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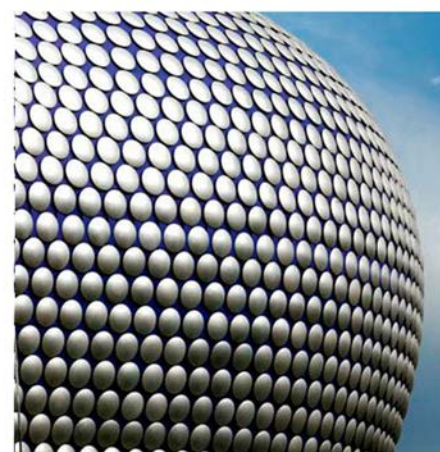
Consultancy Report

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THE CROWN ESTATE:
Shellfish Site Leases
Rent Review 2015

Report with
Recommendations
November 2014

Prepared by:
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14 November 2014

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Alex Adrian
Aquaculture Operations Manager
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Dear Sir

**The Crown Estate – Shellfish Site Leases
Rent Review 2015**

We refer to your instructions and our agreed Terms of Engagement, under which we have been asked to consider the forthcoming rent review scheduled for Shellfish Site Leases. Having had an opportunity to complete our investigations and consult with various parties, we have pleasure in submitting our report for your consideration.

In accordance with the brief agreed, we have considered the level of rents applying under the existing lease structures and other relevant matters in terms of the current characteristics of the industry.

Our report comments on the instructions given to us, the methodology adopted and the conclusions reached in arriving at our recommendations.

Yours faithfully



Stephen Pollock BSc FRICS
RICS Registered Valuer
Director
Valuation Consultancy
For and on behalf of GVA James Barr Ltd



Douglas McLeod
Economist
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1. Introduction/Background

- 1.1 The Crown Estate, through its ownership of foreshore and seabed areas, grants leases for the establishment of farms across the aquaculture industry. A general distinction is drawn between finfish and shellfish cultivation. Each sector has a particular style of lease document and rents are paid reflecting the terms of each individual lease, with these generally subject to review on 5 yearly cycles.
- 1.2 On the occasion of the last rent review for shellfish farms, the Crown Estate sought consultancy advice on the level of rent and various other matters relating to the standard lease template applying at that time. The Consultants brought forward their report in October 2009 with recommendations under various heads, after consultation with relevant parties. This led to a revised basis of rent calculation being adopted, together with other changes in the style of the standard lease template.
- 1.3 Reflecting the five year cycle within which rents are scheduled for review, this matter has once again come forward for consideration. The Crown Estate has elected to adopt a similar approach and confirmation of the appointment of consultants to undertake a consultation review, was given to the industry on 1 May 2014. This exercise has been taken forward by Douglas McLeod, a Specialist Aquaculture Consultant with particular experience of the shellfish sector, working with Stephen Pollock of GVA James Barr.
- 1.4 Having completed our consideration of the various matters raised under our remit, we have pleasure in submitting our report with recommendations for your consideration.

2. Methodology

- 2.1 In taking forward this remit, we have gathered information from various sources for analysis and consideration. This has assisted in appraising the key issues raised and allowed us to arrive at our conclusions and recommendations.
- 2.2 GVA James Barr, and in particular, Stephen Pollock, was involved in the previous exercise undertaken in 2009 and from this, we have available background papers and information sourced at that time. In addition, the Crown Estate has provided a copy of the current standard lease template document, a copy of which is enclosed at [Appendix 1](#) for reference. The Crown Estate has also assisted by providing contact details for tenants of existing shellfish leases, allowing a consultation exercise by way of a questionnaire to be completed. In addition, and on a confidential basis, information on overall rental income from existing shellfish lease agreements has been made available to assist in our research and analysis work

- 2.3 On appointment, we were encouraged by the Crown Estate to consult with the industry and a short questionnaire was prepared, canvassing views on matters which were felt to be particularly relevant to our remit. This was issued to all tenants identified on the Crown Estate database. A copy of the questionnaire is enclosed at [Appendix 2](#). A total of 155 were issued with 28 being returned, a response rate of circa 18 %. Comments made by those responding have been considered and analysed as part of our report and observations in this respect are made subsequently.
- 2.4 To support the consultation process, we visited and met with a number of farmers and this provided an opportunity to discuss our remit, wider industry characteristics and key issues. We would take this opportunity to acknowledge the assistance given in accommodating these meetings and the help provided by those engaging in the exercise by taking time to meet with us and/or return questionnaires identifying issues viewed as relevant to both our remit and the current state of the wider industry.
- 2.5 We have also considered further background information from publicly available sources such as the annual reports on the Scottish Shellfish Farm Production Surveys, prepared by Marine Scotland Science. The most recent of these covers the 2013 production year.
- 2.6 When the last exercise was undertaken, changes were being brought forward with regard to Marine planning and at that time, this was identified as a particular area of uncertainty within the industry. The structures and procedures in terms of planning are now established, however in the responses to the questionnaire, and during the course of our meetings, this again was an area in respect of which specific comments and observations were made. Against this background, and consistent with the previous exercise, we have also taken the opportunity to discuss matters generally with Planning Officers, with particular responsibility for Aquaculture matters. Again, we would acknowledge the assistance given in this respect in providing an opportunity to meet and discuss our remit.
- 2.7 On completion of our research, consultation and analysis work, we have brought forward our recommendations in this report for consideration by the Crown Estate.

3. Industry Characteristics

3.1 Introduction

- 3.1.1 The shellfish cultivation industry in Scotland remains focused on mussels, oysters (Pacific and Native) and scallops (Kings and Queens), with farms located mainly on the west coast and the island groups, in particular Shetland. This Section provides an assessment of each sector's development over recent years (including some

observations on issues of general concern) followed by an overview of the current status of the industry in order to contextualise this review. Unless otherwise referenced, all data was sourced from the annual Marine Scotland Science ‘Scottish Shellfish Farm Production Survey’.

3.2. Mussels (*Mytilus Edulis*)

- 3.2.1 The mussel production cycle begins with spat collection, a process of capturing naturally occurring free floating spat from the water column by suspending ‘hairy’ collector ropes (see Illustration I) in areas known as traditionally good productivity locations. These may not necessarily be good on-growing areas.



Illustration I: Spatted Rope (Mussel Seed)

The spatted ropes are then re-located to production sites either of the same company or after sale to a second operator, although the latter activity has been relatively rare in recent years. Mussel hatcheries are not uncommon internationally (see Illustrations II and III), and recent reports of poor natural spatfall have reignited the debate about the need for a Scottish hatchery to improve certainty regarding spat supply, both in terms of quantity and consistency of quality and species (see paragraph 3.4.1 below for discussion of the problem of *Mytilus Trossulus*).



Illustration II: Hatchery Mussel Seed



Illustration III: Hatchery Tanks

3.2.2 There are a number of on-growing technologies employed in the Scottish mussel farming industry:

- (i) The majority of farms utilise standard 200 metre longlines, in either a single or more usually a double headline configuration (see Illustrations IV and V below), in water depths of 15 – 40 metres. Flotation buoys at regular intervals provide support for the spatted ropes or ‘droppers’ (usually at around 0.4 – 0.5 metres apart), with lengths being site specific. The droppers are typically left undisturbed for the growing period of around 2 years, with the mussels usually being harvested when samples show that the average shell is market ready (a range of sizes around 5 cm and a meat yield of around 30%, depending on the specific market).



Illustration IV: Mussel Farm



Illustration V: Double Head Ropes

A variant of this basic system is sub-surface longlines, where the load bearing rope is itself suspended below the surface, to reduce the effect of wave action, wind and potentially predators.

When the mussels are stripped from the droppers, a grading process separates marketable from smaller shells, with the latter generally being returned to production longlines with the use of netting to support reattachment by the mussels (Illustration VI).



Illustration VI: Plastic Socking

- (ii) An alternative cultivation system operating in a number of Scottish locations is the substitution of longlines with rafts (see Illustration VII below). This provides a stable working platform as well as a concentration of droppers, which can be handled by an on-board lifting mechanism (crane, winch, etc.). However, reflecting the site specific nature of shellfish cultivation, many growers believe that this concentration of droppers on a raft compared to longlines reduces average growth rates or results in patchy growth due to competition within the growing mussels for limited food supplies.



Illustration VII: Mussel Raft

- (iii) The New Zealand technology of a continuous line (see Illustration VIII below) has been introduced into Scotland, combining a 'looping' of a single rope with mechanical attachments to a surface cable in place of individual droppers.



Illustration VIII: Continuous line

A reduction of labour input during harvesting is achieved at the cost of higher capital investment in both the continuous rope and the necessary customised harvesting vessel and associated equipment. This technology appears to have been embraced by the industry to a degree, with several farms now utilising the system, from Shetland through the Western Isles to Strathclyde, due to the perceived improvement in average production per metre for a given site over 3 growing cycles of an estimated 20-30%.

- (iv) An innovative technology, developed in Scotland ('Xplora'), replaces the longline-and-dropper approach with an integrated longline and ladder system, combining an increase in growing area for each metre of longline with a custom built harvesting unit (see Illustration IX below). The expanded volume of mussels leads to a requirement for increased flotation capacity, with larger buoys being another element of the system. The harvesting vessel is designed specifically to raise the longline and ladder into a stripping machine, reducing labour involvement through mechanisation, however leading to a higher up-front capital investment. Probably as a result of the investment requirement there has been little uptake of the system in Scotland up to now, with only a few farms using the technology.



Illustration IX: Xplora Harvesting Raft

- (v) The 'Smart Farm' system from Norway reflects the oil and gas industry background of its founders, with heavy duty polyethylene pipes replacing ropes and buoys and supporting a mesh of growing surface (see Illustrations X and XI below), combined with a dedicated harvesting vessel and a pipe straddling stripping unit. This system is probably best suited to more 'offshore' locations and is relatively expensive, with a target of large-scale operations (1000 Tonnes plus per site). We believe that only 2 operations have been installed in Scotland, and one of those is reported to be in the process of changing to a more conventional longline system.



Illustration X: 'Smart Farm' Pipe and Mesh



Illustration XI: Spatted Mesh

- 3.2.3 Following harvesting, the overwhelming majority of mussels undergo the process of depuration (purification under controlled conditions – see example system in Illustration XII), even if cultivated in Class A waters, which would allow direct marketing to consumers.



Illustration XII: Depuration Tanks

Depuration involves a period of 42 hours in tanks with a flow of sterilised or Class A seawater. However, as the purification process is influenced by water temperature, the period of depuration varies between EU regulatory authorities. This is a cause for concern for the Scottish industry, as a longer depuration period raises direct costs and by reducing the volume of throughput per week per tank also contributes to higher

operating expenses in comparison to more southerly located producers, including France and Spain, both major mussel producing countries.

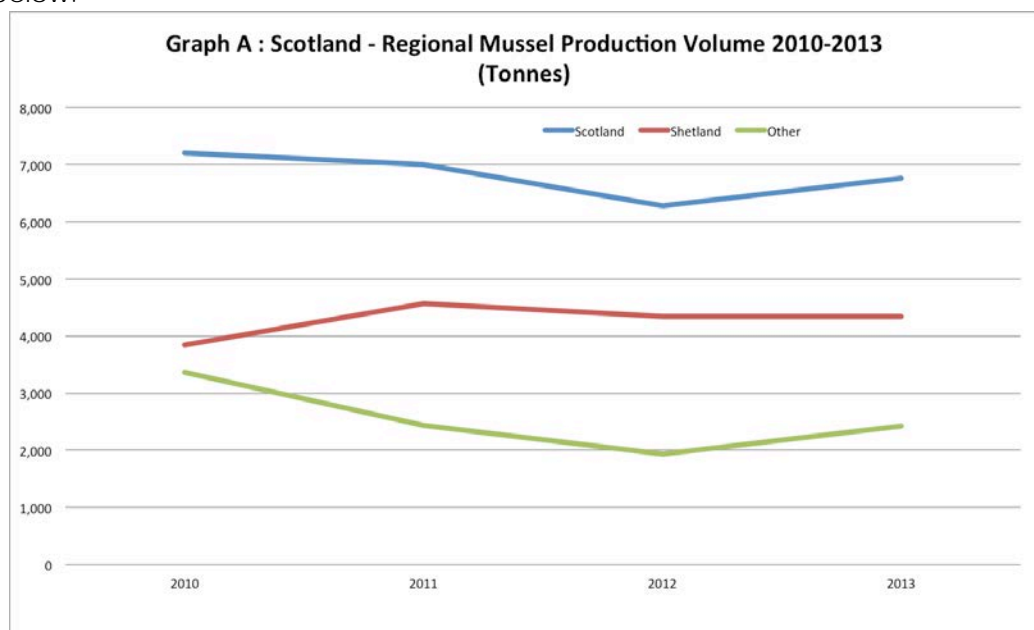
3.3 Mussel Production Characteristics

3.3.1 In the years since the last rent review (2010 – 2013), production of cultivated mussels (see Graph A below), the largest sector of the shellfish farming industry in Scotland, fell from 7,199 tonnes in 2010 to 6,996 in 2011 and 6,277 tonnes in 2012. Last year (2013) saw a recovery to 6,757 tonnes, an increase of 7.7% (480 tonnes) over 2012 levels, which generated an estimated revenue of £8.1 million, an increase of 8% (£600,000) from the previous year.

