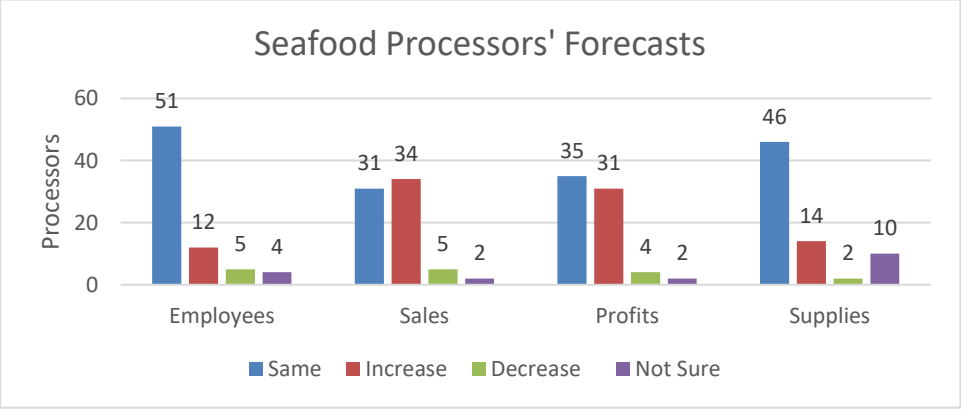
This creates an issue in terms of retaining existing processing capacity, particularly in the white fish sector, never mind increasing this capacity to cope with increased future whitefish landings. Some, although by no means all, of these businesses which are for sale are generating very small margins which make their attractiveness to purchasers relatively low. These businesses support a total of 168 jobs, 139 in the whitefish sector.

14 businesses belong to groups, with management teams in place. Succession will be determined by the group.

5.10 Future Expectations.

To determine how confident processors were in relation to the future of the seafood sector in the Scotland they were asked to forecast sales, profits, supplies and employees over the next 12 months. Processors were asked to indicate if they felt these items will remain the same, increase, decrease or were they unsure.

The table below indicates the responses from processors.



Processors in all sectors remain confident in the future with 90% of whitefish processors indicating that the expected turnover and profits to remain the same or increase in the next year. This of course is dependent upon satisfactory agreements being reached in the Brexit negotiations preventing significant tariffs being introduced, and delays being experienced at the channel ports.

In the pelagic fish sector, all the processors indicated that they expected sales and profits to increase in the next 12 months.

Confidence is less evident in the shellfish sector with only 3 processors indicating that they expected increases in sales next year. One processor projected reduced sales next year, with 5 processors indicating that they expected sales to remain the same.

Processors in the shellfish sector are concerned about continuing trading difficulties with China and the impact of tariffs on exports to Europe. One processor believes that tariffs could make Scottish langoustine up to 10% more expensive. This would have a detrimental impact particularly at a time when wages and overheads, especially power, water and transport, are increasing significantly.

In the value-added sector, 7 of the 9 businesses expected increases in sales and profits in the next 12 months with 2 processors indicating that they expected sales and profits to remain the same.

The processors in the salmon sector expect sales and profits to increase in the next year.

5.11 Performance Issues.

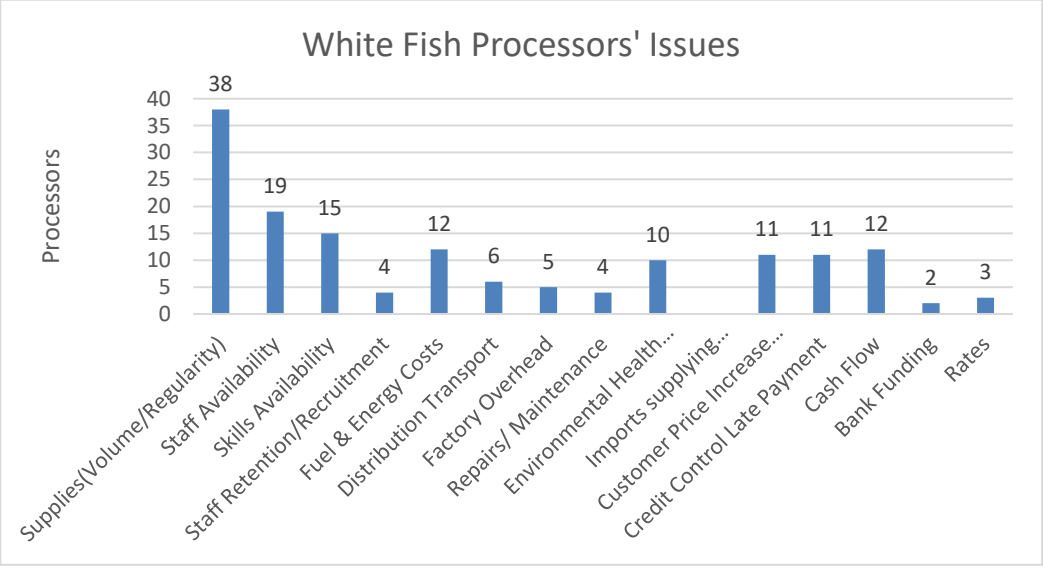
In order to ascertain the main performance challenges facing the seafood industry in North East Scotland processors were asked to identify the significant performance issues which affect the efficiency and profitability of their businesses.

16 performance issues were presented to processors and they were asked which of these they considered had the greatest impact upon their businesses.

The issues related to supplies (volume/regularity), staff (availability, skilled availability, retention/recruitment and training) fuel & energy costs, distribution/transport, factory overheads, repairs & maintenance, environmental health compliance, imports supplying customers direct, customer price increase resistance, credit (late payment), cash flow, bank funding and business rates. Processors were asked to indicate only which of these issues were of significant importance to their business.

White Fish Sector.

In the whitefish sector, as indicated in the table below, almost half the number of processors identified issues in terms of supplies particularly in relation to regularity. This has been the main controlling performance issue for whitefish processors for many years.



Landings at the main port, Peterhead, can be very variable depending upon weather, season and availability of quota. This makes it extremely difficult for whitefish processors to plan ahead. Indeed, at times of poor weather when landings are very low and prices can be very high, processing staff have often to be sent home. Conversely, at periods when fish are plentiful and prices more competitive, processors struggle to have the capacity to accommodate increased throughput.

Over the years, a number of schemes have been introduced to assist processors plan more effectively by providing them with forward landing information. Usage of the latter has been increasing but the provision of landing information can only allow processors to plan in the relatively short-term (hours or days rather than weeks or months). These schemes should be fully supported but significantly more collaboration between fishermen and processors is required if peaks and troughs in landings which serve the interests of neither group are to be minimised.

19 whitefish processors identified significant issues in terms of staff availability, with 15 businesses identifying skills availability as significant issues. For many years, the industry has struggled to attract local recruits notwithstanding the sterling efforts made by Scottish Seafood Association to improve the attractiveness of fish processing as a career and organising training and induction courses. Collaboration in attracting new entrants to the industry and providing career paths in whitefish processing will be crucial to the future proofing the sector in North East Scotland.

The new proposed immigration rules will increase this issue and it is essential that as much as possible be done to allow migrant workers to continue to work in fish processing businesses. Without this migrant labour, processors in all sectors will find it very difficult to build capacity for the future, and indeed retain existing processing capacity.

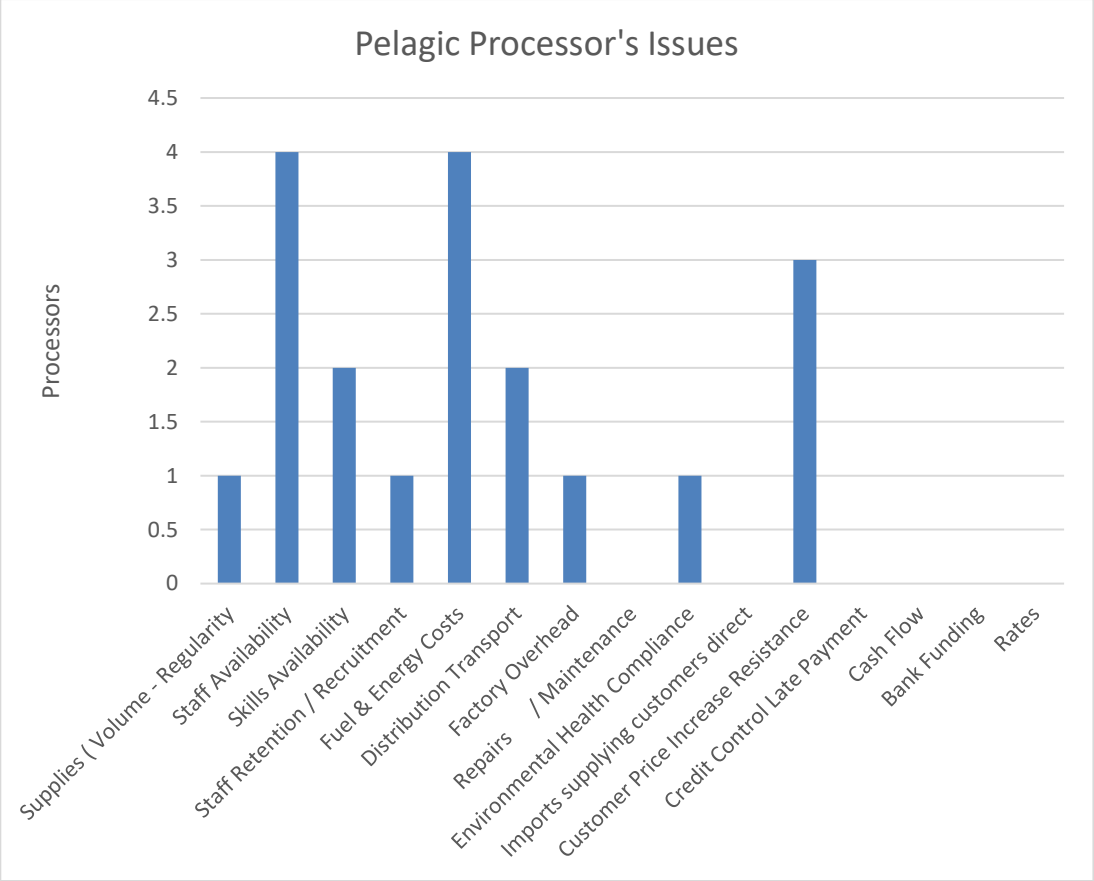
Cashflow was identified as being a significant issue for over 10 whitefish processors as was credit control/late payment. White fish processors have to pay for their fish on a weekly basis and each processor has to have a bond, equivalent to a week's purchases of fish, at ports from which they source raw material. However, many whitefish processors are supplying customers in France and Spain who often take 30 days or up to 45 days of credit. This applies significant pressure on the cash resources of processors.

As indicated elsewhere in this report, margins generated by many whitefish processors are between zero and 3%. This margin is insufficient to allow whitefish processors to be able to provide credit to customers with many having to resort to invoice discounting which further restricts margins.

More than 10 whitefish processors identified customer price resistance as a significant performance issue. Processors supplying outlets in continental Europe are finding it increasingly difficult to continue to meet the price aspirations of customers when fish are priced highly on the auction floor. Over the past few years although landings have increased, particularly at Peterhead, prices have remained high. Whilst this generates significant margins for fishermen, it reduces opportunities for processors to generate adequate margins and promote their sustainability.

Pelagic Sector.

In the pelagic sector, by far the most critical performance issues are related to staff availability and skills availability. This was identified by 1 processor as a 'massive' issue for the pelagic sector in North East Scotland going forward. The pelagic sector employs 140 seasonal staff and is difficult to see where this number of individuals can be found if migrant workers are excluded under the new proposed migrant worker legislation.

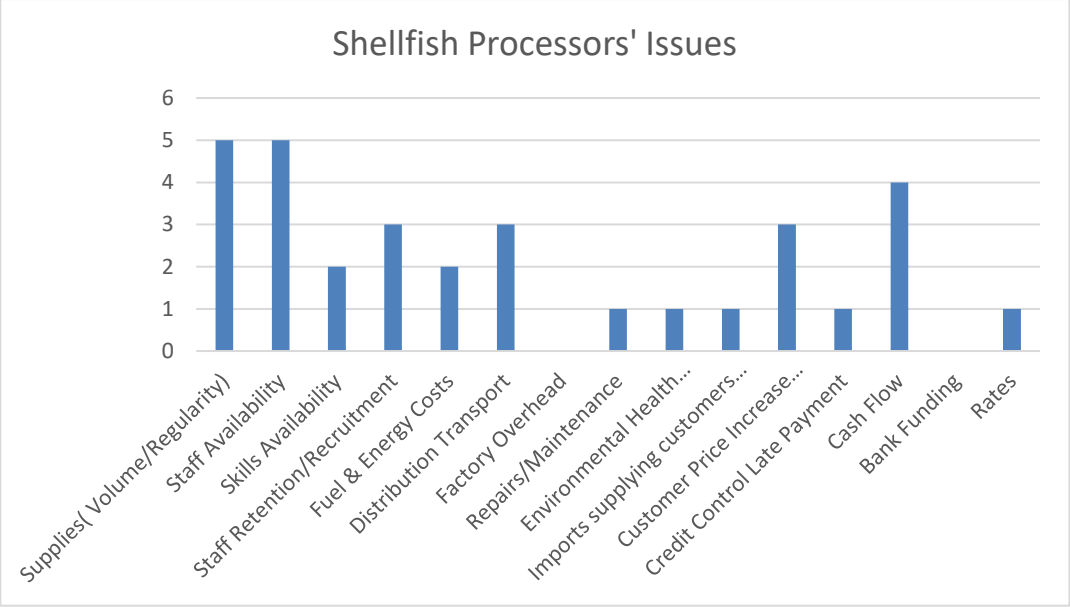


Energy and fuel costs were also identified by all pelagic processors as significant performance issues, with factory overheads also included as significant issues.