3.3.2 This recovery was achieved despite the disruption during the summer of 2013 as a result of widespread detection of Diarrhetic Shellfish Poisoning (DSP), particularly in Shetland:

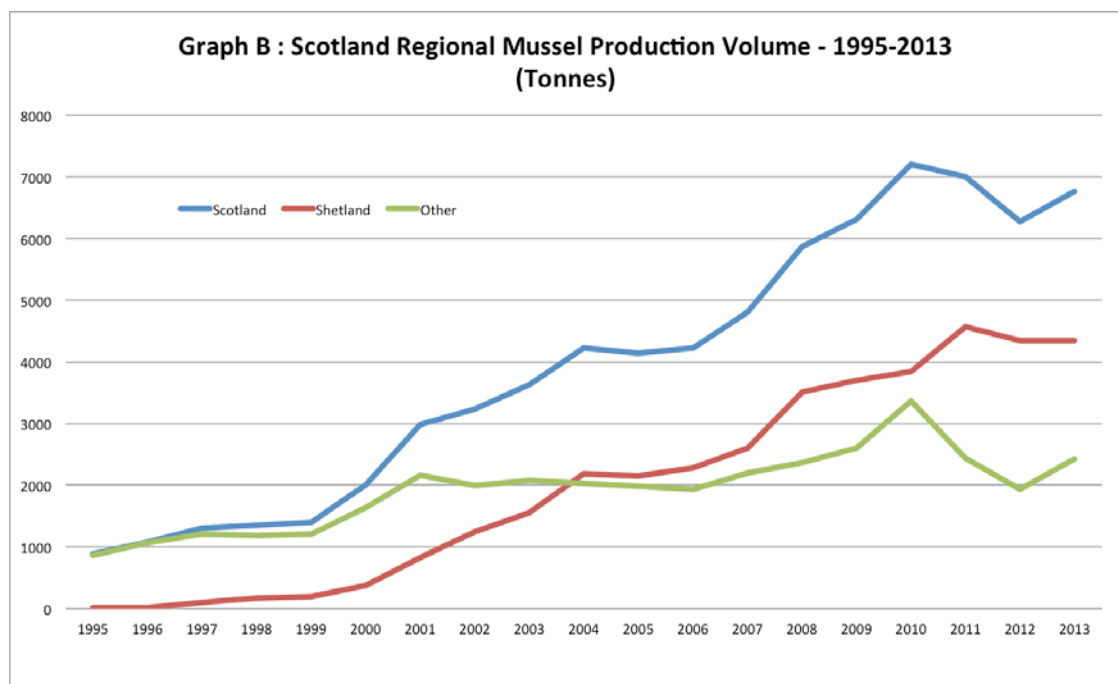
“2013 witnessed an unprecedented lipophilic toxin outbreak (OA/DTX/ PTX group) in terms of scale, distribution and levels recorded, primarily affecting mussel sites throughout Scotland, and in particular the Highlands & Shetland Isles. This event persisted throughout summer and autumn, and results above MPL (>160µg OA eq./kg) continued to be recorded at a number of sites in the Shetland Isles into December 2013.” (Source: Cefas “Annual report on the results of the Biotxin and Phytoplankton Official Control Monitoring Programmes for Scotland 2013”)

3.3.3 Nevertheless, despite the estimated impact of a net loss over the year of around 500 tonnes due to the closures, the Shetland output in 2013 of 4,337 tonnes (a marginal decline of 7 tonnes over the previous year) accounted for around 64% of overall Scottish mussel production. Other regions (Highland, Strathclyde and Western Isles) contributed 2,420 tonnes, an increase of 487 tonnes over 2012, as illustrated in Graph A below.

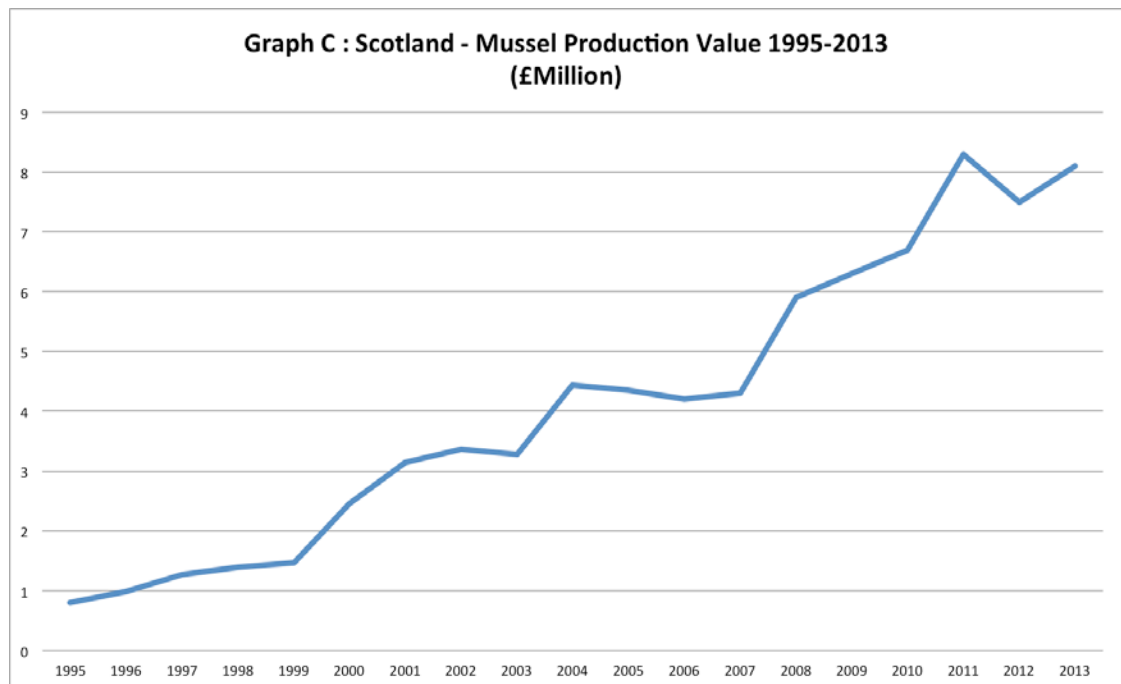


3.3.4 Looking at the industry over a longer term (1995-2013) the evolution of Scottish mussel production since 1995, and the increase of mussel production in Shetland to its current predominant position, are illustrated in Graph B below. At the national level a pattern of growth can be identified, with initial slow growth (1995-1999) followed by a period of more rapid growth (1999-2004), an expansion that coincided with Shetland volumes exceeding 50% of national production for the first time in 2004. After a plateau (2004-2006) there was a return to rapid expansion (2006-2010) again, followed by a period of respite or plateau (2010 – 2013).

3.3.5 Expansion in production volumes has been affected by random factors, such as the DSP closures in 2013, which particularly affected Shetland volumes (see comments in paragraph 3.3.2 above), and the fallowing of Loch Etive as a result of 'infection' with *Mytilus Trossulus* (see paragraph 3.4.1 below), which reduced Strathclyde volumes in the mid-2000s. The overall pattern could also reflect the inevitably delayed reaction to market signals as a result of the minimum 2 year period from the installation of new capacity to first harvest.



3.3.6 The total annual value of Scottish mussel production has risen steadily from below £1 million in 1995 to over £8 million in 2013 (see Graph C below), at which time it represented 91% of total farmed shellfish revenues compared to 40% in 1995. In recent years mussel prices have been reported as £1,000/tonne in 2009, £700-£1,000+ in 2010 and £900-£1,700 in 2011, contributing to the peak revenue achieved that year (£8.3 million). Prices were reported to be stable at £1,200 in 2012 and 2013, in spite of production volumes falling in 2012 and rising in 2013, resulting in overall revenues following the same pattern as output.



3.4 Mussels - Other issues

3.4.1: Concerns within the industry associated with mussel production include the inevitable potential for closure due to biotoxin intoxication (as noted above) and uncertain spatfall as well as some additional specific matters including:

- The risk of loss of stock if re-attachment following grading is not successful.
- Losses as a result of predation by starfish and eider ducks which, despite many years of collaboration between the industry and the RSPB on acceptable methods of controlling eider predation, continues to pose a major threat to the economic viability of mussel farms.
- In recent years a further problem for some producers has been the spread -- of another species of mussel in certain sea lochs, *Mytilus Trossulus*. This has a poor meat yield, less attractive flesh colouring and thin, fragile shells and is therefore a poor commercial species for the UK market. This 'invasion', which is believed to reflect environmental changes that have favoured this species, has created a further constraint on production, including the fallowing of Loch Etive, the historic 'heart' of Scottish mussel production.
- As touched on earlier, there are ongoing concerns around the reliance on naturally occurring spat. Investment in a mussel (or multiple shellfish species) hatchery is under active discussion, although a new UK supplier of oyster seed would represent unwelcome competition for established hatcheries and their close and beneficial relationships with Scottish growers might be adversely affected. In the meantime, some growers have addressed the issue of

inadequate spatfall by the import from Ireland of mussel seed (at a reported cost of Euro200/Tonne).

3.5 Oysters

- 3.5.1 Oysters represent the second largest sector (by both volume and value) of the Scottish farmed shellfish industry, sub-divided into Pacific oysters (*Crassostrea Gigas*) and Native oysters (*Ostrea Edulis*). Unlike the mussel sector, with its natural supply of spat, seed oysters are generally sourced from hatcheries, although there is some reported minimal natural recruitment of Natives for on-growing. There are no fully commercial hatcheries in Scotland (although the 'FAI Aquaculture' research facility at Ardtoe advertises oyster seed for sale, both Native and Pacific), however there are strong links with established operations in Cumbria and Guernsey. Seed prices (Source: 'Seasalter'/'Morecombe Bay Oysters') have remained stable in recent years; for example.£6.40/Thousand @ 4-5mm, £17.60/Thousand @ 20-25mm, and although these represent increases of 28% and 12% respectively from 2009, they are also both lower than list prices of 1995 (£7.00 and £30.00 respectively). Scottish growers have faced increased competition for these seed supplies from Irish and French farmers in recent years as a result of the impact of the oyster herpes virus (OsHV-1) on other hatcheries. This has lent an additional and unwelcome uncertainty to seed supplies.
- 3.5.2 The growing period to harvest size of around 80grams is around 2 – 3 years for Pacific oysters and some 5 years for Natives, depending on the site and the size of purchased seed. While Pacifics are very hardy, the Native oyster is less robust and prone to higher mortalities as a result, for example, of exposure to winter temperatures when exposed during periods of low tide,
- 3.5.3 Seed is traditionally on-grown in 1m x 0.5m mesh sacks that are laid on trestles located on the foreshore between the low and high water marks (see Illustration XIII below). The drawback of this method is that it is extremely labour intensive, not only in initially loading the sacks with the appropriate number of shells (according to size), but in frequent turning and occasional re-sacking (due to fouling and the need to increase the mesh size, to optimise the flow of water/food, and reduction of the number of shells per sack as they grow).



Illustration XIII: Oyster Sacks and Trestles

3.5.4 Alternative techniques have been developed for on-growing and harvesting:

- (i) Mesh baskets, with a variety of designs (e.g. BST and SEPA, both from Australia) are available, replacing trestles with suspension from inter-tidal tensioned cables (see Illustrations XIV and XV below). The suppliers claim faster growth and a smoother shelled product; a number of pilot projects are on-going.

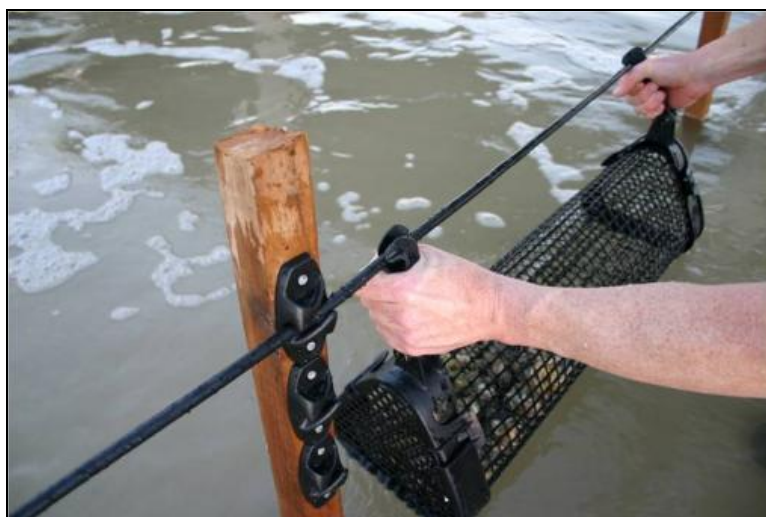


Illustration XIV: BST Basket and Tensioned Cable



Illustration XV: SEAPA Basket and Cable

- (ii) Trays in stacks (Illustration XVI), a technique that has been tested in several locations, can be either suspended from longlines/rafts or placed on the seabed in deeper water.