Customer price resistance was cited by pelagic processors as a key issue with automation being used to minimise overall processing costs.

Shellfish Sector.

In the shellfish sector regularity of supplies and staff were also identified as the main issues, particularly with regard to the performance of the larger businesses. Shellfish tend to be caught in specific seasons and when the weather allows fishermen to catch them. On the West Coast of Scotland in particular supplies can be sporadic even in the main catching season (August).

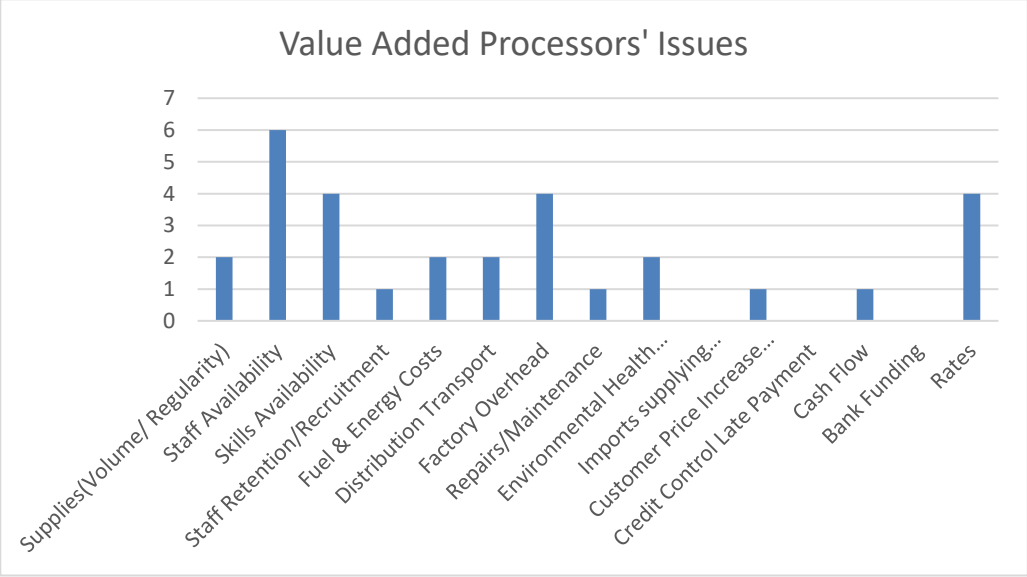


Most shellfish processors, particularly those of a larger scale address this issue by attempting to secure raw material supplies from throughout the UK. Over the past 3 years these processors have also acquired fishing vessels or taken shares in/provided loans for fishing vessels in order to help secure the raw material supply. This vertical integration is progressing apace and the business model could be applied in other sectors e.g. whitefish processing.

Securing and retaining skilled staff is also a significant issue for shellfish processors. This issue will increase following the proposed changes to immigration.

Value Added Sector.

In the value-added sector staff availability as well as staff recruitment and staff retention are by far the most important issues for almost all the businesses, in particular those involved in adding value by manufacturing fish ready meals.



These businesses employ large numbers of migrant workers who can, in some cases, outnumber local workers by a factor of 2-3 to 1. There are over 1,500 staff employed by value adding food manufacturers, of which 1,025 are migrants. In addition, seasonal staff can also be employed in the run-up to Christmas with one processor employing 50 seasonal staff at that time. Availability and regularity of supplies are the

main issues for value adding by-products processors with environmental health compliance and energy costs also significant.

6. Review of Literature and Reports.

As part of this strategic review, there is a requirement identified in The ITQ for an urgent need to collate, interpret and supplement the various strands of work currently being undertaken by organisations including Marine Scotland, Seafish, Seafood Scotland, the Scottish Fishermen's Federation and academic institutions. To deliver work, we have considered the following reports and highlight what we see as being key issues raised and recommendations made.

6.1 Governing UK Fisheries after Brexit - Lessons from Iceland, Norway and the Faroe Islands. 2019. (University of the West of Scotland).

The focus of the document is fisheries management and how this could be implemented post-Brexit. The report examines how independent coastal states have addressed the issues of fisheries management with comparison of alternative strategies such as TAC (Norway) and Individual Transferable Quota (ITQ Iceland). The major part of discussion is on quota ownership, management and regulatory measures. The relevance of scientific advice is considered.

There is a presumption that a post-Brexit environment will provide opportunities for increased landings. Potential clashes between the four UK home nations are highlighted in relation to management including quota allocation.

There are 15 recommendations arising from five themes which are:

- Legislating key principles.
- Establishing effective institutions and governance frameworks.
- Ensuring the independence of scientific advice.
- Stakeholder engagement.
- Ensuring benefits for local communities.

Two recommendations of particular interest are:

Recommendation 13: The creation of a real-time monitoring system, similar to Iceland's, that provides open, on-line access to quota allocations and tonnage landed.

Recommendation 15. A commitment by government at the UK and devolved levels to ensure that as much extra economic activity that is generated as a result of leaving the CFP stays within fishing dependent communities as possible.

None of the 15 recommendations have specific mention of supply chain and processing with only recommendation 15 referring to retaining extra economic activity in dependent communities.

6.2 A Green Future: Our 25 Year Plan to Improve the Environment. 2018. (UK Government).

This is a wide-ranging document with the principal reference to the wider fisheries sector being:

"Chapter 5: Securing Clean, Healthy, Productive and Biologically Diverse Seas and Oceans."

The stated intents include:

- "Implementation of a sustainable fisheries policy as the UK leaves the Common Fisheries Policy".

- "Achieve good environmental status of UK seas while allowing marine industries to thrive, and complete the ecologically coherent network of well-managed marine protected areas (MPAs)".

The document contains statements of intent and aspirations but nothing concrete in terms of proposals. In relation to sea fisheries, it is entirely focused upon fisheries management with no acknowledgement of the wider sector and the importance of the wider supply chain including shore-based processing.

6.3 Future of Fisheries Management in Scotland: National Discussion Paper - 2019. (Scottish Government).

This document is consultative but talks explicitly about increasing landings by Scottish vessels to Scotland by a mandated system linked to quota that will set minimum catch percentages for Scottish landings. Pelagics seem particularly targeted. There is an aspiration to raise a seafood levy that remains in Scotland. More note of intentions to support the onshore sector and to increase trade opportunities especially export.

Financial support for the sector post EMFF is noted but with no specific information other than future funding schemes will require applicants to comply with the Fair Work Strategy including paying the living wage. There is also a suggestion that loans rather than grants could be a route to be followed.

There are six stakeholder groups noted as guiding policy but none are processing focused.

The document indicates that a future strategy *"will also support and align to the national food and drink strategy, Ambition 2030, which seeks to grow the value of Scotland's food and drink sector – including the seafood sector – to £30 billion by the year 2030. Scottish Seafood continues to increase in global popularity".*

"In particular the focus will concentrate on developing the onshore processing sector and enhancing our efforts to promote and market Scottish seafood across domestic and international markets".

The discussion paper notes that in 2017, more than half the tonnage and value of mackerel caught by Scottish vessels is landed abroad. It is suggested that Scottish pelagic processing plants struggle to access sufficient tonnages of pelagic stocks to ensure they remain economically viable. The paper states that *"we are open to considering whether capacity limitations are relevant to the management of fishing activity in the pelagic sector. We will also consider the creation and sale of additional licences for the pelagic sector in line with additional opportunities. These licences will be supported by accompanying quota".*

The paper indicates that for demersal fish and shellfish, most is landed in Scotland, with small quantities landed in the rest of the UK. It is stated that *"Landing into Scottish ports brings local economic benefits, helps maintain the viability of Scottish ports and safeguards jobs in Scotland's fish processing factories".*

It is intended to *"increase the economic benefits to Scotland's fishing communities by amending the current economic link licensing condition (currently the same economic link criteria are used throughout the UK). The amended economic link condition will mean that Scottish fishing vessels must either:*

• Land at least 55% of catches into Scottish ports, or

• Provide quota gifts (similar to the system currently in place in which gifted quota is distributed by the Scottish Government to vessels registered in Scotland)".

"This proposal will provide a more equitable distribution of the economic benefits of an important Scottish asset. We believe that the new economic link licence condition will provide economic gains for coastal communities and help secure employment in fish processing plants across Scotland".

6.4 Changing Tides - Seafood Scotland.

This is the seafood sector response to Ambition 2030 and sets how the Scottish seafood sector can make a significant contribution to the vision outlined in Ambition 2030. Preparation of the action plan reflects widespread consultation, with significant contributions from private businesses, Associations, Harbours, Academic Institutions. The intentions appear to be that seafood industry specific measures in Changing Tides are the detailed response to delivering the industry's "part" in Ambition 2030 growth targets.

Changing Tides states that irrespective of the nature of the Brexit outcome, these actions are necessary to move the industry forward. There will be four key themes for seafood sector development and these are:

- Market Development and Brand
- Investment and Innovation.
- People and skills.
- Supply Chain.

The action plan sees a need for "industry-wide collaboration and public-private alignment. All parts of the industry and government and other stakeholders need to work together to deliver our ambitions, with Seafood Scotland playing a leadership role in driving collaboration and progress".

"Alongside the actions in this plan, the UK Government's negotiations around Brexit and fish quotas in UK waters must secure the Scottish seafood industry's access to raw materials - a prerequisite for future success. Without access to sufficient raw materials, neither the catching sector nor the processing sector in Scotland can thrive".

There are 18 Action Points, and reviewing these in the context of this strategy review, the most pertinent are:

ACTION 1: SECURE MARKETING SUPPORT FOR HOME AND INTERNATIONAL MARKETS.

By 2030, a Scottish seafood marketing organisation sufficiently funded and adaptable to respond to market forces and support the brand at home and across the globe will be in place. There will be a strong Scottish brand associated in our three main markets (Scotland, the rest of the UK, and international) with provenance, quality and responsibility. The brand is supported by ongoing marketing activity

ACTION 5: BUILD THE INDUSTRY'S ABILITY TO GENERATE INVESTMENT.

Businesses are thought to lack access to finance, stifling their ability to invest or grow, and there is a need to improve the seafood sector's access to finance along the full supply chain. A priority is for businesses to increase their expertise in working with financial institutions and developing propositions to encourage investment. The creation of an investment toolkit that demonstrates how businesses can attract inward investment and present themselves to investors could support businesses across the supply chain. There is scope for the industry to work with the professional services sector here, as well as with enterprise agencies.

ACTION 8: DESIGN NEW FUNDING SUPPORT FOR INNOVATION AND GROWTH POST-BREXIT

In planning for Brexit and beyond, the UK and Scottish governments must put in place successor funding to the European Maritime and Fisheries Fund (EMFF), including investment for ports and infrastructure. Brexit will cut off current opportunities under the fund, and there should be equivalent support for innovation and capacity building long-term. It is suggested that support should be available to businesses of all sizes (including large enterprises which are excluded from the current EMFF scheme).

ACTION 16: MAXIMISE THE VALUE IN WASTE

Zero Waste Scotland, Scottish Government and other sector stakeholders have identified good opportunities to make better use of waste in the sector. Bio-based waste and by-products from fish and shellfish could create new income streams for waste producers, create jobs, and boost the circular economy in Scotland.

ACTION 17: CAPACITY WITHIN THE SEAFOOD PROCESSING SECTOR (POST-BREXIT)

Outcomes of Brexit remain uncertain but there is a potential scenario where the fish quota allocated to Scottish vessels could increase and result in a significant increase in fish landings. To fully capitalise on the increased landings there is a requirement for a robust Scottish processing sector and supporting infrastructure to maintain a presence of both primary and secondary processing that maximises the added value return to the Scottish sector. Currently it is unclear if the Scottish processing sector could cope with a significant increase in Scottish landings.

Conclusions on Document Review.

The reports cited above are the key sector initiatives and discussions to have emerged in recent years, and are an integral part of the strategy of both the UK Government and Scottish Government to build a strong and sustainable sea fisheries sector in any post-Brexit scenario.

There is considerable emphasis upon fisheries management (including quota management) and an acknowledgement of intense market and brand development required to support large scale growth in the supply of Scottish seafood.

However, there are fewer clear statements as to how growth in processing capacity might be achieved, with a generalisation that if support measures on finance, management skills, labour and skills enhancement are put in place, investment will follow.

7. Processing Sector - Investment Willingness and Capacity.

7.1 Background.

The review of literature and reports, shows widespread encouragement from Government, Seafood Scotland, and other fisheries support organisations, for the creation of a business environment that encourages capital investment in the processing sector at a level to support maximum value adding in Scotland from anticipated uplifts in landings.

The Scottish Government has stated ambitions to develop the onshore processing sector as part of proposals within Ambition 2030 for the Scottish food industry in general, and to secure a greater percentage of landing by Scottish vessels into Scottish ports along with additional landings subject to quota approvals[7]. Depending upon the outcome of Brexit trade negotiations between the UK and Europe, there is anticipation that the UK and Scotland specifically, could see increased control over UK fishing waters, again leading to an increase in landings.

Seafood Scotland has ambitions to support such increased landings, and to secure investment within the processing sector, with a particular emphasis upon automation. Seafood Scotland sees a requirement for:

"a robust Scottish processing sector and supporting infrastructure to maintain a presence of both primary and secondary processing that maximises the added value return to the Scottish sector. Currently it is unclear if the Scottish processing sector could cope with a significant increase in Scottish landings".

Specific actions are seen as being required to: -

"Build the industry's ability to generate investment".
"Design new funding support for innovation and growth post-brexit".
"Develop a leadership programme for the seafood industry".
"Maximise the value in waste".

From the review, there is an underlying assumption in literature that by identifying processing sector needs, creating appropriate support structures, whether physical or financial, and creating an industry wide consensus to support growth, this will realise substantial capital investment from businesses.

However, should that assumption be challenged at an early stage? It is the willingness and capacity of privately owned businesses to invest, that will determine the scale, scope and speed of sector development. If evidence suggested that the processing sector's "appetite" for investment falls short of that required to deliver meaningful capacity growth and innovation, then the strategy to encourage and deliver growth may require to be reconsidered.

Trends within the processing sector in North East Scotland demonstrate considerable rationalisation and capacity reductions over the last three decades, with Aberdeen being impacted the greatest, during a period of downsizing of the Aberdeen Fish Market during the 1990's, and its ultimate closure in 2007.

Since a property demand study was completed in 2014, a further 11 businesses (12% of all identified processing businesses at the time) have ceased trading mainly as owners reached retiral age and closed the doors. Most businesses were small, and the overall impact on capacity was insignificant. However, each did represent a buyer of fish at markets, and a user of fisheries infrastructure support services. There is inevitably a cumulative impact that results from multiple businesses leaving the processing sector.

If this trend was to continue, and with few new entrants to the sector during the last five years, it is highly likely there would be a continually reducing number of businesses willing and capable of undertaking capital investment with a long-term payback.

[7] Future of Fisheries Management in Scotland: National Discussion Paper.

The capacity of any business to invest, is also determined by availability of capital, either retained within the business, or from additional funds secured from investors and commercial lending. Businesses that have retained capital, and have no borrowing or limited existing borrowing, would be in the stronger position to support capital investment.

7.2 Methodology.

In developing our methodology, two key factors to assess the willingness and capacity of processing businesses to undertake capital investment were identified.

Succession Planning. Did current ownership of businesses indicate shareholders / business principals had a succession policy in place to ensure business continuity in the long term that would encourage long term investment and support servicing of any associated borrowing?

Financial Capacity. Did trends in financial performance of processing businesses and their current financial strength, indicate retention of reserves to fund investment? If businesses were retaining capital, was it possible to quantify investment capacity across the sector?

7.3 Information Obtained.

The methodology firstly produced a subjective view based upon publicly available information at Companies House for all identified North East Scotland processing businesses trading as limited companies. No similar information is publicly available for businesses trading as partnerships and sole traders, but some limited information was obtained.

- Information was analysed for 53 businesses, representing 83% of the total identified processing businesses in North East Scotland, between them employing approximately 3,800 FTE's.
- The number and age of owners of each business was obtained, looking for indications of succession by way of shareholder / directors or business partners who could be considered as the next generation of business managers. Where companies were part of a group structure the ultimate holding company was analysed.
- Information was obtained for three years of balance sheets, identifying the value of shareholders' funds (share capital and retained profit), and movement from the previous year.
- From balance sheet information and notes available, levels of indebtedness by way of bank overdraft, bank loans, invoice discounting facilities, and asset finance were established.

Methods of disclosure of financial information ensures that the financial position and performance of individual businesses cannot be identified. It must also be stressed that the financial reviews undertaken are solely to understand investment willingness and capacity within the processing sector.

They are not and must not be construed as an assessment of the financial strength of businesses within the processing sector.

Sector and Location Splits of the businesses assessed is set out in the following table.

Category		**Location**	
White Fish	38	Aberdeen	19
Pelagic	3	Peterhead	21
Shellfish	5	Fraserburgh	13
Value Adders	7		
Totals	**53**		**53**

7.4 Subsequent Validation.

Interviews with processors by way of questionnaire included specific questions in relation to business succession and investment intentions, and from responses, desk research was updated, thus producing the most objective view possible of succession planning.

7.5 Succession Planning Within Processing Business.

Businesses were graded from 1 to 4, with 4 being considered to be the least likely to undertake capital investment, based upon the following criteria.

Average Age of Shareholders/Owners	Definition	Investment Potential
Age under 50	Businesses with succession policy in place through the inclusion of "next generation", part of a stable group, or where the age of owners allowed time to formulate a succession policy.	1 - Good Potential.
Age 50 - 55	Businesses with no obvious succession policy by way of ownership, and which would need to consider addressing the issue within the medium to long term.	2 - Some Potential.
Age 55 - 60	Businesses with no obvious succession policy by way of ownership, and which need to consider addressing the issue within the short to medium term.	3 - Limited potential to invest.
Age 60+	Businesses with no clear succession policy by way of ownership and which could be considered time limited in devising a succession strategy.	4 - Very unlikely to consider investment.

7.6 Investment Capacity.

Investment capacity is the ability of a business to support capital projects or fund increases in working capital from its own liquid resources, or by accessing third party borrowing from a bank or other lender. A subjective view was made on investment capacity by looking at gearing within businesses. Gearing is the ratio of external debt due to banks and financial institutions, relative to the value of owners' capital including share capital and retained reserves. A business with low or zero gearing could be expected to secure external investment capital more readily than would be the case where it had high existing debt and / or minimal commitment from its owners.

Businesses were graded from 1 to 4, with 4 being considered to be the least likely to undertake capital investment, based upon the following criteria.

Financial Capacity to Invest	Definition	Investment Capacity
Gearing 0%	Businesses with no external borrowing and cash reserves.	1 - Good
Gearing 0% - 50%	Businesses with limited existing borrowing but still capable of supporting some capital investment.	2 - Some
Age 50% - 75%	Businesses with significant external borrowing which would restrict investment capability.	3 - Little
Gearing 75% +	Businesses with significant external borrowing and little or no scope to increase to fund capital investment.	4 - Very little or none

7.7 The Investment Matrix.

Having assessed these 53 businesses for their investment potential and their investment capacity, results were placed within the following matrix using a scale of 1 to 4 for each axis.

Total North East Processors

Finance				
	7	1	2	1
	2	1	2	1
	4	1	1	1
	17	6	4	2
		Succession		

Total Processors	53	100%
Succession planned and good finance	27	51%
Succession or finance weak	9	17%
Succession AND finance weak	13	25%
No succession / finance poor	4	7%

Findings can be summarised as follows:

- Around 27 businesses (51%) would be in a position to deliver capital investment, with both succession and finance in a healthy position.
- Nine businesses (17%) showed a weakness in either succession or finance, but had the possibility of addressing that weakness through some consideration of succession, or by increasing their net worth.
- However, 13 businesses (25%) showed weakness in both succession and finance, restricting likelihood of undertaking capital investment.
- It is considered that 4 businesses (7%) have limited if any capability or capacity, to deliver capital investment.

Within the total of 53 businesses analysed, those operating in the pelagic, shellfish and added value sectors showed the highest probability of delivering capital investment, and indeed investment of some considerable scale. Given the small number of businesses in these sectors, we have decided not to include detailed information for those sectors as individual businesses may be readily identifiable.

Investment Matrix - The White Fish Sector.

For white fish processing businesses however, the number of businesses is such that we can include results. It is evident from the matrix overleaf that the white fish sector is in a weaker position overall with respect to capability and capacity to support capital investment compared to the processing sector as a whole in North East Scotland.

WHITE FISH PROCESSORS

Finance				
	5	1	2	1
	2	1	1	1
	1	1	0	1
	10	5	4	2
		Succession		

White Fish Processors	38	100%

Succession planned and good finance	16	42%
Succession or finance weak	8	21%
Succession AND finance weak	10	26%
No succession / finance poor	4	11%

- Only 16 businesses (42%) would be in a strong position to consider investment.
- A further 8 businesses (21%) were likely to support investment if a weakness in succession or finance was addressed.
- A total of 14 businesses (37%) were considered have limited if any capacity to deliver capital investment. That position was determined by defining capacity as represented by cash reserves and available borrowing ability to take gearing (the ratio of external borrowing to shareholders funds) to a level of 75%.
- However, even where gearing is low investment capability may not be substantial. Of the 24 white fish processors considered to have investment capacity shown in the matrix above, 14 are assessed with capacity under £250,000, with four of those under £100,000 capacity.
- There are only a very few white fish processing businesses that are considered able to fund substantial capital investment in excess of £1m.
- Over a three-year period, the majority of businesses have increased their net worth during this period. From a total of 38 processors, 27 have increased their net worth. However, although the average increase in net worth for these 27 businesses is an encouraging £436,000, the median increase in net worth, being the mid-point by number of processors, is a much lower number at £121,000. This results from two particular businesses having shown a very substantial increase in net worth over the three-year review period.

  While it is encouraging that the majority of businesses are increasing net worth, the lower median increase calls into question the scale of ambition and ability that the majority of processors might have in relation to increasing net worth to support future investment.

  Using the above indicators of investment capacity, it is estimated that businesses in the white fish sector could be in a position to support around £24m of investment, representing an average of £1,077,000 for each business. Again however, figures are dominated by several large businesses. When the top five businesses are excluded from this calculation, the estimated average investment capacity potential drops significantly to £262,000.

  There is wide disparity between the three main processing centres in North East Scotland. While almost all businesses centred on Peterhead and Fraserburgh have increased net worth over the last three years, all of the Aberdeen based white fish processors reviewed have seen their net worth decrease.

7.8 Assessing Overall Investment Capacity in the White Fish Processing Sector.

Using the above indicators of investment capacity, we estimate that businesses overall could be in a position to support around £24m of investment, representing an average of £1,077,000 for each business. Again however, figures are dominated by several large businesses. When the top five businesses are excluded from this calculation, the estimated average investment capacity potential drops to £262,000.

These figures do not seem to us to support expectations that the white fish processing sector is capable of delivering significant, industry wide investment on any great scale. There has been investment undertaken within the sector in recent years, however a detailed analysis for North East Scotland should be undertaken.

During the currency of the recently closed EMFF Grant scheme (2016 – 2019), a total of 50 awards were made to processing businesses in Scotland, however only 18 of those awards were made in North East Scotland, to 14 unique businesses. (Some businesses awarded more than once). Shellfish and value adders dominated the largest awards.

The white fish sector received 12 awards with an average project cost of £626,000, however the median is lower at £491,000. Five awards were for project costs of under £250,000.

7.9 Conclusion.

Based upon desk research with confirmation by face to face interview for the vast majority of sector businesses, we believe that the hoped-for investment capacity and willingness, may be substantially over-estimated. Encouragement to expand capacity is coming from many quarters, particularly with anticipated uplifts in quota for, and landings from Scottish vessels in future years. However, are these projects which are suggested to include premises expansion and automation, actually affordable to the majority, possibly greater majority of processors?

8. Industry and Sectoral Strengths Weaknesses Opportunities Threats (SWOT) Analysis.

An appraisal has been carried out of each seafood sector, and from that the key issues impacting upon the whole processing industry in North East Scotland have been separately considered.

Whitefish Sector.

Strengths.

- Product quality/freshness.
- Proximity to main fish/shellfish landing centres.
- Availability of skilled workforce.
- Long-established and loyal customer base.
- Ability to process all whitefish species.
- Experienced management teams with long-term knowledge and skills.
- Wide customer base in UK and abroad.

Weaknesses.

- Irregularity of supply long-term (quota) and short-term (daily landings).
- Lack of cold storage facilities to help even out peaks and troughs in landings.
- Continuing high prices lead to continuing low margins and restricted investment.
- Cash flow issues due to weekly payment for fish and credit taken by customers.
- Fragmentation and lack of experience in collective action in pursuit of a common goal.
- Lack of knowledge/experience of primary processing in other sectors.
- Lack of confidence in accessing/developing new customers due to credit risk.
- Focus on single species/cuts.
- Dependency on labour including migrant staff.

Opportunities.

- Improve supply regularity through securing enhanced forward landing information.
- Increase direct purchases from fishing vessels to secure raw material supplies.
- Smooth out production peaks and troughs by using cold storage.
- Increase efficiency to productivity through automation.
- Diversify by increasing processing flexibility.
- Increase staff training to facilitate processing flexibility.
- Increase career prospects in white fish processing to attract more local workers.
- Increase influence at government level through supporting Scottish Seafood Association.
- Reduce fragmentation and supply chain disconnect by supporting collaborative projects.
- Increase margins by reducing unit processing costs.
- Increase returns by accessing/developing higher margin customers.
- Capitalise upon opportunities to increase value through promoting a 'Scotland' seafood brand.