Illustration XVI: Trays Being Cleaned

However marine fouling, particularly of small mesh units, is frequently a problem, as shown in Illustration XVII;



Illustration XVII: Before Cleaning

- (iii) The 'Smart Farm' system (Illustration XVIII), with baskets suspended from the heavy-duty polyethylene pipes is, similar to the mussel growing system, aimed at deeper water/offshore developments and requires significant start-up capital;



Illustration XVIII: 'Smart Farm' Oyster Basket

- (iv) The ORTAC system (cylinders suspended from 'trestles', with a forced up-welling flow system – see Illustration XIX), is considered effective for both Pacific and Native oysters, and is applicable for initial husbandry from seed to 3-5gm part grown as well as for on-growing to market size adults.



Illustration XIX: ORTAC cylinders

3.5.5 As mentioned, final harvest from emptying sacks/baskets to grading and packing can be particularly labour intensive (see Illustrations XX and XXI), depending upon the degree of mechanisation – which is generally relatively low in comparison to the mussel sector, perhaps reflecting a lack of available finance.



Illustration XX: Harvesting Oyster Sacks from the Inter-Tidal Zone



Illustration XXI: Sorting and Grading Oysters

3.5.6 Much of the Scottish oyster harvest is depurated even when grown in Class A waters (see Illustration XXII). However this process does not remove viruses and, reflecting the frequency with which oysters are consumed raw or lightly cooked, they can be considered a relatively 'high risk' food in view of the high incidence of Norovirus contamination in foodstuffs.



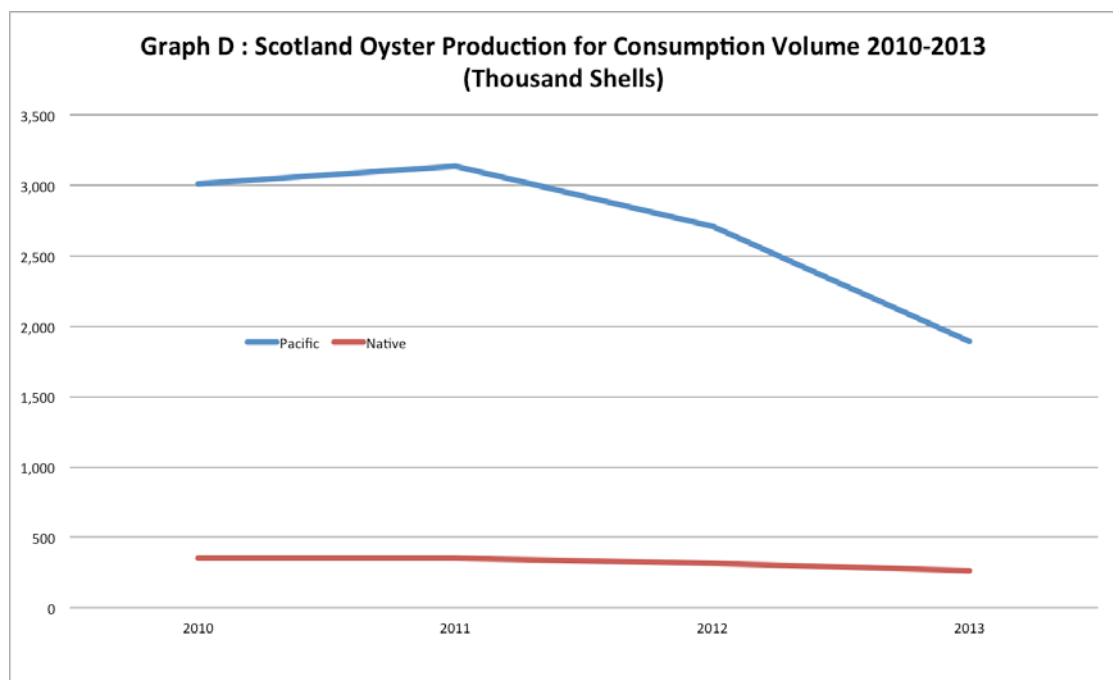
Illustration XXII: Depuration Tanks

The drive from regulators to establish a minimum threshold for Norovirus levels in shellfish, especially oysters, could pose a major challenge to the future viability of Scottish oyster production.

3.6 Oyster Production Characteristics

3.6.1 Trends in production for the table (consumption) since the implementation of the last rental arrangements in 2010 are shown in Graph D below. The sector produced some 1.9 million Pacific and 260,000 Native oyster shells respectively in 2013, declines of 30% and 18% respectively over the previous year. The Marine Scotland Survey attributes the decline in the Pacific oyster harvest for consumption to “poor seed supply in 2010 and 2011, environmental factors such as poor growth and losses from severe weather conditions”.

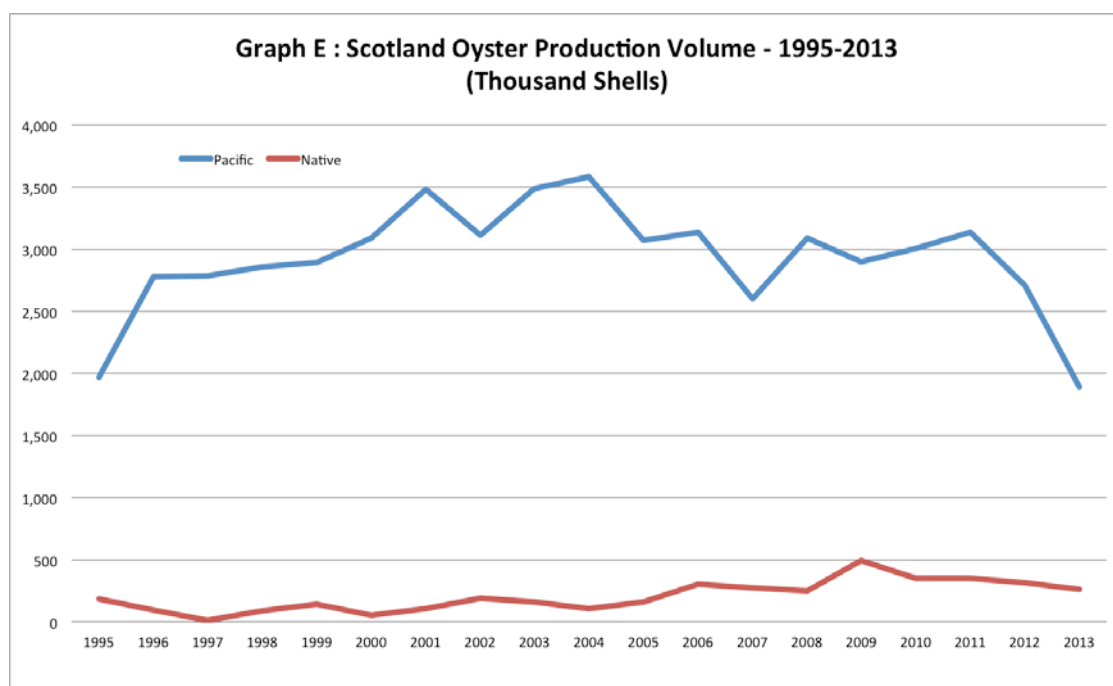
3.6.2 While the Pacific cultivation for the table sector appears to have been in decline since 2011, with a peak of 3.1 million shells, there has, in contrast, been a substantial growth in production of part-grown, ‘half-ware’ Pacific oysters for on-growing by other producers (both in Scotland and elsewhere), rising from 1.6 million shells in 2010 to 6.2 million shells in 2013. In contrast Native oyster production has stabilised at some 250,000-350,000 shells per year. Total revenues in 2013 were estimated at around £620,000 for Pacifics – a significant drop from some £1.25 million in 2011, reflecting the decline in production volumes - and £160,000 for Natives.



3.6.3 Longer term trends between 1995 and 2013 are illustrated in Graph E below and indicate that Pacific oyster output for consumption peaked in 2004 at just over 3.5 million shells, followed by a declining trend to below 2 million shells in 2013, with the steepest decline occurring in 2012 and 2013 (1.25 million shells). Although there have been no reports of mortalities from the oyster herpes virus at Scottish farms, there have been ‘knock on effects’ from mortalities attributed to the virus elsewhere in Europe. Normal supplies of seed from southern hatcheries and growers have been disrupted and this has encouraged some Scottish farmers to turn from production for the table

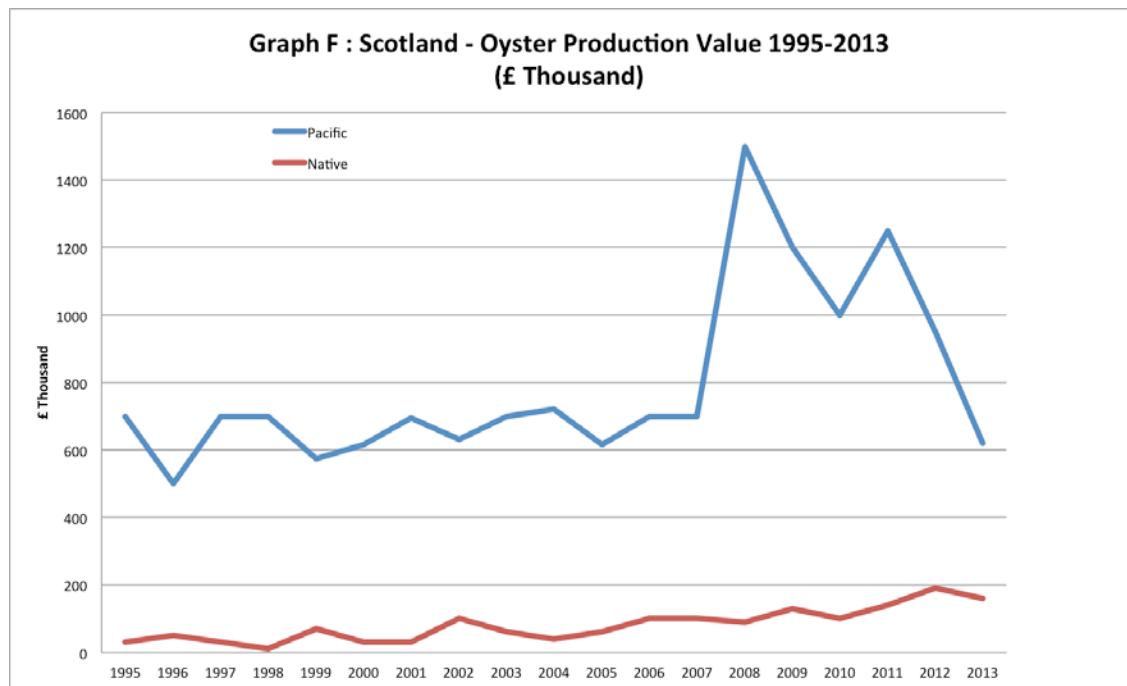
to producing half-ware (see comments in paragraph 3.6.2 above), a move which has contributed to the counter intuitive decline in 'table' output in a market characterised by reduction in supply from other European producers and a reported increase in prices.

- 3.6.4 Native oyster output reached a peak in 2009, with marginal declines in later years, continuing at a niche market scale of less than 0.5 million shells per year, reflecting the higher costs and smaller market for this product. The oyster sector is largely based in Strathclyde, with Pacifics mostly produced in Argyll & Bute, while Natives are virtually entirely cultivated in Ayrshire.



- 3.6.5 Aggregate farmgate revenues for the oyster sector over the period 1995 to 2013 are illustrated in Graph F below. For Pacific oysters, a long period of stability (1995-2007) ranging from £600,000 to £700,000 per year was followed by a dramatic increase to £1.5 million in 2008, the result of a year on year expansion in volume of 19% combined with a reported price rise of around 60%. A second, somewhat lower, high point was reported for 2011 (£1.25 million), again a reflection of higher levels for both volumes and prices, before total value returned to the £600,000 -£700,000 level in 2013.

- 3.6.6 The history of Native oyster revenues appears to be one of two periods – firstly, during 1995-2005, stability of around £30,000-£70,000 per year, with a peak of £100,000 in 2002. In the second period (2006-2013), total value was almost consistently at or above £100,000 per year, with a peak of £190,000 in 2012. This improvement in market values reflects both improving prices and – until the contraction in 2013 (a decline of almost one fifth) – expanding volumes.



3.7 Oyster - Other issues:

3.7.1 There is some potential for a future revival of Pacific oyster volumes, with proposals for significant new production operations and the implication from the scale of half-ware production that final harvest data in future years should recover from the recent declines. The continuing interest in Native oysters could eventually spark an expansion in production with a return to closer to 0.5 million shells per year, with the prospect of current prices being maintained if marketing efforts promote the niche market premium.