Threats.

- Increased regulation in exporting and possible increased delays at Channel ports post Brexit.
- Lack of migrant labour post Brexit.
- Continued high prices for locally landed fish.
- Loss of customers due to price increase resistance.
- Cash flow issues forces closure.
- Bad debts force closure.

Pelagic Sector

Strengths.

- Focus on processing a very small number of species.
- Small number of large scale well-funded processors.
- Proximity to main fishing grounds promotes freshness and quality
- Very efficient supply chain/close working relationship with catchers
- Highly automated processes allowing large catches to be handled quickly.
- Long-term loyal, skilled and experienced workforce.
- Skilled/experienced management teams.
- Long-established customers.
- Reputation for consistently producing quality products.
- Past experience of collaboration.

Weaknesses.

- Processing concentrated over very short specific seasons.
- Quayside processing locations required for automated offloading of catches.
- Lack of space at current processing locations reduces efficiency and restricts expansion opportunities.
- Scottish pelagic processors find it difficult to compete with their Norwegian counterparts who have enjoyed well-funded promotional campaigns partly financed by levy and supported by government. This has created a 'premium' perception for Norwegian pelagic products in prime international markets.
- Scottish pelagic processors are prevented, by the size, from securing capital grant assistance.

Opportunities.

- Extend the pelagic fish landing seasons to process additional volumes of fish.
- Increase processing volumes if legislation forces more of the Scottish pelagic catch to be landed in Scotland.
- Increase the profile and reputation of Scottish pelagic fish in international markets with assistance from Seafish and Scottish Government.
- Develop new high margin premium customers in high-end markets e.g. Japan.
- Develop or participate in a Scottish brand for quality seafoods.
- Relocate some facilities e.g. cold storage from existing quayside sites to free up additional space for production.

Threats.

- Competition from well-funded processors e.g. in Norway.
- Additional Scottish quota of pelagic fish landed out with Scotland.
- Restricted quayside sites hamper production expansion adversely affecting efficiently/productivity.
- Lack of available seasonal labour prevents expansion.
- Failure of any one pelagic processor will significantly affect Scotland's capacity to process the volumes of pelagic fish allocated in the Scottish quota.

Shellfish Sector.

Strengths.

- Relatively small number of mainly large-scale long-established processors.
- High reputation of Scottish shellfish products in international markets.
- Relatively efficient supply chain with catchers landing to specific processors.
- Proximity to main landing centres securing freshness and quality.
- Large numbers of shellfish vessels spread throughout Scotland (and beyond).
- Wide range of shellfish processed for extensive customer base.
- Experienced management teams in shellfish processing businesses.
- Vertical integration has helped to secure raw material supplies.

Weaknesses.

- Significant proportion of shellfish supplied by small-scale widely spread vessels based on the West Coast of Scotland - inefficient and costly to collect material for processing
- Irregularity of supply brought about by seasonality and weather conditions.
- Scottish shellfish prices can be influenced significantly by shellfish prices elsewhere e.g. South America.
- Scottish shellfish are primarily sold in the export market and therefore currency fluctuations can have a significant impact.
- The shellfish sector remains largely dependent upon manual labour e.g. for shucking. It is more difficult to automate these processes.

Opportunities.

- Many non-quota species although there is a need to monitor sustainability.
- Develop opportunities for improved logistics/trip sharing.
- Fully develop opportunities for vertical integration to secure raw material supplies.
- Secure supplies by building/purchasing/offering low interest loans to vessel owners.
- Fully capitalise upon existing and new markets for premium quality Scottish shellfish.
- Introduce a brand for Scottish quality langoustines and other shellfish.
- Develop and support joint marketing initiatives by the sector.
- Identify improved stock management methods to enhance long-term sustainability.
- Campaign to allow larger scale shellfish processors access to capital grant assistance for development.

Threats.

- Competition from commodity shellfish suppliers e.g. in South America.
- Tariffs for shellfish exports and delays at channel ports post Brexit.
- Political interference in foreign markets e.g. UK crab banned in China.
- Establishment of quotas on currently non-quota species.
- Reduced world prices force small-scale vessel owners out of business.

Salmon Sector.

Strengths.

- Reputation of Scottish salmon on the world market.
- Regularity in supply of Scottish farmed salmon.
- Focus on expanding existing markets and accessing/developing new 'premium' markets seeking 'traditional Scottish' salmon products.
- Health benefits associated with Scottish salmon products.
- Long-established processors with long-term, loyal customers.

Weaknesses.

- Continuing high prices for Scottish farmed salmon.
- Distance from main suppliers increases transport costs.
- Dependency on migrant workers.
- Competition from large scale/low cost processors in the UK and elsewhere e.g. Norway.
- Lack of scale restricts efficiencies achievement.
- Distance from main customers increases transport costs.

Opportunities.

- Fully capitalise on the reputation of Scottish salmon.
- Open up new premium export markets.
- Innovate to create new products/presentations.
- Increase margins through use of a 'Scotland' brand.
- Lobby government to allow continued access to migrant workers post Brexit.
- Increase attractiveness of working in the salmon processing sector.
- Automate to reduce manual labour dependency.

Threats.

- Environmental lobby questions reputation of Scottish farmed salmon.
- Continuing high price for Scottish salmon makes processing uncompetitive.
- Increased competition from large scale/low cost operators.
- Lack of sufficient numbers of migrant workers post Brexit.

Value Adding Sector.

Strengths.

(Manufacturers)

- Long established highly regarded large-scale businesses.
- Knowledgeable and experienced management teams in place.
- Secure raw material supply e.g. frozen block fillets.
- Quality customers including key UK and international retailers.
- Reputation for quality and innovation in products and presentations
- Highly efficient manufacturers.
- Highly automated reducing labour dependency.
- High level of product utilisation with minimal waste.

(By-products).

- Long-established with knowledge and experience in processing by-products.
- Reputation for product quality.
- Proximity to raw material source (seafood processors).
- Long-established market outlets in the UK and export sectors.
- Range of outlets including aquaculture, agriculture and pharmaceuticals.

Weaknesses.

(Manufacturers)

- Dependency on a low number of key customers e.g. UK multiple retailers.
- Relatively short contract periods with main customers.
- Dependency on migrant labour.
- Costs associated with operating a large company.
- High energy and other manufacturing costs.
- High transport costs to customers.
- High costs associated with automation.

(By-products)

- Irregularity of supply - dependent upon landings.
- High manufacturing costs, particularly energy.
- Dependency on migrant labour.
- High transport costs in supplying export markets e.g. Nigeria
- Risk of non-payment by export customers forces use of agents, thereby reducing margin.

Opportunities.

(Manufacturing)

- Reduce dependency on migrant labour through automation.
- Negotiate longer term contracts with main UK multiple retail customers.
- Access/develop new customers in UK and international markets.
- Fully capitalise upon a ‘Scotland’ brand.
- Innovate to create new differentiated product lines and packaging options.
- Enter into long-term ‘strategic alliances’ with main customers.

Value Adding Sector (continued).

(By-products).

- Innovate to maximise value added to all by-products.
- Vertically integrate to increase influence on the supply chain.
- Develop new products for a range of markets.
- Develop new markets for innovative new product lines.
- Increase automation to minimise unit processing costs.
- Reduce energy costs through implementing energy audit recommendations.

Threats.

(Manufacturing).

- Lack of migrant labour restricts processing ability/efficiency.
- High costs e.g. energy and rates reduce competitiveness.
- Cancellation/non-renewal of contracts due to price or delivery.
- International competition from European suppliers.
- Increases in price/lack of availability of imported frozen fish.
- Lack of supply/increased price of Scottish pelagic fish.

(By-products).

- Increased regulation increases costs and reduces market opportunities.
- Environmental lobby reduces level of intensive livestock farming and fish farming.
- Significant increases in energy and other processing costs reduce competitiveness.
- Increased volumes of whole fish leave North East Scotland without being processed.

Strengths Weaknesses Opportunities and Threats – Conclusions.

Drawing upon information collected during the interviews the strengths, weaknesses, opportunities and threats for each sector and the seafood industry in North East Scotland as a whole have been presented in the previous pages.

The conclusions from carrying out the SWOT analysis are provided below

Strengths.

There are a number of common strengths which are evident in all the seafood sectors in North East Scotland.

These strengths include reputation, product quality, freshness and provenance with processors benefiting from being close to the main fish and shellfish landing centres is in the UK.

The diversity of raw materials/breadth of markets, both at home and abroad, and the range of business sizes as well as processor types act as significant strengths for the seafood industry.

Seafood processing has a critical mass of businesses in North East Scotland allowing processors to meet increasing demand for Scottish seafood and creating an ability to process and market all the fish and shellfish species landed.

These are all strengths which are evident in the whitefish sector.

In the pelagic sector a significant strength lies in the small number of large-scale, financially secure businesses which enjoy close working relationships with their fishing company suppliers. Pelagic processors are highly automated and efficient and all are long established with loyal customers both in the UK and export markets. The processors have experience of undertaking collaborative projects which also represents a strength not evident in other sectors.

The shellfish sector is characterised by a small number of large-scale businesses with relatively close links to their fisherman suppliers located mainly in Scotland but also throughout the UK to combat seasonality and assure year-round supplies. A number of shellfish processors are actively engaged in vertical integration through building or

purchasing vessels, or providing loans to vessel owners securing raw material supplies. This represents a growing strength in the sector.

A significant strength in the salmon sector is the reputation of Scottish salmon in the UK and international markets. 'Traditional' smoking processes represent a strength, as does the health benefits and the regularity of supply of salmon it is a farmed species.

Manufacturing value-added processors are few in number but large-scale and very efficient making the best possible use of automation and robotics to reduce labour dependency and minimise unit processing costs. This represents a significant strength for the sector. The management teams in these businesses are experienced and knowledgeable and they are long established with a loyal customer base. A significant strength of these businesses is that they are innovative in terms of products and process line developments.

Proximity to sources of raw material supplies are a significant strength for by-products value adders. Having a wide range of long-established customers is also a major strength.

Weaknesses.

Irregularity of supply is the most significant weakness for processors in the whitefish and shellfish sectors. This is also an issue for value adding by-products businesses. Seasonality of supply is a significant weakness for the pelagic sector.

Staffing issues including recruitment, retention and training are weaknesses for all processors as is reliance on migrant labour, particularly in the value-added manufacturing and pelagic sectors. This weakness is likely to increase significantly post Brexit.

Other weaknesses in the whitefish sector include 'fragmentation' (lack of organisation and a collaborative culture), insufficient margins to stimulate growth/investment and lack of available infrastructure, particularly cold storage. Lack of high-level political representation is also a weakness, not only in the whitefish sector but in all seafood processing sectors in North East Scotland.

The concentration of processing over very short specific seasons is a significant weakness for the pelagic processing sector. The quayside sites occupied by pelagic processors are almost all fully developed which creates a weakness in regard to potential future on-site expansion. The lack of a 'premium' product perception as compared with Norwegian pelagic products in high value international markets is a recognised weakness in the Scottish pelagic sector.

Shellfish processors are supplied by a large number of small scale, widely spread, vessels with many based on the West Coast of Scotland. Supplies can be irregular due to weather/season. A significant weakness also exists in that large-scale processors must compete with world-wide suppliers and deal with currency fluctuations. Dependence on manual labour is a weakness in the shellfish sector with automation difficult to introduce to parts of the process.

Dependency on migrant workers and continuing high prices for Scottish salmon are weaknesses for the salmon processing sector. Lack of scale to allow efficiencies to be achieved and distance from main customers are also weaknesses.

Dependency on migrant workers is also a weakness for the manufacturing value adders as is their dependence on a low number of key customers particular UK multiple retailers. High costs associated with operating a large company including energy, transport and rates, as well as the investment costs related to automation represent significant weaknesses.

Irregularity of supplies, which are dependent upon landings, high manufacturing costs, particularly energy and dependency on migrant labour are the main weaknesses in the by-products value adding sector.

Opportunities.

Increased landings and sales of fish and shellfish in North East Scotland following Brexit represent a major opportunity for processors in the area. Peterhead is increasingly becoming the centre of fish landing and sales in Scotland and the UK with increased consigned catches being transferred from other Scottish ports. Fraserburgh is the centre for shellfish landings in North East Scotland.

Capitalising upon the area's reputation for the quality and freshness of its wide-ranging products represents a major opportunity as do opportunities to increase value through promoting a new 'Scotland' seafood brand.

Securing and promoting accreditations, particularly SALSA and BRC, represent a significant opportunity to open up new high margin markets for North East Scotland seafood products.

Diversification and production flexibility are significant opportunities in the whitefish processing sector as is opening up new higher margin markets.

Reducing labour dependency through automation represents an opportunity, particularly for larger businesses, and where manual labour is essential improving skills, increasing the attractiveness of the seafood industry to new entrants as a career and providing a career path for those in the industry is a significant opportunity.

Improving the representation of the seafood processing sector at government level represents an important opportunity to increase its influence on important policy issues which affect its future.

In the pelagic sector there are opportunities to extend the length of the landing seasons to accommodate the processing of additional volumes of fish and to relocate some facilities e.g. cold storage, to new sites in order to free up space for additional processing at quayside locations. There are opportunities to increase and promote the reputation of Scottish pelagic fish by participating in a 'Scotland' brand. This will allow more active competition with Norwegian pelagic suppliers in high-value worldwide markets.

In the shellfish sector opportunities exist to improve logistics by trip sharing and enhance the security of supplies by vertical integration e.g. through investing low interest loans in vessels.

Across all sectors, an opportunity exists to maximise differentiation and significantly enhance product value by participating in a 'Scotland' brand to promote the development of new customers in UK and international markets. Capitalising upon a 'Scotland' brand should differentiate products as "premium".

Increased levels of automation have the potential to reduce unit production costs, while a concerted effort across all sectors to increase production efficiency can add significantly to the bottom line.

Innovation in regard to products and presentations and capitalising upon the reputation of Scottish salmon by supporting a 'Scotland' brand represents a significant opportunity for salmon processors.

Reducing dependency on migrant labour through automation is a major opportunity for manufacturing value adders.

Innovation remains a significant opportunity to increase business with existing customers and access /develop new outlets.

In the value adding by-products sector vertical integration and innovation, including the development of new products to maximise value added to all raw materials, represents a significant opportunity.

Promoting environmental sustainability and using all of the catch represents an opportunity to enhance the seafood sector's reputation nationally and internationally.

Possible benefits that might be secured from Foreign Direct Investment (FDI) should be considered. Such FDI might be from seafood processors, but also from other food manufacturing businesses seeking to diversify and take advantage of increased seafood landings in North East Scotland.

Threats.

Brexit remains the single most significant threat to the seafood industry in North East Scotland, particularly to the markets of the whitefish and shellfish sectors.

The implementation of tariffs and potential delays at ports represent major threats to the future of seafood processing, as does increased administration and compliance costs both in relation to finance and time. Lack of clarity on compliance and what certificates/licences will be required creates uncertainty which prevents investment.

Lack of sufficient migrant labour post Brexit represents a major threat particularly to the value adding manufacturing, salmon and pelagic sectors although it will have a direct negative impact on many seafood processors in other sectors.

Cash flow issues and bad debts remain significant threats for whitefish processors who have to pay for their fish on a weekly basis but offer credit of up to 60 days and sometimes more to their customers. Continuing very high prices for whitefish at auction also represents a threat for the whitefish sector.

In the pelagic sector the failure of any one processor will significantly affect Scotland's capacity to process the volumes of pelagic currently being landed. The difficulty of expanding on existing quayside processing sites also represents a threat to North East Scotland-based pelagic processors and the sector as a whole.

Competition from worldwide shellfish suppliers and the introduction of quotas on currently non-quota species are the main threats to the shellfish sector.

The environmental lobby questioning the reputation of Scottish farmed salmon and increased competition from large-scale low-cost operators, as well as the lack of migrant workers post Brexit are the main threats to salmon processors in North East Scotland.

Lack of sufficient numbers of migrant workers is also one of the most significant threats to the future of the manufacturing value adders along with the high costs associated with running a large business e.g. energy and rates. Dependency on only a few major customers and the non-renewal of contracts is a significant threat to manufacturing value adders as is international competition from European suppliers.

Increased regulation and the environmental lobby reducing intensive livestock and fish farming represent the most significant threats to the by-products value adders. Increased volumes of whole fish leaving North East Scotland without being processed also represents a significant threat to the future of these businesses.

Any strategy for future proofing the seafood industry in North East Scotland must focus on the strengths of the individual sectors and the industry as a whole and effectively address the weaknesses. It must fully capitalise upon the opportunities and mitigate the threats.

How this can be achieved will be addressed in the next section of this report.

9. Towards Future Proofing the Seafood Industry in North East Scotland.

A strategy for future proofing the seafood industry in North East Scotland should be **stretching, focused, practical** and **deliverable.**

It should address the issues facing the industry and provide a route plan for capitalising upon the significant opportunities to maximise added value to existing products, innovate to create novel products and develop new premium markets which will allow maximum returns to be achieved.

Potential increases in landings will provide a foundation for growth provided the industry increases production capacity to fully capitalise upon this opportunity.

The strategy should also focus on efficiency and cost reduction in pursuit of enhanced margins which will provide funds for future investment.

The overall objective of the strategy should be to create a **progressive** and **diverse** seafood industry with the capability of meeting the needs and aspirations of a growing list of customers on the world stage.

The industry should aspire to be at the **leading edge in terms of technology** with **high class facilities** and a **skilled workforce** which will allow the highest standards in terms of processing regime and products to be achieved and maintained.

The seafood processing industry strategy should **recognise the position seafood processing occupies** in the overall supply chain and work with other links in the chain to **maximise overall efficiency, productivity and value.**

Overarching Strategies.

As indicated throughout this study the seafood industry in North East Scotland consists of 5 distinct sectors i.e. **whitefish, pelagic fish, shellfish, value-added** and **salmon**.

All of the sectors operate independently of each other, with different supply chains some of which are more efficient and integrated than others. Each of the sectors has its own internal challenges and opportunities which require individual strategic responses.

However, 12 overarching strategic areas are common to all 5 sectors and could be considered to provide '**Strategic Pillars'** upon which the future sustainability and success of the seafood industry rests.

The Twelve Strategic Pillars for Seafood Processors.

- **stabilisation**
- **integration**
- **collaboration**
- **diversification**
- **premiumisation**
- **reputation**
- **innovation**
- **simplification**
- **automation**
- **internationalisation (foreign direct investment)**
- **representation**
- **facilitation**

In this part of this study each of these **Strategic Pillars** will be considered before looking more closely at each sector and developing relevant strategies and an action plan for them individually. It should be recognised that not all strategic pillars can necessarily be applied to individual businesses, for example simplification may be appropriate for some, but simplification might not be complementary with diversification or internationalisation.

9.1 Stabilisation.

The overall number of seafood processing sites in North East Scotland has declined since 2014, particularly in the whitefish sector. A number of smaller scale whitefish processors have ceased trading largely due to the retirement of the owners and, on a larger scale, Prime Seafoods ceased trading in 2019 with a loss of over 60 jobs.

Currently, there are 7 seafood processing businesses, 5 in the whitefish sector, which are believed to be either formally or informally for sale. However, profit margins in whitefish processing are relatively poor, and may not present viable business propositions. There is the potential for further reductions in the number of whitefish processors and a consequent loss to processing capacity and to the local economy.

The whitefish processing businesses in the North Dee Business Quarter in Aberdeen remain at risk as the land on which they are located has been earmarked for redevelopment.

Most processors agree that, over the next few years, there will be a decline in the number of whitefish businesses operating in North East Scotland.

If overall processing capacity in North East Scotland, particularly in the whitefish sector, is to be retained and increased, any strategy must focus on stabilising the current situation.

To preserve existing capacity, particularly in the whitefish sector, assuming that the number of existing processing businesses will decline (a pattern generally accepted in the sector) a key strategic focus should be to quickly identify progressive whitefish processors with the market, management and motivation to rapidly increase production and then work closely with these selected businesses to fill the capacity gap at as early stage as possible.

Serviced industrial land should be provided to accommodate businesses with growth potential but which are currently on restricted sites.

Skills, both practical and managerial should be enhanced and opportunities for automation investigated.

9.2 Integration.

Vertical Integration

Significant levels of vertical integration are already present in the pelagic and shellfish sectors in North East Scotland.

Vertical integration in the pelagic derives from the need of a relatively few fishing companies and processors to ensure that capacity exists to catch and produce large volumes of finished products over extremely short seasons. Without very close and integrated working this would not be possible. In some cases such as Lunar, the catcher and processor are the same company, whilst in the cases of Denholm Seafoods and Northbay Pelagic, close collaboration exists between the processors and independent fishing companies with whom long term relationships have been established and developed over many years.

In shellfish processing businesses, vertical integration has been driven by processors by large-scale businesses including Macduff Shellfish, Whitelink Seafoods and Seafood Ecosse, each embarking upon this strategy to help secure the availability and regularity of supplies. The arrangements between catchers and processors are not contracts, and there can be movement of vessels to alternative processors if higher quayside prices are offered.

Vertical integration by processors could take the form of processors building new fishing vessels, purchasing existing vessels or providing loans to fishing vessel owners.

An important example of vertical integration in the shellfish sector driven by the catchers is the Scottish Fishermen's' Organisation (SFO). This large-scale shellfish processor has factories in Fraserburgh and Uddingston and it has contributed significantly to the growth and sustainability of the Scottish shellfish sector over many years.

The introduction of vertical integration in these 2 sectors has played a significant role in introducing stability and long-term growth. This exemplifies the importance of vertical integration as a strategy for shellfish and pelagic fish processing which could have significant opportunities for whitefish processing.

The whitefish sector has experienced only one significant instance of vertical integration in that Lunar owns whitefish fishing vessels which land catches to be processed by the company at its factories in Peterhead, Fraserburgh and Aberdeen.

Some whitefish processors, particularly those of a larger scale have landing 'arrangements' with individual whitefish vessels although this is generally informal and often on an ad hoc basis.

In considering opportunities for vertical integration in the whitefish sector it is noteworthy that in other sectors vertical integration has tended to be driven by the processor. However, in the whitefish sector, taking into account the relatively low returns currently available to whitefish processors and the relative financial strength of the catching sector, individual catchers, groups of catchers or organisations of whitefish catchers should be encouraged to investigate opportunities for the acquisition of whitefish processing businesses. As an alternative, they should be encouraged to consider establishing new whitefish processing enterprises. Although in the short-term returns may be restricted in the long-term significant benefits could be reaped and higher prices could be retained for fishermen. Such a strategy has the potential to significantly stabilise whitefish processing in North East Scotland, future proofing both the fishing and processing sectors.

Vertical integration is less relevant to the value adding sector, particularly for the food manufacturing subsector although opportunities exist in the processing of lower value by-products.

A strategy for the future proofing of the seafood industry in North East Scotland must take into account the opportunities which could be capitalised upon by vertical integration. These include a more secure, efficient and effective supply chain, increased returns and a more resilient processing industry in North East Scotland.

It is recognised that vertical integration will probably require additional processing space. This may entail a move to larger and more suitable processing premises. A key part of supporting this strategic pillar will therefore have to involve the creation of basic infrastructure (land and services) to accommodate new vertically integrated seafood processing facilities.

Assistance with assessing the financial, operational and other is opportunities for vertical integration should be provided.

(Details provided in the action plan - Vertical Integration).

9.3 Collaboration.

Processors in all sectors in North East Scotland have a reputation for being independent and sceptical of collaboration although this attitude has been less prevalent in some sectors over the past few years. The whitefish sector, in particular, is characterised by 'fragmentation' which has acted as a significant barrier to growth.

In the pelagic sector, processors have benefited substantially from the collaboration which resulted in the construction and operation of the Alisrose wastewater treatment plant at Peterhead. This project demonstrates the value of processors with a common issue i.e. the collection, treatment and disposal of wastewater, coming together to find a collective solution.

The wastewater treatment plant has resulted in huge savings for the processors (who are its shareholders) as well as substantially reducing the level of public funds needed to construct the public wastewater treatment plant at Burnhaven, south of Peterhead.

The Alisrose plant handles wastewater not only from the pelagic processors based in Peterhead but also from Macduff Shellfish at Mintlaw.

Collaboration in pursuit of addressing common issues or capitalising upon common opportunities should be assessed in all sectors.

The opportunities for collaboration could relate to identifying and accessing new markets, cross selling products e.g. shellfish and pelagic fish etc.

The issues could include raw materials and finished product transport, collective purchasing of power, water etc, collaborative renewable energy projects e.g. CHP, collective provision of infrastructure e.g. cold storage and treatment/disposal of waste.

Collaborative projects could play a significant role in reducing the carbon footprint of the seafood industry in North East Scotland.

In support of this strategic pillar a concerted effort should be made to identify opportunities for collaborative projects in the seafood processing industry in North East Scotland in pursuit of reduced costs and environmental enhancement. The Alisrose plant provides an excellent example of the benefit generated by collaboration. How it was established and how it operates could be used as an exemplar.

A key enabling role in promoting collaboration is already being filled by the Scottish Seafood Association in regard to skills training. This role should be extended e.g. to include promoting innovation and new technology, with businesses encouraged to use shared new facilities such as the SSCE and SeedPod.

(Details provided in the Action Plan - Collaboration)

9.4 Diversification.

In the seafood processing sectors in the Scotland there are significant opportunities for diversification, particularly in the whitefish sector.

In general terms the interviews carried out with small and medium-sized whitefish processors suggest that a key element in promoting financial stability and profitability is the ability to be flexible in terms of purchasing, processing and selling their products.