3.7.2 Nevertheless there are a number of specific 'downside' issues facing the oyster sector, ranging from disease to regulation:

- The greatest short term threat to the future expansion of the Scottish oyster industry is arguably potential infection of Pacific oysters with the herpes virus (OsHV-1). Where this has occurred in other countries around the world (New Zealand and France being examples) this has decimated the Pacific oyster sector. Import controls on shells from infected areas have however, been successful to date and Scotland enjoys a 'disease free status' for OsHV-1 (European Commission Decision 2014/12/EU). In addition, there is a growing understanding of the process of infection and mortality, which is helping to create a body of management expertise that minimises the impact of the virus on farm;

- There are reports of significant mortalities in Native oyster beds adjacent to Pacific operations (Jersey and Galicia; Reference: JH Brown, 'The Grower', July 2014) which have suffered from the OsHV-1 virus;
- The proposed introduction of a European regulation requiring the testing for and control of Norovirus, with a specific threshold, could have a major detrimental impact on the industry. At the 'International conference on molluscan shellfish safety' (ICMSS), March 2013 in Sydney, Australia, a panel discussion between multi-national representatives of regulatory bodies and industry identified the European Reference Laboratory for monitoring viruses in molluscan shellfish (Cefas, Weymouth) as the only organisation with a total commitment to such a regulation. However the introduction of a regulatory threshold remains under active discussion at the European Commission, although the UK/ FSA position is that "regulatory limits should not be introduced at this stage and that an active management approach such as that being developed by the UK industry would be preferable until the evidence base is further developed" (Jennifer Howie, Head of Shellfish Unit, FSAS); 'The Grower', July 2014).
- On the positive side, Approved Zone status with regard to the notifiable diseases bonamiasis and martelliasis that affect Native oysters was maintained for Scottish waters, with the exception of Loch Sunart and West Loch Tarbert.

3.8 Scallops

- 3.8.1 The scallop farming industry in Scotland has two sub-sectors of Kings (*Pecten Maximus*) and Queens (*Chlamys Opercularis*). As there are fisheries for both King and Queen scallops, the sector is subject to legal minimum landing sizes (see Illustration XXIII below).



Illustration XXIII: Minimum Sizes

- 3.8.2 Similarly to mussel cultivation, scallop farming has traditionally relied on natural recruitment for seed supply, although there have been and continue to be efforts to establish a hatchery. Spat collection for both species is traditionally done on monofilament line secured in onion sacks and suspended in areas of known scallop spatfall, such as the Raasay Sound between the Isle of Skye and the Applecross peninsular. The scallop spat is then sorted from that of other species and initially cultured in Japanese pearl nets for around 1 year (see Illustration XXIV).



Illustration XXIV: Pearl Nets (Suspended From Longlines)

- 3.8.3 There are a variety of on-growing systems used in Scotland for King Scallops:
- (i) The traditional method uses Japanese 'lantern' nets or trays suspended from longlines for up to 4-5 years, with annual changes for grading and removal of fouling, a process which is highly labour intensive and can involve significant investment in a workboat (see Illustration XXV);



Illustration XXV: Japanese Lanterns in Situ

- (ii) After 1-2 years, 'ear hung' individuals, using a plastic tag through the edge of the shell, are attached to droppers suspended from longlines. This system was pioneered by 'Scallop Kings plc.', but proved difficult in practice (in particular high levels of fouling of each shell), and has not been taken up widely;
- (iii) Distributed on the seabed (a.k.a. 'scallop ranching'), under the protection of a Several Order, which gives specific individual ownership to scallops on an area of seabed. Generally worked by divers rather than from the surface by dredging (see Illustration XXVI). This was the preferred method of scallop farming for some years, even leading to the passage of a Parliamentary Private Members Bill to promote and ease the granting of Several Orders. However the regulatory processing requirement has reduced the utilisation of Several Orders for significant scallop production to a reported 3 sites in Scotland;



Illustration XXVI: Diver Returns From Several Order

- (iv) The 'Miniplat' system: rope hung towers of platforms (see Illustration XXVII) supporting 3 single shells per platform (17 platforms and 51 shells per tower) which are suspended from a submerged longline in 50 metres of water (to accommodate sub-surface space, tidal range and anchor warps). These do not require handling from initial suspension to harvesting 4-5 years later. The design minimises fouling while enabling a good water flow through each platform. The lack of annual handling reduces labour costs dramatically and offsets the initial capital investment in the equipment. However, there has been limited uptake of the system, and mostly overseas; the market constraints of the processing regulation have affected the uptake of this as much as other cultivation systems in Scotland.

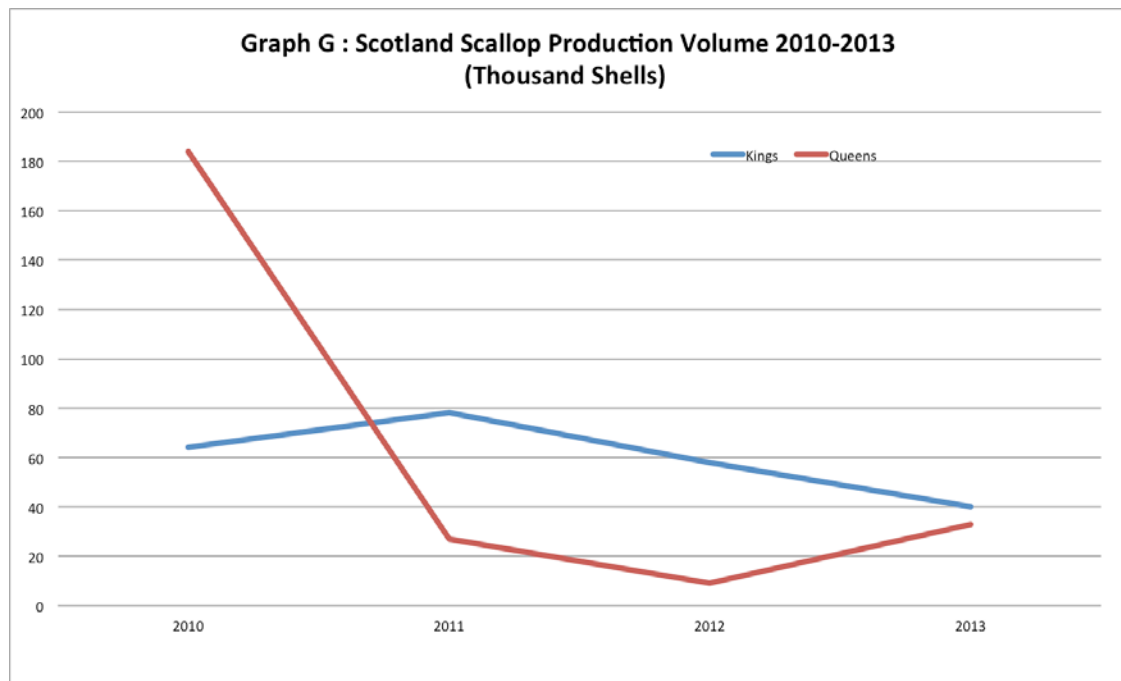


Illustration XXVII: Section of a 'Miniplat' Tower

3.8.4 For Queen scallops after around a year in pearl nets the seed are transferred to lanterns for an on-growing period of 2-3 years. Fewer net changes are required in comparison with King scallops, due to the shorter cultivation period to market size of 40-50gm and the small size of the adult shellfish, resulting in little pressure for alternative methods of on-growing, as with Kings.

3.9 Scallop Production Characteristics

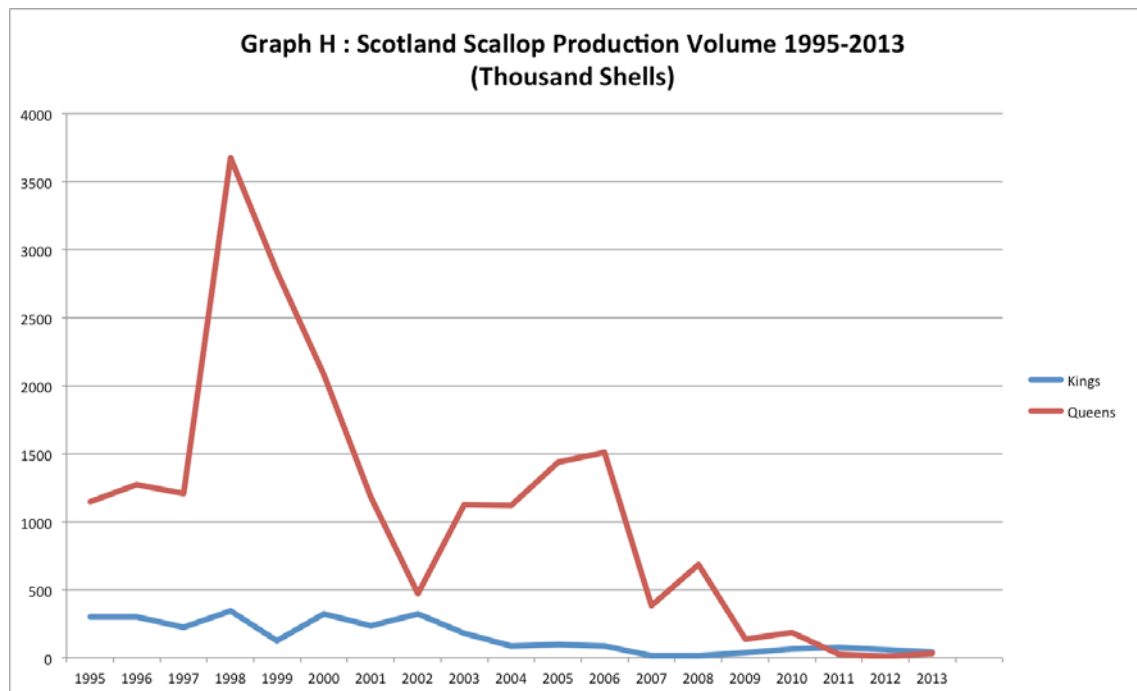
3.9.1 In the period since the last rent review (see Graph G), production of Queen scallops plunged from close to 200,000 shells in 2010 to a low of 9,000 shells in 2012, before recovering to 33,000 shells in 2013, while King scallops rose in 2011 by 22% to around 80,000 shells before declining to little more than 40,000 shells in 2013. Revenue from Queen scallops dropped from £30,000 to minimal values (< £10,000), mirroring the trend in production albeit that prices strengthened to 15p per shell. The values of the King scallop harvest have also broadly echoed output volumes, although the high point was 2012, at some £100,000, due to reported peak prices of £1.70/shell.



3.9.2 Over the longer term, 1995 - 2013 both sectors have experienced volatility against what appears to be a fundamentally downward trend (see Graph H):

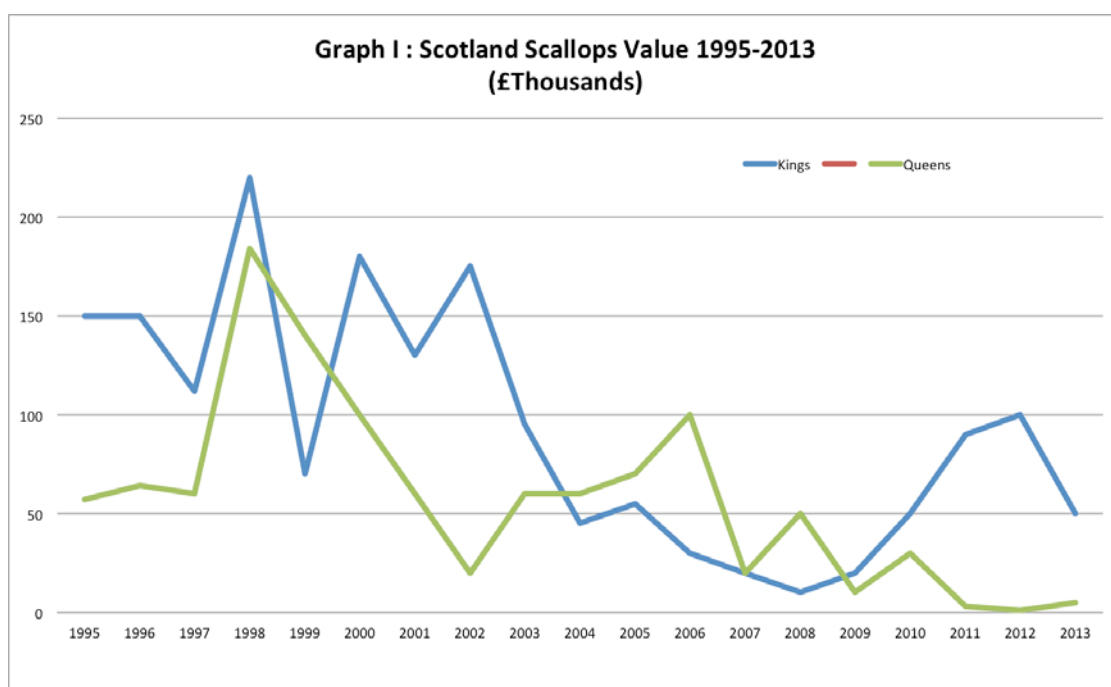
- The market for Queen scallops is largely driven by the scallop dredging sector – when prices are low (< 5p/shell), Queens are frequently discarded as a by-catch in favour of the more valuable Kings; when prices rise, the catch is landed, in direct competition with farmed shells. Prices were stable at around 5p/shell from 1995-2005, the period of high volume farmed production, peaking at 3.7 million shells in 1998 (the major decline to below 500,000 shells in 2002 is attributed to poor natural settlement in previous years). As prices rose in later years, competitive forces from the wild harvest sector resulted in decreasing farmed output, from 1.5 million shells in 2006 to current levels of below 100,000 shells.
- In the case of King scallops, production was relatively stable at around 300,000 shells per year from 1995 to 2002; the decline of the sector thereafter reflects both a decline in natural spatfall due to a major algal bloom in the mid-2000s and a regulatory change requiring mandatory shucking in EU Registered processing facilities, relating to perceived high levels of Amnesic Shellfish Poisoning [ASP] in this species, particularly in the hepatopancreas and 'coral'. The optimal market for farmed Kings are 'high end' restaurants, where the shucking of live scallops assures the chef that the premium price paid is for a quality product. In contrast, processed scallops suffer from (a) uncertain provenance, as a bag of scallop meats is fairly generic; (b) low cost competition, with the mass market dominated by frozen meats from Asia, and (c) potential watering during processing (the scallop meat can absorb

significant volumes of water). The regulatory change significantly restricted the trade in live scallops and removed the competitive advantage for farmed versus dredged and imported scallops. After many years of lobbying, the FSA is looking at a system to have nominated restaurant kitchens – with staff trained in shucking scallops – as ‘processing’ facilities. The FSA reports that it is proposing such a change in the regulation at a European level, but no agreement has yet been reached.



3.9.3 Over the period 1995-2013 farmgate revenues have oscillated significantly from year to year (Graph I), with Queens falling fairly consistently from a high point of almost £200,000 in 1998 to marginal revenues of <£10,000 by the end of the period, with a short recovery in the 2003-06 period peaking at around £100,000 in 2006.

3.9.4 The experience for King scallops has been somewhat different (Graph I), with year on year variations between £100,000-£200,000 during 1995-2003, followed by a slide to around £10,000 by 2008 (low production due to poor spatfall in previous years combined with stable prices of 50-60p/shell). In the following years a combination of improving production (from 15,000 to 58,000 shells) and dramatically higher prices (from 60p to £1.70 per shell) resulted in revenue reaching a peak of £100,000 in 2012, before declining to £50,000 in 2013 as a result of lower output compounded by reported lower prices.



3.10 Scallops - Other Issues:

3.10.1 In terms of this sector, other relevant current issues are

- The prospective amendment of the processing requirement would promote the expansion of King scallop farming towards its undoubtedly major potential, and profitable local sales could support an export campaign for this premium-valued mollusc;
- Dependence on natural spatfall will always represent a constraint on shellfish farming, therefore the proposal for a Scottish scallop hatchery by two Scottish scallop farmers ('Scot-Hatch Ltd') must be seen as a potential positive move forward for this sector of the industry, particularly as it is based on proven Norwegian technology and techniques. Even without the immediate commissioning of a hatchery, there are prospects for an increase in production, as the Scot-Hatch growers imported 1 million shells in 2013 from Norway, the offspring of their own Scottish broodstock (see Illustration XXVIII, with some of these returnees in pearl nets). Additional imports of 2 million shells in 2014, however, reportedly suffered disappointing mortalities of around 80%, an indication of the high risk nature of shellfish farming.

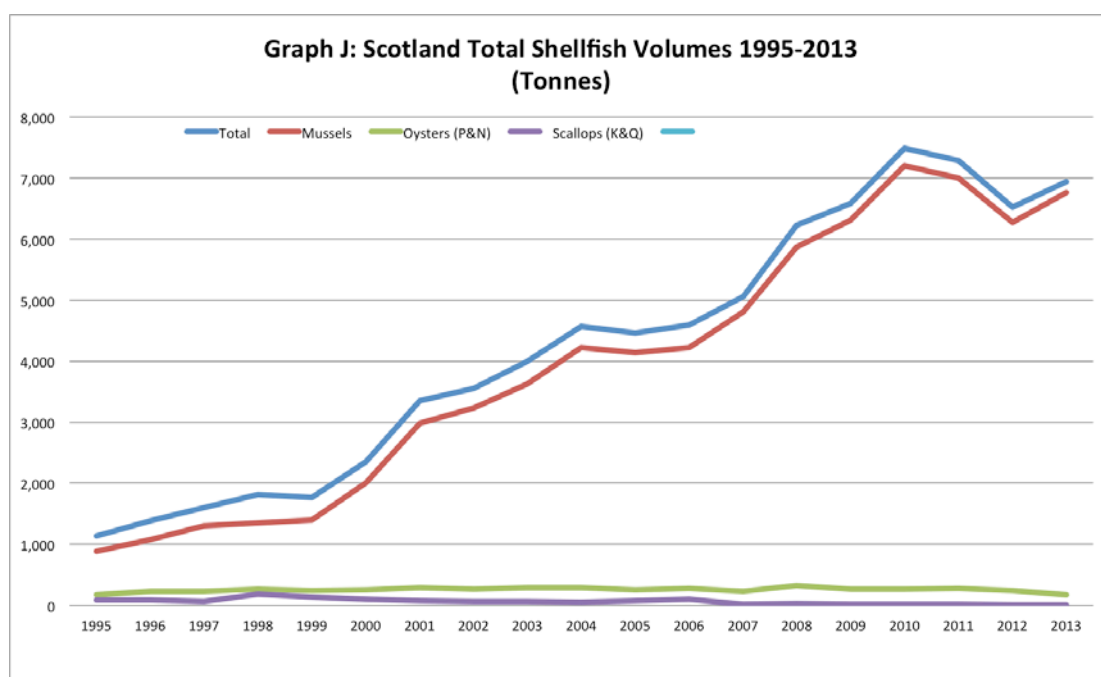


Illustration XXVIII: 'Scot-Hatch' Pearl Net Lantern

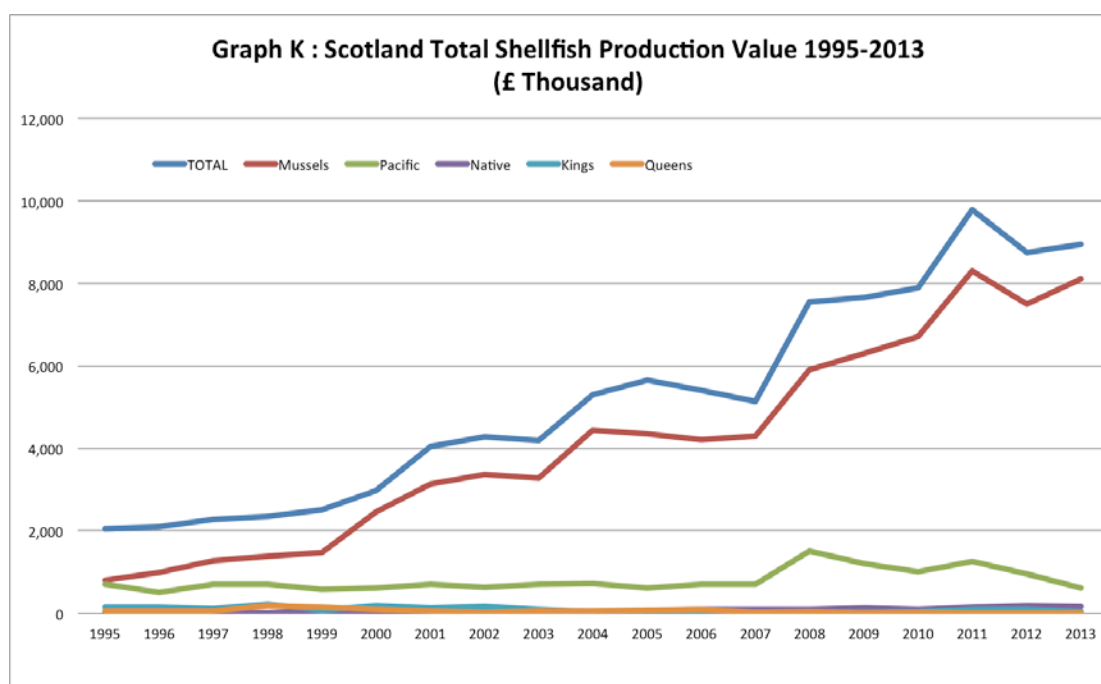
- There are reports that at least one Several Order is approaching 'self-sufficiency', generating sufficient spatfall within the boundaries to provide the next generation of shells. If further examples of such an ecosystem could be replicated, scallop ranching could become sustainable;
- Unlawful harvesting, particularly by dredging, represents one of the highest risks to Several Order seabed operations, with years of investment and husbandry potentially wiped out in a single night. In addition, removal by recreational divers is a constant summertime threat, with no proven and practical method of identifying stolen King scallops.

3.11 Conclusion – Shellfish Cultivation – All Species:

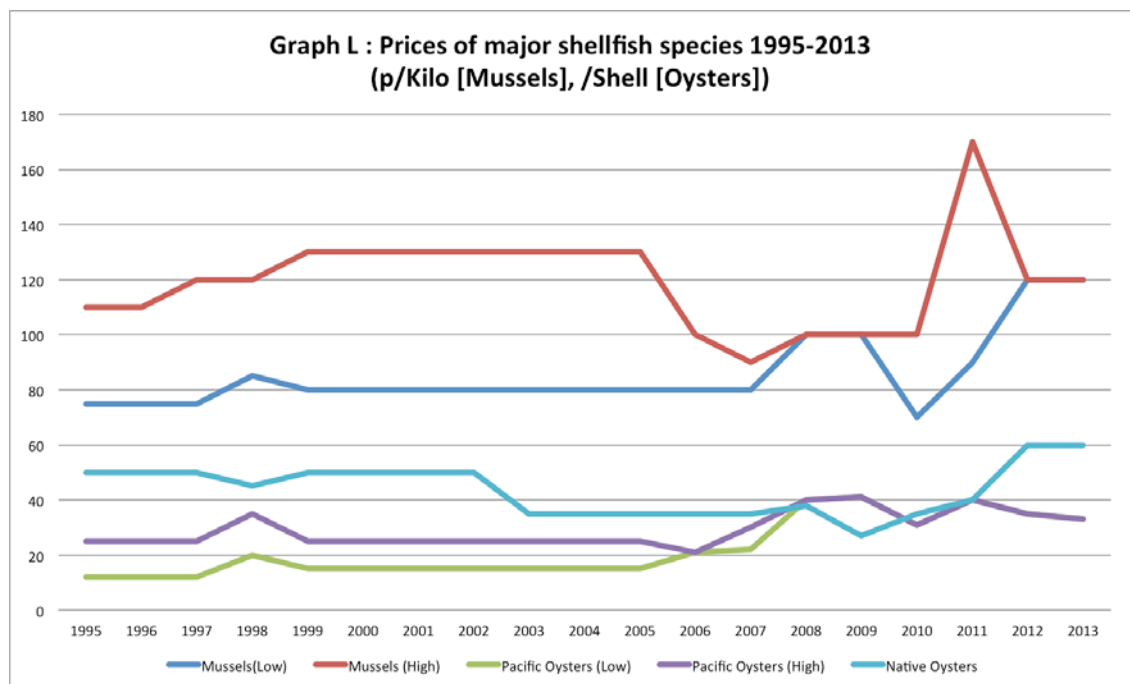
3.11.1 Bringing the information for the species-specific sectors together creates an overview of the entire shellfish cultivation industry. As shown in Graph J below, the industry has grown significantly and reasonably consistently over the past 2 decades, from 1,137 tonnes in 1995 to almost 7,500 tonnes in 2010, followed by a dip to 6,525 tonnes in 2012 and a partial recovery to 6,935 tonnes in 2013.



3.11.2 In financial terms, the industry has generated estimated annual farmgate revenues rising from around £2 million in 1995 to almost £10 million in 2011 before dropping to around £9 million in 2012-2013, as shown in Graph K. The expansion in mussel harvest value has clearly driven the growth of the overall industry. The dominance of the mussel sector is clear from this graph, rising from around 39% of total industry revenues in 1995 to 91% in 2013. The increase in total revenues from £5 million in 2007 to recent levels of £8 million – £10 million must be seen as a particularly robust performance in view of the poor general economic background during these years.



- 3.11.3 However there is uncertainty surrounding the price information which generates the estimated revenues reported by the annual “Shellfish Farm Production Survey”, meaning that the sectoral ‘values’ must be viewed with caution. The ‘prices’ quoted are generalised farmgate estimates, understood to take into account a portfolio of differences and fluctuations (seasonal, market outlet [wholesale, retail, restaurant], size of shell, size of batch, overall market conditions, etc.). As a result the estimates tend to be an indicative single price or a qualitative range, with no reference to volumes across the range, and accordingly have to be treated with caution.
- 3.11.4 An overview of prices for the period 1995-2013 for the major species of Scottish farmed shellfish (mussels and oysters) as reported in the annual surveys, is illustrated in Graph L below, and shows the historic pattern of virtually static unit prices for farmed shellfish up to 2007 followed by a period of instability in later years. Prices generally rose to peak levels in 2011-2012, with either decline or stability in 2013.
- 3.11.5 However it is uncertain whether prices in the years following 2007 were unusually volatile, or whether the data is simply reflective of a shift in the assessment of ‘prices’ for the Survey from a usual range to a single value (in most cases – narrower ranges were quoted for mussels in 2010 and 2011).