There is a wide range of whitefish landed at the main fishing ports in North East Scotland and the volume of landings can vary considerably from day to day depending upon weather, season etc. Those businesses which maximise flexibility and versatility in purchasing, processing and selling are best placed to take advantage of variations in the volume and nature of landings. Whitefish businesses which specialise in individual species or individual cuts are at a higher risk.

In the pelagic sector Lunar provides an example of a business which has successfully diversified into whitefish processing. Other pelagic processors have considered a similar move with the acquisition of existing whitefish processors being considered as an option.

With their local knowledge of businesses in the whitefish sector and the current challenging trading environment being experienced by many whitefish processors in North East Scotland this may be an opportune time for more pelagic processors to become involved in whitefish processing particularly as it is likely that whitefish landings will increase significantly at North East ports over the next few years.

In order to ensure that there is always a market for the wide range of fish landed at North East ports it is necessary to ensure that there continues to be a diverse white fish processing sector. Large-scale processes are generally geared up to handle volumes of single size, single species inputs with less common and more exotic species being purchased by smaller scale and more versatile local processors. This strategic pillar should take this situation into account and ensure that quality well-managed and progressive small-scale processors are supported to grow and prosper in the future.

There are also opportunities for shellfish processors to diversify into other sectors, particularly whitefish processing. A number of the larger scale shellfish processors already process significant volumes of whitefish e.g. Whitelink Seafoods and Seafood Ecosse.

Rather than diversification by acquisition it is more likely that shellfish processors will continue to develop whitefish processing within their existing operations.

During the interviews, those shellfish processors which were not currently involved in whitefish processing did not express a strong desire to become involved in the sector.

Value-added processors are continually developing innovative new products for existing and new customers. Diversification in terms of raw material supply and finished product is therefore high on their agendas. Increased volumes of whitefish landings may encourage some of the value-added processors who currently manufacture products from imported frozen raw materials to return to their roots and diversify into the purchase of local landed fish although this will be price dependent.

Diversification will help create more diverse, flexible and stable seafood busines es capable of adapting quickly and effectively to changes in supplies, markets and labour.

Diversification, both internally and by acquisition will, in many cases, involve either building a factory extension or constructing new production facilities. This is particularly the case for pelagic processors, all of whom are at, or approaching, 100% processing capacity during the height of the herring and mackerel seasons. Shellfish companies tend to have more scope for expanding on site.

If opportunities for the diversification strategic pillar are to be fully capitalised upon it will be necessary to provide basic infrastructure (serviced industrial land).

(Details provided in the Action Plan-Diversification).

9.5 Premiumisation.

Seafood products produced in North East Scotland are already considered to be of premium quality. This is particularly the case in most whitefish and shellfish markets although pelagic processors argue that the level of levy funded promotion by the Norwegian processors supported by the government has introduced an unfair bias in regard to the relative position of the perceived quality of Scottish pelagic fish as compared with Norwegian product in the world market.

Large scale shellfish processors also argue that when significant volumes of shellfish are being processed it is difficult to compete on price with lower cost nations in the world market e.g. competitors in South America.

Processors in all seafood sectors in North East Scotland enjoy a significant advantage over their competitors in that Peterhead and Fraserburgh are the main landing centres for fish and shellfish in the UK. Seafood is therefore at its freshest when landed at the ports and if processed quickly and efficiently the highest quality can be achieved.

During the interviews whitefish processors who supply fresh chilled markets in continental Europe indicated that 'Scottish' seafood products are considered of higher quality and that as such they can command higher prices, although only up to a certain level.

Processors across all sectors indicated that more needed to be done to introduce and develop **'premiumisation'**. Although each processor attempted to differentiate their products from those of their competitors and demonstrate the highest quality standards there was no national 'brand' which could support them in their efforts.

Processors, particularly those in the whitefish sector, recognise that in order to support and underpin a new brand it will be necessary to introduce checks on quality throughout the supply chain, particularly in relation to time spent by product on the vessel, handling on the vessel and at market along with transfer of product to the processor. Processing environment and regime, accreditations, product specification, product dispatch and transfer to customers would also require checks. Where a processor's standards fall short of agreed parameters the company should not be allowed to use the brand. It was accepted by processors that this would be difficult to police as it may be difficult to prove at which point in the supply chain the quality shortcomings exist.

As already indicated pelagic processors consider themselves to be at a significant disadvantage when attempting to compete at the premium end in world markets with Norwegian and Icelandic pelagic processors. In particular, through funds provided by industry levy and by having strong government support Norwegian pelagic fish has secured and retained the top place for perceived product quality in the world market. If Scottish pelagic processors are to address this disadvantage methods should be found of redressing this imbalance e.g. increasing financial assistance to Scottish pelagic exhibitors or alternatively providing additional tax breaks. This may be difficult under current State Aid regulations but attempts should be made to find acceptable solutions.

Shellfish processors consider that they would benefit from premiumisation and the development of a distinctive brand albeit that the larger scale processors source raw materials from both Scotland and England. Macduff Shellfish has a factory in Stornoway in the Outer Hebrides which could provide a further level of differentiation and enhanced branding.

As the large-scale value adding businesses based in North East Scotland are primarily supplying UK multiple retailers it is difficult for them to capture an advantage from premiumisation particularly as some use imported frozen fillets as the raw material. However, some headway has been made e.g. the Swankie brand promoted by Joseph Robertson.

Premiumisation will increase returns to processors, particularly whitefish, shellfish and pelagic processors by differentiating their products from those of their competitors. This will help to enhance margins for processors and create a more sustainable seafood processing sector in North East Scotland.

Processors are generally in favour of any method of improving the attractiveness of their product and, although sceptical of brands, they understand that if properly promoted and policed a 'Scottish' brand could play a role in increasing sales abroad.

Support for this strategic pillar involves funding for the creation of a Scottish seafood brand and market research/marketing expertise for its promotion and policing of standards.

This drive should be supported by initiatives in each sector to enhance and develop the reputation of seafood processing in North East Scotland.

(Details provided in the Action Plan - Premiumisation)

9.6 Reputation.

A key element in supporting 'premiumisation' is a requirement to ensure that the reputation of seafood processing in North East Scotland is high and consistent. This will require that not only should products be of a high standard but processing standards should be high and consistent in all sectors.

Currently, probably in all sectors but particularly in the whitefish sector, there is a need to ensure that all businesses not only comply with the minimum processing standards applied by the local authority but aspire to increase the standards by improving the processing environment and the skills of processing staff. The proposed SSCE facility in Fraserburgh will provide some of the necessary infrastructure for training provision.

The Scottish Seafood Association has made good progress in introducing a range of initiatives to support staff training so that processors can begin the journey towards accredited quality standards such as SALSA and ultimately BRC. Not only will this significantly enhance food safety and quality standards but it will play a key role in developing the reputation of seafood processing in North East Scotland, underpinning the drive for 'premiumisation'.

It is recognised that there is a need to ensure that all processors meet minimum standards as food producers and aspire to gain recognised quality accreditations such as SALSA and BRC.

The activities of Scottish Seafood Association should be expanded and funding provided for facilities improvement and training to raise and maintain the reputation of seafood processors in North East Scotland, particularly small-scale whitefish processors.

A facilities development project for small scale whitefish processors is planned by Peterhead Port Authority at Volum Street and Albert Street, close to the Peterhead fish market. This type of project should be fully supported.

(Details provided in the Action Plan - Reputation).

9.7 Innovation

A significant issue for the seafood industry in North East Scotland, particularly for whitefish processors, is the relatively small net margins they are capable of generating. This has been fully articulated elsewhere in this report. Average net margins can be as low as between zero and 3%.

Innovation can provide a valuable method of maximising added value and extending product and presentation ranges. This allows processors to increase sales to existing customers and access/develop new high-end outlets where returns can be improved.

This strategic pillar should assist processors with assessing where funding can currently be accessed for product and presentation innovation e.g. through the 'Make Innovation Happen' programme operated by Scottish Enterprise and promoted by Scotland Food & Drink.

Consideration should be given to the establishment of a new seafood specific Seafood Innovation Programme backed up with an Innovation Fund for seafood processors.

In North East Scotland new initiatives incorporating NPD facilities are planned i.e. SeedPod and Scottish Seafood Centre of Excellence. These facilities and the services to be provided through them should be promoted actively to seafood processors.

Fish and shellfish processors should be encouraged to look beyond the seafood industry and view how food processors in other sectors have used innovation to best advantage. This could be achieved through encouraging seafood processors to become members of the Food Innovation Network and the Innovate UK Knowledge Transfer Network.

'Process line innovation' should also be encouraged. This is described in more detail in the Automation section below.

The volume and variety of seafood processing being undertaken in North Scotland also provides an opportunity to maximise the value added to undervalued and waste products. Support should be provided to businesses which seek to develop innovative ways to add value to these by-products by developing new uses and new markets for them. This generates not only a financial but also in environmental benefit.

Innovation could fulfil an important role in maximising added value by clearly differentiating seafood products processed in North East Scotland. The area already has a competitive advantage in terms of proximity to the main landing centres which assists in promoting freshness and quality. This provides a solid base on which to develop innovative new products and pack designs, particularly of these are supported by a distinctive Scottish seafood brand.

Innovation will play an important role in increasing returns for processors in all sectors. This is of critical importance in the whitefish sector where margins are slim.

(Details provided in the Action Plan - Innovation).

9.8 Simplification.

Although the supply chains in the pelagic, shellfish and value adding sectors are relatively short and efficient in regard to supplies of raw materials there may be opportunities to simplify and reduce the length of the supply chain in regard to sales.

In the whitefish sector there is a significant opportunity to improve returns to fish processors by simplifying the supply chain, particularly post processing.

Currently, a large portion of whitefish processors, particularly those of a smaller scale supply a range of other processors, traders and wholesalers who, in turn, supply distributors before their products reach the end customer and thence the consumer. At each link in this supply chain margin is taken which is not returned to the processor.

Consideration should be given to methods of reducing the length of the supply chain allowing processors in North East Scotland to capture higher margins by removing or reducing the number of links between them and the end customer.

This could be achieved by creating an electronic sales platform where processors are put in touch with end users, thereby achieving more direct sales and reducing the number of links in the supply chain. One such platform is currently being trialled using North East Scotland-based processors.

No additional infrastructure is required to support this strategic pillar.

(Details provided in the Action Plan - Simplification).

9.9 Automation.

Automation is already making a significant contribution to the efficiency of large-scale seafood processing enterprises in North East Scotland. This is particularly the case in regard to pelagic processing and value adding.

The bulk of pelagic landings at the quayside processing units in North East Scotland are automatically transferred and automatically processed from the point of disembarkation to final packing, post mechanical freezing. Production is highly automated with technically advanced equipment ensuring that the process is as fast and efficient as possible. Minimising unit processing costs allows pelagic processors to compete with highly efficient businesses based in Norway, Iceland and Faroe. Without significant investment in the most technically advanced equipment this would not be possible.

The value adders who manufacture and pack products ready for the supermarket shelf are also heavily committed to automation both in the production and packing processes. Robotic packers have been installed in their factories, reducing labour input and significantly reducing packing costs, allowing these large-scale businesses to remain competitive.

Technically advanced equipment is also used in parts of shellfish processing although the nature of the raw material means that more manual handling is required e.g. in shelling.

In the whitefish sector technically advanced equipment is used by some processors for the grading, filleting, fining, skinning and freezing of products. However, the investment in technically advanced equipment can only be justified by larger scale processors. The equipment is sometimes unsuitable for different sizes of fish and different species which restricts usage particularly by smaller scale enterprises who still tend to process by hand.

There are opportunities in all sectors to gain benefit from higher levels of automation and, where appropriate the use of robotics, particularly in the packing process. These benefits tend to be more apparent in larger enterprises handling large volumes of the same species e.g. small haddock processed by Lunar. Processors handling multi-species and lower volumes will find automation less attractive as an investment, however for all processors, there should be opportunities to improve productivity through increasing automation.

In support of this strategic pillar, opportunities to introduce and develop automation within all sectors should be fully investigated and, where appropriate, technical and funding assistance could be provided e.g. by SMAS.

(Details provided in the Action Plan - Automation).

9.10 Internationalisation (Foreign Direct Investment).

It is generally accepted that there will be a significant increase in the volume of seafood landings in North East Scotland over the next few years. This is particularly the case if the UK gains control of fishing rights in its waters.

Following Brexit increased regulation and less fishing by foreign vessels in UK waters could lead to less whole fish leaving North East Scotland.

This could lead to processors in Europe, particularly in France and Holland, considering investing in processing facilities in Scotland, especially at the North East ports, particularly Peterhead.

Over the years there have been a number of inward investments/foreign direct investments in the seafood sector in North East Scotland, the largest and latest of which is the multi-million pound investment by Clearwater, a large-scale Canadian shellfish processor, in Macduff Shellfish, based at Mintlaw. This marked the beginning of significant capital investment at the Mintlaw factory which now employs over 300 staff.

Other inward investments/foreign direct investments include the Iceberg factory in Fraserburgh established by a Spanish seafood group, the Laeso shellfish factory in Peterhead established by a Danish company and the value adding business Mapco established by an English investor.