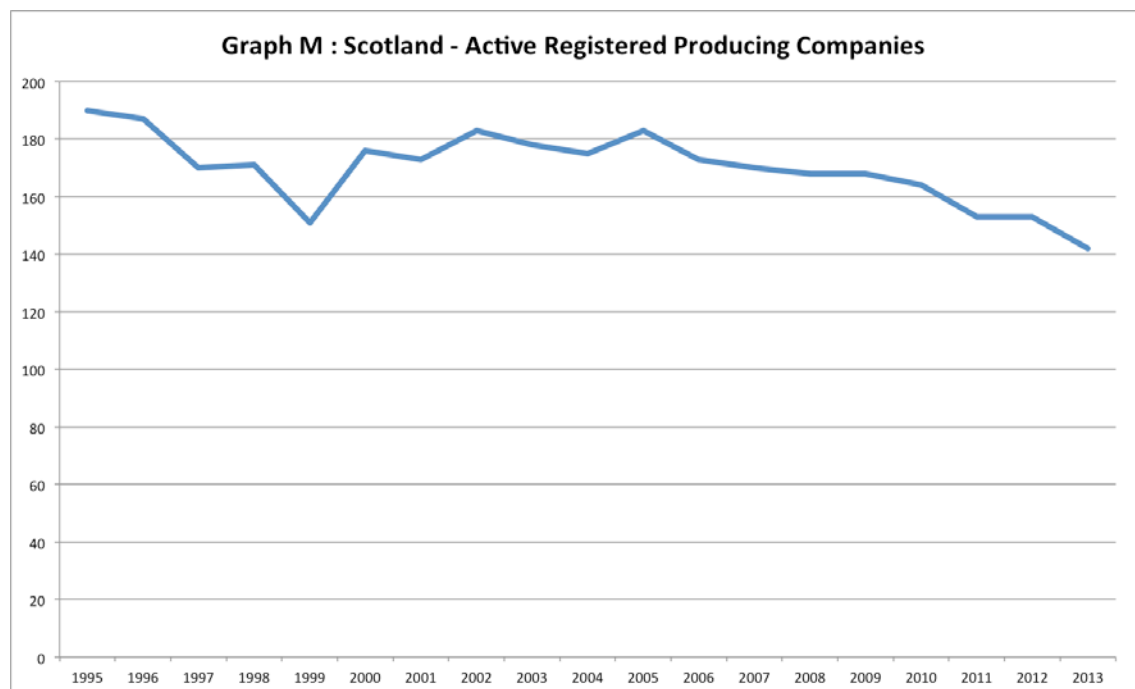


- 3.11.6 Acknowledging such limitations, if the recent data are relatively accurate, at least in terms of trends, then the increases through recent years to the market prices of 2013 for the major products of the industry (namely mussels: £1.20/kilo; Pacific oysters: 33p/shell; Native oysters: 60p/shell) have still failed to reach the 1995 price adjusted for inflation (Source: ONS; RPI Index, excl. mortgage payments), for mussels or Native oysters (£1.56/kilo and 84p/shell respectively) and only marginally exceeded the inflation adjusted price for Pacific oysters (31p/Shell). The higher prices of recent years

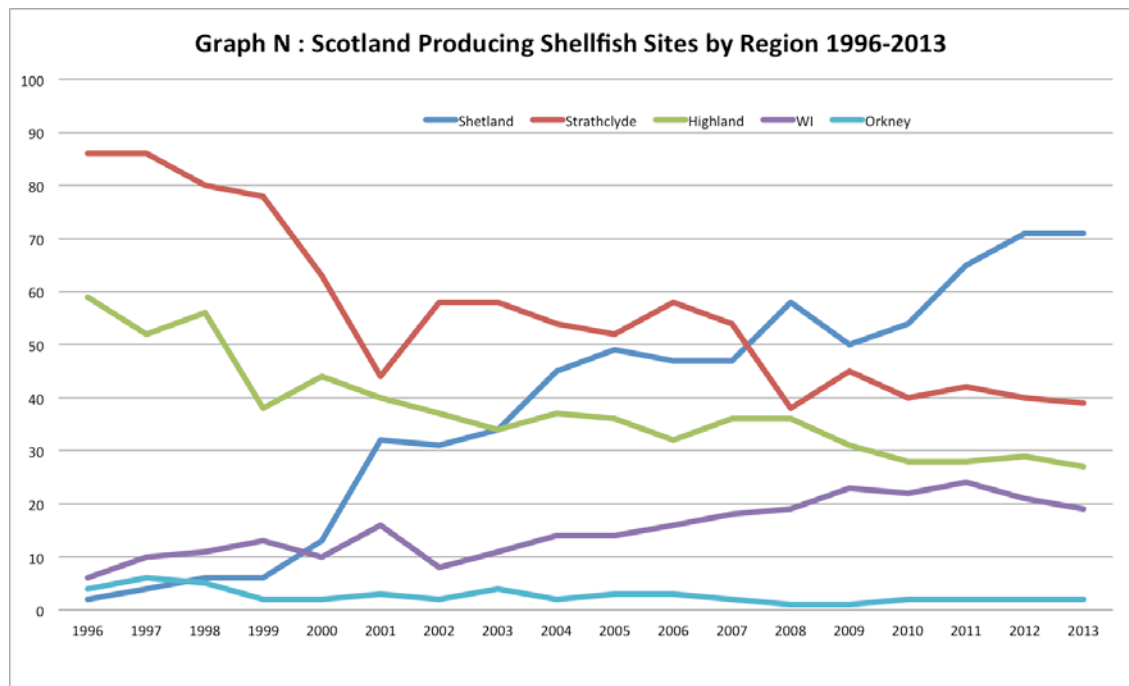
do, however, represent a significant improvement over the many years of apparent declining real prices.

3.11.7 Retail market values are difficult to track, however some recent example limited data (SFIA, Nielson 'Scantrack') indicates relative stability in consumer market values, with prices for fresh mussels stable within the range of £5.00- £5.50/Kilo for the 12 month period June 2013-May 2014, with virtually no significant signs of seasonality (even though the volume data indicate a 33% peak in sales in October/November 2013). Retail values for processed mussels (from the same source) appear to be stable over this period at around £8/Kilo.

3.11.8 The number of total active registered shellfish farming companies has declined from 190 in 1995 to 142 in 2013, a reduction of around a quarter, reflecting both mergers and acquisitions (consolidation) and company failures (Graph M). In contrast, the Scottish salmon farming industry has seen active producing companies decline by 85% from 108 in 1995 to 16 in 2012, as consolidation in that industry has proceeded at a significantly faster pace.



3.11.9 The number of producing sites has also decreased over this period, from 185 in 1995 to 146 in 2010, although this has been followed by an increase to 158 in 2013. This overall decline of 15% masks differing experiences in the various regions, with long-term declines in Strathclyde and Highland somewhat offset by increases in Shetland and the Western Isles, as illustrated in Graph N below. The Scottish salmon farming industry has seen a decline in active producing sites by 28% from 359 to 257 between 1995 and 2012.



3.11.10 In view of the overall expansion of production volumes this implies an improvement in productivity, reflecting a combination of factors, including investment in more efficient technologies, higher stocking densities, an increase in the contribution of mussels to the total tonnage (from 77% to 97%), possibly larger average site area and the expanded knowledge and understanding of the production process gained through experience. The (albeit crude) indicator of 'Tonnes/site' rose from 6.1 in 1995 to 17.8 in 2000 and 29.0 in 2005 to a peak of 51.3 in 2010. Since then the indicator has declined to 40.0 in 2012 before recovering to 43.9 in 2013, a sevenfold increase since 1995. (In the Scottish salmon farming industry, tonnage/site has risen over threefold from 195 tonnes in 1995 to 631 tonnes in 2012.)

3.11.11 Nevertheless, operating expenses (labour, fuel, marketing, etc.) have almost certainly increased at above the general inflation level - the Index of Labour Costs, Agriculture, Forestry and Fishing (Source: ONS; Annual survey of hours and earnings), an indicator of shellfish farming labour costs, rose by 65% between 2000 and 2013 (compared to the increase in the RPI [Source: ONS; RPI Index, excl. mortgage payments] of 44%) while the UK average price for diesel (Source: Department of Energy & Climate Change; Quarterly Energy Prices) rose by 73% over the same period.

3.11.12 At [Appendix 4](#), we have enclosed a summary of the base statistical information which has been referred to in our report whilst at [Appendix 5](#) is a copy of the Marine Scotland Science Shellfish Farm Production Survey 2013 Report.

4. Existing Crown Estate Template

4.1 To assist in our consideration of the rent review, we have been provided with a copy of the Standard Lease template for shellfish farms, currently used by the Crown Estate. We understand that this has been revised/updated following the previous exercise in 2009/2010 reflecting the output from this in terms of conclusions and recommendations made. The style adopted for the lease brings forward a number of standard terms and conditions with site specific information held within an accompanying schedule to the main document. A copy of the Lease Template is enclosed at [Appendix 1](#) for reference. Standardisation of lease terms, as far as possible, has advantages to both the Crown Estate and prospective tenants in minimising costs in terms of time and fees in formalising Agreements between the parties.

4.2 Referring to the template attached, the standard terms cover the following areas:-

- **Subjects Let**
Defined by reference to the Schedule accompanying the main lease
- **Term**
Again cross referenced to the Schedule which would show the specific date of entry and period of the Agreement; (understood to have generally moved from 10 years to 25 years).
- **Use**
General reference is made to the subjects being let for the purpose of anchoring equipment for the rearing and cultivation of shellfish with again, specifics in terms of the definition of equipment and species, commented upon in the Schedule.
- **Resumption**
A general power of resumption is retained by the Landlord on serving 3 months notice for specifically defined operational purposes. In such circumstances, compensation provisions may apply (similar wording is understood to be common across leases issued by the Crown Estate).
- **Rent**
To be paid in accordance with the relevant sum identified in the Schedule, generally annually in advance and subject to review during the period of the lease (understood to be on a five year cycle but not however specific to the date of entry but in accordance with the general review of rents for lease agreements of this character with the current review for shellfish leases being effective from 2015)

- **Alienation**

No assignation or sub-letting in part is permitted, however assignation as a whole is available with written consent of the landlord which is not to be unreasonably withheld. Sub-letting as a whole is not permitted.

- **Good Husbandry**

The lease conditions place an obligation on the tenant to carry out operations in an appropriate manner and to secure prior approval for the installation of equipment.

- **Establishing Operations**

The tenant is obliged to avoid delay in establishing the proposed rearing and cultivation operations and related installation of equipment. The lease templates provide that if the operations have not been established in an appropriate manner within 2 years or if, having commenced operations, these are ceased for a period in excess of 12 months without prior consent of the landlord, then the landlord can give notice to the tenant requiring these obligations to be fulfilled within a defined period and if this action is not taken, the lease can be terminated by the landlord.

- **Planning/Licence Consent**

The tenant is obliged to secure all relevant planning and licence consents for their operations.

- **Reinstatement on Termination of the Lease**

The tenant is required to leave the subjects in an appropriate condition, having removed equipment etc.

- **The Lease Schedule**

The lease Schedule provides an opportunity for site specific information to be recorded, picking up the points referred to above in terms of date of entry and duration, site identification, proposed operations (including species of shellfish to be farmed and equipment), rent and relevant review date.

4.3 As part of the consultation process, a questionnaire was issued to tenants of the Crown, a copy of which is included at [Appendix 2](#). The questionnaire took soundings, amongst other things, on the structure of the existing lease template and responses received in this respect are referred to subsequently in this report.

4.4 With regard to the existing structure of rent payments, these reflect the recommendations made as part of the consultation exercise undertaken in 2009 which broadly brought forward the previous structure subject to variations. The Crown Estate have a summary document available on their website which sets out the conclusions from the previous rent review which have applied since 1 January 2010. A copy of this note is enclosed at [Appendix 3](#). In terms of rent payments, they

are calculated on the basis of consented equipment and vary across the three main species type applying varying rates per meter of longline or trestle length. Rental payments are subject to minimum figures and can be adjusted by other factors which are commented upon in the summary note and subsequently in our report.

5. Response to Consultation

5.1 A questionnaire (see [Appendix 2](#)) was issued to all shellfish tenants identified in The Crown Estate database (a total of 155), to assess views on the rental system and the terms of leases, as well as to seek observations on the current state of the industry and constraints on future development. There was a total of 28 responses (18%), with the range of views summarised below. The views expressed in these responses helped guide the discussions with individual growers either by phone or at meetings.

5.2 Questionnaire responses regarding the rental system are summarised in Table 5.1 below:

Table 5.1:

Responses regarding the rental system in relation to the question: Do you consider that the present method of calculating The Crown Estate rental			
	Yes	No	Neutral/NA
Is appropriate to your business (i.e. rents referenced to consented scale of equipment)?	23 (82%)	2 (7%)	3 (11%)
Takes sufficient account of changes in the economic circumstances of the industry?	18 (64%)	5 (18%)	5 (18%)
Is sufficiently simple to understand?	25 (89%)	1 (4%)	2 (7%)
Is broadly fair & reasonable?	24 (86%)	2 (7%)	2 (7%)
If not, what other approach would be better?		tonnage; sales value; 50% equipment/50% tonnage	

5.3 In addition there was one suggestion that revenue from rents should remain in the area where it was generated, which is assumed to mean ring fencing to support local research and development.

5.4 This summary of views regarding the rental system indicates a strong majority of positive responses for the current system, particularly the issues of appropriateness (82% compared to 63% in 2009) and responsiveness to changes in the economic circumstances of the industry (63% compared to 27% in 2009). While 27% were in favour of an alternative approach in 2009, this had sunk to under 10% in the current consultation (with conflicting opinions as to a better system). Overall, these responses

indicate that the current system is more or less in line with the expectations of tenants in terms of simplicity, appropriateness and economic coherence.

5.5 Regarding comments on lease terms, tenants mentioned improved security (to enhance efforts to raise external finance) and length of tenure, with purchase of ownership of seabed areas being an ultimate objective, including one suggestion for leases to be included on the Land Registry of Scotland, which was thought to possibly assist with bank support. On the positive side, the reduction in rents and the inclusion of enhanced phase-in provisions following the previous review were acknowledged as supportive measures.

5.6 Comments on the 'state of the industry', from responses to the Questionnaire, face to face discussions and during telephone interviews, touched on a number of issues. There was however consistent comments from many respondents on the significance of the first concern highlighted below:

- Difficulties with Local Authority Planning policies, which are perceived as being:
 - subject to different interpretation between authorities;
 - expensive ("exorbitant cost", "changes to sites can be prohibitively expensive")
 - retrospective – reconciliation of established sites with consents and resulting changes to equipment locations/precise location of site
 - time consuming ("difficult and confusing"); and
 - "a disaster".

These comments were frequently accompanied by a positive reference to the previous 'planning' function undertaken by The Crown Estate;

- FSA issues, including biotoxin monitoring (pressuring growers to sample/test), the introduction of the 'traffic lights' toxin guidance system and the process of classification of Harvesting Areas ("inflexible", "'B' Class on basis of one result");
- Natural constraints, such as the absence or scarcity of spatfall (mussels and scallops), the apparent increase in intensity of fouling (particularly barnacle settlement), recent years of 'poor growth', and the impact of algal blooms and biotoxin events;

- Pollution concerns, including perceived unregulated discharges from vessels;
- Economic issues, such as problems in attracting third party investment, fragmentation of isolated small scale producers, high unit costs of transport (inward for equipment, outward for product), the difficulty in securing labour due to alternative employment opportunities for locals and lack of housing for potential incoming employees, cost of importing mussel seed (reported at Euro200/Tonne from Donegal) and lack of price increases (especially mussels);
- ‘Demographic’ concerns, ranging from an absence of tradition in the industry, an aging population of established growers, and difficulties in transferring ownership. These appeared to be a particular issue for West Coast operators.

5.7 Discussions in Shetland revealed differences from West Coast concerns:

- Some producers highlighted the significance of difficulties of securing investment funds and the necessity to self-fund expansion programmes, along with planning related costs (noting especially the relative cost to the low value of the product) as well as the impact on cash flow of any negative events, such as the 2013 closure due to biotoxins;
- The problem of unused sites was raised and planning issues (highlighting cost considerations);
- All Shetland contacts noted the difficulty of retaining/attracting labour in the face of high wages and shift work offered by the energy sector;
- Scepticism about any hatchery investment, with a preference expressed for investment in market development related strategies;
- In terms of future growth, there was concern over the potential to meet the Scottish Government targets, due to availability of sites (as well as scepticism of the 2020 targets themselves). Nevertheless, there were several references to unused sites/underutilised sites/benefits from technology (e.g. NZ continuous line) and how these may provide some potential for future growth;
- The need for more precise, improved scientific carrying capacity studies along the lines of the ‘SMILE’ Projects in Ireland.

From this feedback there is an expectation of some degree of continued expansion in production volumes from Shetland despite perceived capacity constraints and the history of uncertain spatfall and severe biotoxin events in recent years.

5.8 There is little doubt that over the past 5 years the range and intensity of uncertainties afflicting shellfish farming operations in Scotland have increased and the consultation has brought forward:

- New and threatening animal health issues;
- A planning regime perceived as extremely onerous and expensive;
- General economic negativity as a result of the fallout from the Global Financial Crisis;
- Difficulties in funding expansion to capture economies of scale and to finance operational costs (particularly in 'crisis' situations, such as closures for biotoxin events);
- Sparse and unpredictable spatfall, although there is a recognition of 'swings and roundabouts' in different years;
- Increased responsibilities in biotoxin monitoring.

Nevertheless, overall, there remains a generally upbeat view regarding the future prospects of the industry, although most respondents indicated that changes in attitude from other operators in the industry and improved support mechanisms would be necessary to achieve this positive outcome.

6. Key Issues

6.1 From the research undertaken and reflecting the terms of reference agreed, we have brought forward a number of matters which we view as key for consideration, both in terms of the forthcoming rent review and also to highlight current areas of concern identified within the industry. It is relevant to acknowledge that, placed in the context of the wider economic downturn, the shellfish sector has proved resilient and there continues to be optimism around future trading and growth potential. There is, however, sentiment within the industry that a number of factors, partly external, are complicating the way forward and adding costs against the background of marginal profitability.

6.2 It is also relevant to note that there is a sense of acknowledgement in the steps which the Crown Estate have already taken towards varying the standard lease, the potential support which this has provided to the industry and that a number of the more significant issues emerging are not areas within which the Crown Estate has direct input/influence. These are, however, relevant in the wider appraisal of the industry characteristics ahead of the forthcoming rent review and potentially to bring

forward matters which the Crown Estate may be able to consider/support in some way through on-going dialogue with the industry and others.

6.3 Lease Style/Rent Calculation

6.3.1 [Appendix 1](#) attached sets out the current lease template. Also relevant is [Appendix 3](#) which summarises the standard policies applied following the previous review. These addressed a number of issues raised by tenants at that time and in the response to the consultation, there is generally a high level of “satisfaction” in the style and format of the standard lease agreement. Notwithstanding, a number of points were raised which are worth reviewing and commenting on.

- **Lease Length/Investment**

A move to a 25 year lease period will help in terms of giving potential access to funding sources for investment, however the industry is generally challenged in securing investment through traditional routes and the nature and style of lease agreement is not in itself considered to be a particular obstacle in this respect.

- **Underused Sites**

The feedback from the consultation continues to raise this as a matter and this was common to the previous review exercise. The lease does allow the Crown Estate, as landlord, to take back sites which have not been initially developed within a defined period or which lie dormant after use for a period in excess of 12 months. There can be circumstances where such actions are driven by specific factors and the Crown Estate has maintained flexibility which would allow discretion if, for example, the sites are being left idle for good husbandry reasons. There remains, however a sense within the industry that future growth potential is in part constrained by unused sites and the Crown Estate may wish to consider a more pro-active role in this respect.

- **Costs**

Operating costs and initial establishment costs are viewed as increasing above underlying inflationary trends and this is partly characteristic of the main cost heads which the industry has to bear around labour and transport. In addition, if there is a future requirement to procure seed product, rather than rely on natural sources, this may add costs. This has implications for rent charges, albeit that site rents in overall terms, are not a major outgoing for production sites. Start up costs have been added to through the new planning structure and in this respect, the phased introduction of rental charges for new leases, over a four year period has been acknowledged and welcomed by the industry as providing some support. There is however, concern over planning costs which can be significant and this is touched on below under a separate heading.

- **Other Lease Terms**

Changes previously made with regard to the alienation provisions, allowing flexibility around assignation of the lease combined with a 25 year term, will support potential on-going continuity of business structures. Observations were made around the possible lengthening of this, however at the moment, we view a lease term of 25 years as being not unreasonable, providing a period within which the significant investment costs which are now required to establish a production site can be potentially spread.

- **Rent Calculation**

The previous review broadly brought forward the historic approach where rent is related to consented equipment, based on a set rate per metre length of longline/trestle. Representations were made that a fairer model would be to have rent related to deployed equipment or have a reference to either production or turnover. We have considered the representations made and remain of the view that the existing charging structure provides a clear and transparent approach to rent calculation and also a model which allows recovery/audit of rental charges on an economic basis without raising additional administrative costs for both the landlord and tenant. A move to deployed equipment would inevitably involve a system of physical site visits/audits and arguably could act as an incentive towards the under-utilisation of sites which has been raised elsewhere as a wider issue within the industry. Rents which are benchmarked to production output or turnover would again require farmers to make specific returns of production and financial information to the landlord and may effectively penalise farmers who, through good practice, are able to maximise output volumes and values from their operational site. In terms of moving forward, we would therefore propose that the existing structure for rent calculation be maintained. We would however highlight that, as identified in our report, the industry is looking at varying production methods as part of a move towards efficiency and growth. If this trend continues, there may be a requirement to look in more detail at alternative production methods within species to ensure that there is a consistent approach being applied which can capture, on an equitable basis, new methods of production.

6.4 Planning

- 6.4.1 The introduction of Local Authority based Marine planning regulations for shellfish farms is perceived as a costly innovation for many operators, and is of particular concern for new entrants to the industry who view the planning application process as an expensive and time consuming exercise, with no guarantee of success. In addition, there are suggestions of different interpretations of the planning process between Local Authorities.

- 6.4.2 The observations made should be put in the context of the historic role which was provided by the Crown Estate in this respect, generally at no added cost to the tenant. As such, the change in structure will inevitably be viewed as an added expense and the concerns brought forward may reflect uncertainties over the introduction and establishment of new mechanisms and procedures.
- 6.4.3 We are aware of on-going consultation between relevant Local Authorities to secure consistency of approach across boundaries. If however, differences in interpretation occur, these may equally apply to planning applications generally and may not be specifically related to the aquaculture industry and Marine planning. We understand that fees are set by the Scottish Government and that individual Local Authorities have no control over these. The Government clearly has objectives around promoting the growth of aquaculture and in this respect, if there was evidence that the level of planning fees was becoming an obstacle for growth of the industry frustrating development of new production capacity, this would be an area of concern. Evidence in this respect however is likely to be anecdotal at this point in the economic cycle as future expansion/growth of production may first have to be triggered by stronger market forces of supply and demand.
- 6.4.4 Beyond new consents, there is however concerns over charges triggered by modifications and variations to existing established operations. As with the other issues under this head, this falls outwith the control of the Crown Estate, other than where support can be provided where possible in terms of flexibility around definitions of lease demise and the tolerances within which equipment siting can be made.

6.5 Environmental/Regulation

- 6.5.1 Another continuing issue remains the threat of biotoxin events - not so much the actual events themselves, although they do increase general uncertainty - but the process of management of the events, specifically the monitoring of shellfish and prevention of contaminated product reaching consumers. The FSA is driving a programme to increase producer responsibility for precautionary monitoring/sampling/testing through new guidance on toxin test results, a process that they acknowledge will increase shellfish farmers' management costs and impact on harvesting schedules. However, effective implementation of the proposals would reduce the likelihood of public health problems such as associated with the Shetland event of 2013.
- 6.5.2 Classification of shellfish cultivation areas (A, B or C) by the FSA is another area of industry concern, not only the number of Class B waters and the perceived uncertainty around the basis for these classifications, but also the proposed replacement of the so-called 'Fast Track' Classifications based on 4 weekly samples with a 'Provisional' Classification requiring 10 samples over 3 months. There is also a

general concern about declining water quality, despite the protection of the EU 'Water Framework Directive'

6.5.3 The possible introduction of a regulatory standard for Norovirus contamination in oysters using the current method of analysis is widely viewed as a severe threat to oyster growing operations

6.5.4 Again, these are areas within which the Crown Estate has limited input other than in an advisory capacity in areas such as water quality and restricting potential pollution.

6.6 Natural Factors

6.6.1 The uncertainty of natural spatfall remains an area of concern for both the mussel and scallop sectors, particularly when attempting to raise capital for new ventures or expansion. Discussions around investment in Scottish based hatchery capacity are expected to increase in intensity in the future, especially if there are further years of poor natural collection of spat. Given that proven technology exists for mussel, oyster and scallop hatchery operations, it would appear that a multi-species hatchery may offer potential for a commercially successful operation, however the scale of funding required combined with the degree of risk may prove too great for profit driven investors and an element of public sector support may be essential. The alternatives of importing seed (King scallops from Norway and mussel seed from Ireland) are both expensive and suffer from potentially high mortalities.

6.6.2 A significant potential threat to the Pacific oyster sector is infection with the oyster herpes virus, with the prospect of production being decimated, as has occurred in other countries

6.6.3 Again, these are areas in respect of which the Crown Estate may be able to offer limited support other than through promotion of policies around water quality as touched on above. In the case of discussions around the development of a hatchery, the industry would no doubt welcome support in terms of research projects and consultations with potential investors and public sector bodies.

6.7 Investment/Business Succession

6.7.1 It appears that the industry continues to suffer constraints in responding to the requirement to expand individual operations (sites) and corporate scale in order to access efficiencies, lower costs and minimise unit cost. In addition, operators are seeking to improve sale values through securing new market outlets and the development of innovative products. All of these actions require investment; however there appears to be an on-going shortage of such funds in terms of the overall industry. When such funds are available there are examples of positive development and consolidation. Greater involvement of venture capital alongside the established public sector sources of investment, including the EU 'European Maritime and Fisheries

Fund', must represent a strategic goal for the industry, if it is to have any realistic opportunity of achieving the targets established under the Scottish Government's aquaculture strategy of total shellfish production of 13,000 tonnes by 2020.