More recently, Norwegian large-scale pelagic processing group Pelagia has purchased United Fish Industries (UFI) which processes fish offal at his factory in Aberdeen.

In the salmon sector, Aberdeen-based John Ross Jr was acquired a few years ago by an Estonia-based processing company.

Dutch companies are already investing in fishing vessels and quota in North East Scotland.

To date, there have been no instances of non-food and non-seafood businesses seeking to invest in the fish processing sectors in North East Scotland, with the exception of some investment by Venture Capital Funds. This should be considered as an opportunity particularly if there is the potential for significant growth resulting from increased quota, which could provide inward investing businesses with an attractive opportunity to achieve meaningful growth in investment returns over a longer-term period.

Any strategy developed for the fish processing industry in North East Scotland must take into account opportunities for inward investment/direct foreign investment, particularly at the main ports, either by purchasing existing businesses or developing new independent facilities.

This opportunity exists in all sectors and to facilitate the Internationalisation (Foreign Direct Investment) strategic pillar investment will be needed in identifying potential inward investors and promoting opportunities for foreign businesses to establish in North East Scotland.

There will also be a need to provide basic infrastructure (industrial land and services) to accommodate inward investments/foreign direct investments.

(Details provided in the Action Plan -Internationalisation (Inward Investment))

9.11 Representation.

The seafood industry North East Scotland is fragmented across sectors and within sectors. Each of the sectors operates independently and there is little cooperation and collaboration across sectors with each operating independently.

Within the sectors processors consider themselves to be competitors and rivals and it is often difficult to bring them together in support of a common issue/cause.

It is useful to compare the fragmentation evident in the seafood processing sector with the level of organisation demonstrated by the catching sector. The ability to bring vessel owners together in producer organisations and a single federation (Scottish Fishermen's Federation) has meant that the catching sector

has a high degree of influence at political negotiations as the producer organisations and federation can rightly demonstrate that they enjoy the support of the catching sector. The Federation can rightly claim to 'represent' the fishing industry and speak on its behalf to government ministers helping shape future policy.

The federation has developed its own revenue raising arm – SFF Services, which helps to secure its sustainability.

There are encouraging signs that collaboration is increasing between fishermen and processors through the fish salesmens' offices.

The seafood processing sector has the Scottish Seafood Association which fulfils this 'representative' role although the size of its membership and the funding available to it severely curtails its ability to effectively carry out and further develop this responsibility. Until the organisation secures sufficient self-generated revenue and external funding so that it can actively promote the interests of the processing sector there will continue to be a significant imbalance between the catching and processing sectors in terms of service provision to individual members and joint political influence.

The seafood processing industry is of key importance to the food industry in North East Scotland. The area has 72 seafood processing enterprises and employs over 3900 staff with a turnover of £700 million per annum.

If the industry is to grow and prosper in the future a mechanism should be found to properly fund the Scottish Seafood Association so that will have the resources and staff to provide high levels of training and support to the industry as well as ensuring that adequate representation is in place for the industry at the highest political levels.

This pillar will require significant and long-term financial support for the Scottish Seafood Association from both processors and the public sector.

(Details provided in the Action Plan - Representation)

9.12 Facilitation.

One of the key challenges facing all the sectors the seafood industry in North East Scotland is lack of space in which to develop and lack of capacity to increase production throughput. This will provide a significant barrier for future growth and development particularly in the whitefish and pelagic fish sectors where opportunities to expand on existing sites are limited.

Responses during the interviews indicated that whitefish processors could increase capacity by adding extra production shifts. However, this is expensive and may be challenging for a sector in which net margins are very restricted. Securing additional labour will also become increasingly challenging following Brexit.

If long-term efficiency and productivity are to be achieved it will be necessary for existing processors who have good prospects of growth in the future to consider relocation in order to provide themselves with larger and more suitable facilities. Currently, there are few opportunities to acquire suitable high quality buildings, and land is also in relatively short supply.

If the seafood industry in North East Scotland, particularly the whitefish and pelagic fish sectors, is to expand and successfully capitalise upon the opportunities brought about by increased landings it will be necessary to provide basic infrastructure i.e. serviced industrial sites to accommodate new buildings.

If the area is to attract inward investors from other parts of the UK and beyond the availability of serviced industrial sites will act as a significant incentive. Inward investors are more likely to plan for investment of some scale. They are unlikely to contemplate purchase of multiple small sites, for example by purchase of existing processing facilities which are likely to be site constrained.

As Peterhead is becoming increasingly the dominant centre for seafood landings and sales, a significant development site which could be serviced on a phased basis should be identified at an early stage. Suitable sites at Fraserburgh should also be identified.

Sites should be offered for sale or to lease to maximise their attractiveness to both expanding local processors and inward investors.

These sites could also accommodate cold storage facilities for pelagic processors allowing them to free up processing space at their quayside production facilities. These pelagic processors are currently operating at 100% capacity during the height of the herring and mackerel seasons.

Shared facilities e.g. cold storage could be provided either by individual businesses or as collaborative projects on the new sites.

As sites are taken by processors for development, additional land should be serviced.

It is not recommended that it is necessary to construct factory units on the sites.

Facilitation will allow the public sector to participate meaningfully in future proofing the seafood sector in North East Scotland. It could provide the basic infrastructure which will allow local and incoming businesses to expand and increase capacity to process additional volumes of fish and shellfish landed at North East ports.

However, public sector participation must be matched by private sector commitment.

(Details provided in the Action Plan - Facilitation).

STRATEGIC AIM	ACTION	OUTCOME
STABILISATION		
• Retain existing processing capacity in North East Scotland.	• Identify processors with growth potential. Assessed by: - - market - management/succession - motivation - money (or access to it) Focus support on these businesses. • Identify businesses with growth potential but restricted space to accommodate expansion e.g. pelagic processors. Provide development infrastructure i.e. serviced industrial land in Peterhead and Fraserburgh to facilitate the expansion / relocation of growing local processors. • Identify businesses with growth potential but staffing /labour issues. Secure government support for access and retention of migrant labour – essential to the pelagic and value-added sectors. • Work with management of growing businesses to enhance their skills and knowledge e.g. market intelligence and finance. • Implement the Seafood Skills Action Plan and make full use of available funding for training. • Support the seafood industry and individual processors in assessing opportunities for automation.	• Retention/development of processors with growth potential in pursuit of increasing their performance and enhancing the resilience of the seafood industry in North East Scotland. • Businesses on restricted sites could relocate all or parts of their process e.g. cold storage, to new sites, thereby freeing up space for increased production on their quayside sites thereby securing their future and providing opportunities to grow. • Retention of existing labour, particularly seasonal staff which are essential for large-scale businesses in the pelagic and value-added sectors. This will underpin existing production and provide opportunities for growth. • Develop and implement a "*Management Leadership Programme"* by adopting existing examples. • Increase staff skills to develop product quality and process efficiency which could be funded through existing and new programmes e.g. Modern Apprenticeship and Graduate Apprenticeship Schemes. • Reduce the levels of labour dependency in the seafood sector. Reduce labour costs by enhancing efficiency, leading to improved margins and competitiveness.

STRATEGIC AIM	ACTION	OUTCOME
INTEGRATION		
• Increase the efficiency / effectiveness of the seafood supply chain in North East Scotland through vertical integration. • Introduce more balance and security into the supply chain by promoting communication and integrated working, particularly between fishermen and processors. • Increase the value of products before they leave North East Scotland. • Create a stronger more integrated and resilient supply chain with each link understanding its position and its relationships /dependency on other links.	• Promote communication along the supply chain through: - - improved forward landing information. - creating a "*Vertical Integration Initiative*" - using examples from North East Scotland. • Facilitate Vertical Integration - improve understanding of the dynamics of the supply chain and value-added chain along with the role of each link. - identify candidates for vertical integration in the fishing and fish processing sectors. - assess financial, operational benefits and opportunities for vertical integration with these businesses. • Support Vertical Integration projects. - assist with securing professional advice and government grant assistance for vertical integration projects where appropriate. • Provide basic infrastructure i.e. serviced industrial land, for vertically integrated new enterprises.	• Higher returns for all businesses through more integrated working at earlier stages in the supply chain – fishing and processing. • Increase security of raw material supplies and improvements in the regularity of supply. • Increase processing of locally landed catches. • Increase stability and resilience within the catching and processing sectors. • Increase influence on more parts of the overall supply chain. • Increase opportunities for investment in the processing sector by catchers. • Increase opportunities for investment in the catching sector by processors. • Develop a more flexible and stable supply chain.

STRATEGIC AIM	ACTION	OUTCOME
COLLABORATION		
• Reduce fragmentation in the seafood industry, particularly in white fish processing. • Promote joint projects including those in the areas of: - • skills development • innovation / technology • marketing / sales • logistics • facilities provision e.g. cold stores. • Promote understanding of, and collaboration with, businesses out with the seafood industry.	• Develop and broaden the activities of Scottish Seafood Association in bringing the seafood industry together under one banner. • Encourage collaborative working by developing seafood hubs in Peterhead and Fraserburgh where shared facilities can be provided. • Support the proposals for the Scottish Centre of Seafood Excellence in Fraserburgh and use this as an example of the potential and benefits of joint working. • Implement the *Seafoods Skills Action Plan* across the industry. • Promote joint marketing initiatives (see Premiumisation Pillar). • Provide sector wide market intelligence and promote its understanding and use collectively. • Provide sector wide collaborative assistance in preparation for exporting e.g. regulations. • Assess constraints to growth represented by logistics through the "*Market Driven Supply Chains*" project. • Assess and promote joint working in key areas such as facilities, provision and logistics. • Develop projects and learning journeys focussed on best practice elsewhere in the food industry as well as in other sectors.	• Reduce fragmentation and promote more collective working in pursuit of improved and more technically advanced processes, and a higher skilled workforce. • Increase capacity to cope with increased landings. • Increase market opportunities. • Increase understanding of more efficient and effective processes generating higher and more consistent returns. • Increase staff skills levels across the industry. • Increase understanding of how innovation can increase margins and reduce unit costs. • Increase knowledge of new market opportunities. • Reduce barriers to new market entry. • Improve understanding of how the supply chain operates. • Increase facilities provision and minimise costs. • Increase knowledge and understanding of food processing which can be applied to seafood processing.

STRATEGIC AIM	ACTION	OUTCOME
DIVERSIFICATION		
• Create a diverse, flexible and stable seafood industry capable of adapting quickly and effectively to changes in supplies, markets and labour. Develop the capacity to process and add value to all species landed at North East Scotland ports. • Identify and develop new markets for less common species.	• Establish a "*Diversification Programme*" to work with groups of processors and individual processors on identifying and developing opportunities to diversify production and marketing e.g. of products from other sectors or less common species. • Provide market intelligence and support to processors in any one sector e.g. pelagic, to capitalise upon opportunities to become involved in other sectors e.g. white fish, or the processing of waste. As part of the "*Diversification Programme*" provide technical assistance, e.g. through SMAS, to assess technical opportunities and barriers associated with diversifying into the processing of other species e.g. white fish into shellfish.	• Increase the sustainability and resilience of seafood businesses by widening their product base and reducing dependency on individual species. • Increase the number, types and location of customers for a diversified product range. • Reduce overdependency on a small number of customers thereby enhancing sustainability and reducing risks.

STRATEGIC AIM	ACTION	OUTCOME
PREMIUMISATION		
• Maximise the value of seafood products before they leave North East Scotland. • Increase knowledge and understanding of processors in developing new higher value markets. • Facilitate the accessing and development of new higher margin customers. • Create a level marketing/sales playing field for Scottish pelagic processors. • Create/develop a distinctive "Scotland" seafood brand.	• Create a "*Market Intelligence Initiative*" which will work with individual businesses identifying new higher value markets and customers. • Identify points of uniqueness in the seafood products of processors and advise on individual marketing and sales strategies. • Support individuals and joint marketing / sales initiatives including increased participation at key seafood exhibitions. Undertake joint inward and outward missions to showcase Scottish seafood products. • Secure significant funding to allow North East Scotland based pelagic processors to compete successfully with their Norwegian counterparts. • Develop and effectively promote a distinctive Scottish seafood brand e.g. "*Scotland - World Centre of Seafood Excellence*" in the UK and international markets. • Sustain strong funding for Seafood Scotland as the seafood marketing organisation to support and promote the brand through joint working with organisations such as Scottish Development International, Scotland Food & Drink and others. • Undertake a targeted and sustained advertising campaign supporting the brand which will be based on provenance, quality and responsibility.	• Increase returns from higher value markets. • Achieve higher prices through product differentiation. • Enhance the profile of seafood products from North East Scotland. • Access and develop new customers in new market areas. • Increase sales of Scottish pelagic fish to premium customer e.g. Japan. • Fully capitalise upon the brand and use it to enhance exposure and increase the value of seafood products from Scotland. • Provide a dedicated sales team for promoting Scottish seafood in the UK and international markets.

STRATEGIC AIM	ACTION	OUTCOME
REPUTATION		
• Maintain and develop the reputation of the seafood industry in North East Scotland.	• Create and promote a "*Facilities Development Initiative*" to assist seafood processors upgrade their factories and processes as well as training staff to, at a minimum, the Scottish Seafood Association standard but preferably to SALSA or BRC standard. This will instil confidence in the sector to customers. • Increase monitoring of processors who may not currently comply with minimum processing environment standards to ensure that the reputation of the North East Scotland seafood industry is not put at risk. • Support the development of the Scottish Seafood Centre of Excellence initiative in Fraserburgh and encourage participation in training and NPD by all processors. • Implement the *Seafood Skills Action Plan* and create a training fund to help processors carrying out inhouse training to defray some of the costs related to loss of yield associated with staff training. • Promote learning journeys where familiarisation with, and training, on new techniques (automation) can be undertaken.	• Uplift in quality of seafood processing facilities and staff skills across North East Scotland to achieve a high and consistent accredited standard. • Assured accreditation achieved and maintained. • Processors benefit from establishment of the proposed new SSCE "go to" support centre based in Fraserburgh. • Create and maintain a skilled flexible workforce in seafood processing and make it more attractive as a career for new entrants. • Develop a more outward-looking and progressive management keen to adopt new technologies.

STRATEGIC AIM	ACTION	OUTCOME
INNOVATION		
• Maximise added value and extend product base through innovation in new product and presentation development. • Maximise added value to waste.	• Assess where assistance and funding can currently be accessed for product and presentation innovation in the seafood industry. • If required, create a new "*Seafood Innovation Programme*" for the industry including a specific *"Innovation Fund*" for seafood processors. • Promote current and planned local NPD facilities which can provide support to seafood businesses developing innovative products and presentation e.g. SeedPod and Scottish Centre of Seafood Excellence in Fraserburgh. • Encourage processors to participate as members in organisations such as the Food Innovation Network and the Innovate UK Knowledge Transfer Network. • Support businesses which seek to develop innovative ways to maximise added value to their waste/undervalued by-products by developing new products and new markets for these products.	• Increase margins in seafood processing businesses by development of new innovative products for sale to existing customers and facilitate the accessing/ development of new high-end outlets. • Accelerate NPD in the seafood industry by establishing a bespoke programme with specific funding and using new facilities e.g. SeedPod and SSCE. • Widen product base of the North East Scotland seafood processing sector. • Enhance NPD in the seafood industry by fostering communication/collaboration with other sectors in the food industry. • Maximisation of the value of undervalued and waste products through innovation.

STRATEGIC AIM	ACTION	OUTCOME
SIMPLIFICATION / DIGITISATION		
• Improve returns to processors by reducing the number of links in the supply chain post processing.	• Identify and support opportunities to exploit digital technology e.g. electronic sales platforms to provide more direct links from processors to retailers / food service businesses, thereby returning additional margin to processors.	• Increase margins and returns to processors by reducing the down-stream length of the supply chain. Enhance understanding of, and communication with, end customers.
• Increase efficiency and productivity in the processing industry by increasing electronic logging and transfer of information during purchasing, processing, dispatch, invoicing and stock control.	• Create a "*Seafood Processors Digitisation Initiative*" to provide technical support to processors seeking to enhance the efficiency and effectiveness of their processes by adopting digitisation.	• Improved management information collection, distribution and monitoring leads to enhanced production/administration efficiencies, lower unit production costs and increased returns.

STRATEGIC AIM	ACTION	OUTCOME
AUTOMATION		
• Increase margins by enhancing process efficiency and reducing labour dependency through automation.	• Create a "*Seafood Processors Automation Initiative*" to increase the awareness of automation and provide demonstrations of the benefits of automating processes in the seafood industry. This could include learning journeys, local demonstrations e.g. at the SSCE and assistance with technical/ financial assessments of costs and benefits, as well as assistance with building business cases. • Where appropriate, capital grant assistance should be applied for as a priority.	• Increased production speed and enhanced efficiency/productivity leading to reduced unit costs. • Improved long-term sustainability through reduced dependency on labour. • Increased product consistency and enhanced production flexibility e.g. night working. • Increased interest by processors in considering automation as an option.

STRATEGIC AIM	ACTION	OUTCOME
INTERNATIONALISATION (Foreign Direct Investment)		
• Increase local processing capacity by attracting inward investors.	• Actively identify potential international seafood businesses / groups and promote opportunities for them to establish new seafood enterprises close to the main seafood landing /selling centres in Scotland – Peterhead and Fraserburgh. • Provide basic infrastructure i.e. serviced industrial land to accommodate inward investors (as well as expending local processors).	• Processing capacity in North East Scotland increased at a meaningful scale. • Sustainability of the seafood industry enhanced by capturing external investment for development. • New businesses created and existing businesses expanded creating additional jobs, increasing the size and sustainability of the seafood industry. • Attract potential foreign direct investors seeking to establish their own new businesses in North East Scotland or acquire and relocate existing processors to new sites with potential for expansion.

STRATEGIC AIM	ACTION	OUTCOME
REPRESENTATION		
• Increase the political influence of seafood processors in Scotland to more effectively balance the political influence of fishermen in negotiations with government etc.	• Find adequate funding to grow the Scottish Seafood Association thus allowing it to develop as a strong and sustainable representative organisation for all seafood processors in Scotland.	• Create a "single voice" for all seafood processors in Scotland which can effectively represent the interests of the industry at a national and international level.

STRATEGIC AIM	ACTION	OUTCOME
FACILITATION		
• Create new "basic infrastructure" i.e. serviced industrial land to meet the needs of new and expanding seafood businesses in North East Scotland as well as inward investors.	• Provide areas of serviced industrial land to accommodate facilities for new and expanding businesses in Fraserburgh, Peterhead and other parts of Aberdeenshire, but particularly in Peterhead which is increasingly becoming the centre for seafood landings and sales in North East Scotland. A significant area (over 10 acres) should be serviced on a phased basis, dependent on take-up, and sites should be offered for sale or lease. • Infrastructure facilities e.g. a new cold store or waste collection/ treatment plant could be provided on this land. It is not envisaged that buildings will be provided although this could be an option.	• Serviced sites provided to attract existing processors to relocate to an area which can provide room for future expansion. • Serviced sites provided to attract inward investors. • Shared facilities e.g. cold storage, waste collection/disposal provided to meet existing needs and create a more environmentally sustainable future.

Sector Strategies.

In addition to the proposed 12 overarching strategies which will help to future proof the seafood industry in North East Scotland it is clear from the results of the survey that each of the 5 individual seafood sectors are facing their own significant issues which require specific sector strategic responses.

The significant issues identified from the survey and strategic responses for each sector are described in the tables below.

WHITE FISH SECTOR	
Significant Issue	**Strategic Response**
• Irregularity of supply	• Lobby government for longer quota periods i.e. minimum of 2 years. • Improve forward landing information i.e. develop existing systems and promote usage. • Increase direct contact/supply arrangements/contracts with fishing vessel owners. • Diversify to increase flexibility of processing in terms of species/markets. • Increase use of contract cold storage to smooth out peaks and troughs in supplies. • Increase availability of in-house cold storage supply if space allows.
• Staff Availability/Skills	• Lobby government for access to migrant workers post Brexit. • Work with SSA to encourage more new entrants to the sector. • Maximise use of SSA training resources to achieve training accreditations. • Create a clear career progression route for employees. • Investigate/implement opportunities to automate parts of the process. • Contract out parts of the process e.g. fileting.
• Fuel and energy costs.	• Undertake audits of fuel/energy usage and implement recommendations. • Investigate opportunities to collaborate in purchasing energy/fuel. • Maximise energy efficiency and use of renewables – lobby Government for support schemes such as Scottish Enterprise "Environmental Aid" to be extended to fisheries sector. • Increase returns from waste / by-products such as pet food industry. Work with Zero Waste Scotland to identify and fund opportunities.
• Operating Margin Uplift.	• Consider potential for automation and yield maximisation. • Develop an increased range of added value products that offer potential for higher margins, including an assessment of international market opportunities.
• Cash flow/late payment.	• Manage finances effectively to minimise credit to customers. • Secure additional bank funding/invoice discounting services.
• Customer price resistance.	• Identify/develop new higher margin customers

	• Adopt/promote a new 'Scotland' seafood brand as part of premiumisation.
• Leadership development.	• Develop structured programmes for current management and "next generation" based upon best practice in other sectors.

PELAGIC SECTOR	
Significant Issue	**Strategic Response**
• Staff availability and skills	• Lobby government for access to migrant workers post Brexit. • Extend length of pelagic processing season in conjunction with fishermen. • Increase automation including innovative technical processing solutions. • Increase staff training to maximise skills/flexibility. • Work with SSA to encourage more new entrants to the sector.
• Restricted quayside sites	• Extend the processing season to create additional production capacity. • Relocate non-production activities e.g. cold storage to create more production space. • Maximise the use of new technology to speed up production processes e.g. freezing.
• High energy costs/overheads	• Undertake audit of fuel/energy usage and implement recommendations. • Collaborate with other processors in purchasing of power, water etc.
• Reduce transport costs	• Invest in collaboration in transport and shipping e.g. negotiate collective transport rates.

SHELLFISH SECTOR	
Significant Issue	**Strategic Response**
• Staff availability and skills	• Lobby government for access to migrant labour post Brexit. • Make full use of SSA and other training programmes. • Support SSA in attracting new entrants to the sector. • Develop clear career paths within the business to attract/retain quality staff. • Automate appropriate parts of the process to reduce labour dependency.
• Transport costs	• Investigate opportunities for shared transport e.g. from West Coast of Scotland ports. • Investigate opportunities to share delivery transport.
• Reduce irregularity of supply	• Vertically integrate to secure raw material supplies. • Educate fishermen on 'market led' not 'product availability led' processing. • Increase availability of cold storage to help smooth peaks and troughs in landings.
• Enhance margins	• Increase cold storage facilities to allow more shellfish to be retained. • Increase focus on high-value products e.g. live shellfish. • Increase focus on high-value customers. • Participate and support a 'Scotland' brand differentiating Scottish shellfish.

VALUE ADDED SECTOR (MANUFACTURING)	
Significant Issue	**Strategic Response**
• Staff availability and skills	• Lobby government for access to migrant labour post Brexit • Automate as many parts of the process as possible to reduce labour dependency • Work with SSA to encourage more new entrants to the sector • Increase labour adaptability/flexibility through training • Improve attractiveness of food processing as a career option • Develop career paths to encourage staff recruitment/retention • Learn from experiences of manufacturing in other sectors – utilise SMAS resources.
• Factory overheads	• Undertake an audit of fuel/energy usage and implement recommendations • Investigate opportunities to collaborate in purchasing energy/fuel • Actively negotiate reductions in business rates • Learn from cost reduction experience in other areas of manufacturing
• Transport costs	• Actively investigate opportunities for load sharing to achieve savings • Collaborate with others to negotiate lower transport rates.

VALUE ADDED SECTOR (BY PRODUCTS)	
Significant Issue	**Strategic Response**
• Regularity of supply	• Lobby government for longer quota periods i.e. minimum of two years • Strengthen contract arrangements with processors • Increase prices for by-products through adding additional value to end products
• Increase margins	• Investigate new market potential such as the pet food industry, pharmaceuticals, animal and aquaculture fish feed (subject to avoiding cross-contamination). • Work with Seafood Scotland / Scottish Enterprise to identify/develop new higher margin export markets for end products. • Investigate any waste to energy potential potentially on a collective basis. • Work with Zero Waste Scotland and SMAS to maximise Circular Economy. • Undertake an audit of fuel/energy usage and implement recommendations. • Collaborate with processors in purchasing power, water etc

SALMON SECTOR	
Significant Issue	**Strategic Response**
• Staff availability and skills	• Lobby government for access to migrant workers post Brexit • Ensure sufficient migrant workers available for seasonal work • Work with SSA to encourage new entrants to the industry • Provide a career structure to improve staff recruitment/retention • Investigate opportunities for automation to reduce labour dependency.

Summary.

Although each of the sectors has their own significant issues e.g. regularity of supply in the whitefish sector and staff availability/skills in the pelagic and shellfish sectors there are a number of issues and responses which are common to all sectors.

These include

- more long-term assurances on the regularity of supply through extended quota periods
- more frequent and accurate landing information
- greater understanding and cooperation between fishermen and processors e.g. forward landing data.
- the essential need for access to migrant workers post Brexit
- working with SSA to encourage more new entrants to seafood processing
- increasing adaptability and flexibility by training staff in the processing of diverse species
- provision of a career structure to improve staff recruitment and retention
- reducing labour dependency by increased levels of automation
- developing new markets for more exotic species
- assuring the quality of all processors by requiring them to meet agreed and recognised quality standards
- provision of basic infrastructure, particularly cold storage and serviced industrial land
- maximising value by premiumisation and the development of a 'Scotland' brand
- joint working in regard to promoting Scottish seafood products and the 'Scotland' brand
- collaborating and finding common solutions to issues which affect other processors and manufacturers.

By addressing these significant issues through the adoption and implementation of the strategic responses each sector in the North East Scotland seafood industry will be strengthened and its resilience significantly enhanced.

Individual businesses and the industry as a whole will be able to move forward positively and sustainably and will continue to generate significant benefits for North East Scotland as a whole and the main fishing ports in particular.

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