6.7.2 For a number of growers there are worries relating to succession planning or management of an exit strategy, at least on the West Coast, where there is a different demographic profile from the 'younger' industry in Shetland. The value in a shellfish farming operation largely reflects quality of site(s), individual expertise and established market outlets, as the value of plant and equipment tends to be limited (except where there has been investment in the more capital-intensive forms of cultivation). This helps explain the concern of growers that their main asset, the production site, is rented from The Crown Estate on a limited period and is not 'owned', thereby making it more difficult to realise the true value of the operation in the future.

6.7.3 Positive steps in this direction were made on the occasion of the last review, when the standard lease agreement was extended to provide for a 25 year term. Whilst within the industry, there may be a desire for longer lease periods and potential outright ownership of leased sites, it is recognised that flexibility for the Crown Estate to move beyond the steps taken previously, will be limited. We view it as unlikely that the Crown would resist an approach for a lease extension/renewal in circumstances where an operation was being successfully managed and run in accordance with the requirements of the lease.

6.8 Conclusion

6.8.1 In summary, a common view within the typical SME of the industry is that, despite widely recognised positive environmental and sustainability credentials, their situation is one of heavy regulation (planning, Classification, biotoxins and viruses) and associated administrative burdens with little or no gain to either the environment/ecosystem or their businesses. This is viewed as compounded by lack of support from bodies which are viewed as 'natural' allies for the industry, such as SEPA, SNH and the Crown Estate. Although there may be an element of over simplification in this, the sector is clearly (and necessarily) regulated and there are inevitably associated costs.

6.8.2 Despite these concerns the industry remains positive about the future and appears determined to continue to expand. In the context of the current remit, it is clear that the industry does however face challenges, a number of which are outwith their direct control, but which have an impact on the financial viability of farming operations.

6.8.3 On the positive side, there have been significant commercial innovations in recent years, namely the inflow of foreign capital to the production sector, specifically oysters, the emergence of a major single mussel production company and the

development of two extensive, multi-species marketing chains through 'Loch Fyne Oysters' and the 'Scottish Shellfish Marketing Group'. The former is also a good example of consolidation and integration via purchase of an oyster hatchery.

6.8.4 Rent Review Conclusions

- 6.8.4.1 As referred to above, we are of the opinion that the structure of the rent calculation should be brought forward and having reached this conclusion, we have then focussed on the charging structures which were recommended in 2010 and whether it would be appropriate to suggest a variation in these.
- 6.8.4.2 Our commentary around the characteristics of the industry shows a mixed pattern in terms of production volumes and values over the period since the last review. As mentioned, the industry has proved resilient in a period of economic downturn but is clearly susceptible to a number of issues which in part lie outwith its control and which can have a significant impact on economic viability.
- 6.8.4.3 Reported values for end product show movement within a narrow band in recent years and in overall terms, across all sectors, figures within the Marine Scotland Report identify a potential turnover in the order of £8.9 million. This can be contrasted with the figure from the 2008 Marine Scotland Report at £7.55 million. Whilst this shows an increase of circa 17.5 %, this is likely to be below the movements which will have been experienced in terms of production costs over a similar period and profitability in general cannot be expected to have increased significantly. At the time of the last review, the total rental income to the Crown Estate from shellfish leases was in the order of £110,000. The corresponding figure is currently around £100,000. As a percentage of the estimated turnover identified by Marine Scotland this shows a reduction from 1.5 % to around 1.15 %. On the occasion of the review in 2010, however, the recommendation made and adopted by the Crown Estate was for a change in rent charging structure which was anticipated to result in a reduction in overall rental income of around 15 %, taking the previous relationship from 1.5 % to circa 1.275 %. On this basis, the current figure is broadly in line with the established structures and relationship to turnover.
- 6.8.4.4 Given the comments in our report, on the background to the industry, and the challenges which it faces in terms of production costs and regulation requirements, we would not recommend an increase on the occasion of the rent review which would result in a change in the general turnover/rent percentage relationship. As this is being broadly maintained at current levels we would suggest that the existing rates be brought forward. In addition, and in continued support for the development of the industry, we would recommend that the discounts which apply for new lease agreements also be maintained with a stepped rent over the initial 5 year term of a lease as set out in the Crown Estate document enclosed at [Appendix 3](#). We would also propose that the Outer Island discount be maintained at the existing level of 10%.

6.8.4.5 As touched on above, representations were made on utilisation of sites. In the case of fin fish leases, dead rents apply which can be significant sums. This characteristic may be harder to mirror in the shellfish sector to the same effect and rather than proposing a dead rent structure for lack of use, this matter may be best monitored/managed by the Crown Estate through the potential use of existing powers to take back leases under the defined circumstances of lack of development/use.

7. Conclusion

- 7.1 We have summarised the recommendations made from our report in an Executive Summary attached at [Appendix 6](#).
- 7.2 Finally, in reflection of the representations made to us, through the consultation process, we would record once again, the desire of the industry for the Crown Estate to adopt a pro-active role where it can in support of shellfish operations. There is an acknowledgement that the Crown Estate have been supportive in the past through restructuring of lease style, however the industry would welcome any further positive input which can be made in terms of investment in research, promotion of water quality and exploring avenues through which the market for end product can be expanded.
- 7.3 We trust that our Report meets the instructions given to us.

GVA James Barr
A Bilfinger Real Estate
company



Appendix 1

Crown Estate Lease Template



File Number:

LEASE

between

THE CROWN ESTATE COMMISSIONERS, acting in exercise of the powers of The Crown Estate Act 1961 on behalf of The Queen's most Excellent Majesty (who acting and on behalf as aforesaid are hereinafter called "the Commissioners")

Of the First Part

And

■ (Registered Number ■) incorporated under the Companies Acts and having its registered office at ■ (who and his successors in the right of occupancy of the Lease afterdefined are hereafter referred to as "the Tenant")

Of the Second Part

The parties DO HEREBY AGREE as follows:-

1. The Commissioners in consideration of the rent and other prestations hereinafter specified and subject as provided in terms of this Lease hereby let to the tenant ALL and WHOLE the subjects described in paragraph 1 of the Schedule (hereinafter called "the Schedule" which expression includes the plan or plans referred to therein and will include or mean, as the case may be, any variation of the Schedule, or new schedule substituted for the Schedule, as well as any new plan or plans substituted for the said plan or plans, and executed in any of these cases by the parties for annexation hereto; and references hereinafter to paragraphs of the Schedule in the event of such variation or substitution of the Schedule will be construed after such variation or substitution as references to the paragraphs in such variation or substitution) (hereinafter called "the Subjects") from the date ("the date of entry") and for the period specified in paragraph 2 of the Schedule notwithstanding the dates hereof; declaring that the Commissioners warrant this Lease from fact and deed only.

2. The subjects are let for the purpose of anchoring equipment as specified in paragraph 4 of the Schedule (hereinafter, including anchors, called “the Equipment”) for the rearing and cultivation of the species of shellfish specified in paragraph 3 of the Schedule (hereinafter called “the Shellfish”) and if the Subjects do include any area or areas listed under Part 1(b) of the Schedule, then those areas listed under Part 1(b) of the Schedule may be used only to anchor the ancillary equipment listed in Part 4(b) of the Schedule (“the Ancillary Equipment”) and for no other purpose.

3. There is excepted and reserved (a) to Her Majesty and Her Successors the whole mines, metals, minerals and fossils in so far as belonging to Her and Them within or under the Subjects, with full power and liberty to Her Majesty and Her Foresaids and to any person authorised by Her or Them to search for, work, win, raise, calcine and carry away the said mines and others and to do everything necessary for all or any of these purposes, subject to compensation being made to the tenant for all loss or damage which the tenant suffers as a result of the exercise of the said power and the amount of such compensation shall, failing agreement, be ascertained by reference to a single arbiter, and (b) full and free right for Her Majesty and Her Foresaids and for all persons by Her or Their permission and for all members of the public to exercise all rights to which they may be entitled and all privileges which they may enjoy from and over the Subjects including without prejudice to the foregoing generality such rights of navigation and fishing as exist, but so that authorised equipment anchored to the Subjects shall not be prejudiced by this exception and reservation.

4. The Commissioners may at any time after the expiry of three months’ written notice of their intention to do so resume possession of any part or parts or of the whole of the Subjects, or without the need for 3 months notice as provided in Clause 1 in the case of any part or parts or the whole of those areas listed in Part 1(b) of the Schedule, for any purpose which in the opinion of the Commissioners is of sufficient importance to justify such resumption, and which may without prejudice to that generality, include (One) meeting the statutory requirements of any statutory body or Harbour Authority, and (Two) the provision and enhancement or extension of any structures, navigational aids, defence requirements, navigation routes and others, but not in the case of subjects listed in Part 1(a) of the Schedule only, for the

purpose of letting for cultivation of the Shellfish. Subject as hereinafter provided compensation will be made to the tenant for all loss which the tenant suffers as a result of such resumption but only in respect of the Subject listed in Part 1(a) of the Schedule and the amount of such compensation shall, failing agreement between the Commissioners and the tenant or at the option of either of them after the lapse of 1 month following such resumption, be ascertained by reference to a single arbiter who, failing agreement between the Commissioners and the tenant within 1 month as to who should be appointed, shall be appointed by the Chairman for the time being of the Scottish Branch of the Royal Institution of Chartered Surveyors but provided that such compensation (a) will not exceed the amount of any compensation which the Commissioners receive under statute or otherwise as a consequence of being obliged under statute or in law to resume possession as aforesaid and (b) will be ascertained while taking account of the fact that any appropriate reduction in rent consequent upon such resumption has been or will be determined as hereinafter declared; declaring that the tenant will be entitled to a reduction of rent of such amount which the Valuation Office, Inland Revenue determines to be appropriate, after the tenant has had the opportunity of making representations to that Office, in respect of any material reduction of the value of the Subjects for the purpose provided in Clause 2 hereof and caused by the exercise of the said power of resumption. For the avoidance of doubt no compensation shall be payable for any resumption of any part of the areas or the whole of the areas described in Part 1 (b) of the Schedule.

5. The tenant will pay to the Commissioners the annual rent as provided in paragraph 5 of the Schedule
 - (a) on the date of entry, but only the proportion of the annual rent which corresponds to the proportion which the period (counted in days) from the date of entry to the next following 31st day of December (both days inclusive) bears to the full year, and
 - (b) on the 1st day of January (next following the date of entry) and on the first day of January in each year thereafter throughout the duration of this lease, which annual rent will be subject to review as from the 1st day of January 2010 or such later date as the Commissioners may decide and the rent

payable and the method and frequency of review thereof under this Lease on and after such date will be determined (failing agreement between the parties) by the Valuation Office, Inland Revenue; declaring that the tenant will have the option to terminate this Lease with effect on the 31st day of December in any year provided that the tenant has given at least 6 months written notice to the Commissioners of the exercise of said option.

- 5.1 The annual rent shall be paid free from all deductions with interest thereon at 3% above Bank of Scotland Base Rate as such rate may vary from time to time from the due date of payment until payment is made or, at the option of the Commissioners or on any cessation of said Base Rate, at the rates prescribed by Treasury Regulations from time to time under the Land Compensation Acts or under any statutory re-enactments or amendments thereof or substitution therefor or at the rates prescribed under any future statute which in the opinion of the Commissioners shall apply;
6. The tenant hereby undertakes:-
 - 6.1.1 not to assign the Lease in part nor to sub-let or otherwise part with or share possession or occupation of part only of the Subjects;
 - 6.1.2 not to assign the Lease of the Subjects as a whole without first obtaining the written consent of the Commissioners which consent shall not be unreasonably withheld in the case of a substantial and respectable assignee who is of sound financial standing and is in the reasonable opinion of the Commissioners able to perform the Tenant's obligations under the Lease, but which consent, if granted, may be subject to such conditions as the Commissioners may impose including the condition that the Commissioners may require a guarantee or guarantees in respect of the obligations incumbent upon the Tenant hereunder.
 - 6.1.3 not to sub-let the whole of the Subjects nor to permit occupancy of the Subjects on any basis by any party other than the Tenant.
 - 6.2.1 to pay all present and future rates, taxes and assessments and outgoings whatsoever payable in respect of the Subjects, by whatever party or authority leviable and whether related to the landlord's interest or the tenant's interest herein.

- 6.2.2 without prejudice to the generality of Clause 6.2.1 hereof to pay all Value Added Tax legally payable on all monies payable by the tenant to the Commissioners in terms of this Lease declaring for the avoidance of doubt that all monies payable by the tenant to the Commissioners in terms of this Lease are expressly declared to be exclusive of Value Added Tax.
- 6.3 to carry out his operations in accordance with the best and most up to date method of marine farming and to use his best endeavours to keep the Shellfish in good health and free of disease at all times.
- 6.4 to implement and observe the conditions (if any) specified in paragraph 6 of the Schedule.
- 6.5 to use his best endeavours to avoid any unnecessary interference with, damage to or destruction of wildlife, flora and fauna and their natural habitat whether on land or at sea; including without prejudice to the foregoing generality to refrain from the use of any chemical, liquid, substance, commodity, treatment, or otherwise which may be proscribed by an authority having the power to do so or which the Commissioners in their sole discretion shall regard as toxic or noxious; declaring further that in the event the tenant or anyone acting as his employee or agent shall be convicted of any offence or commit any act which in the sole opinion of the Commissioners constitutes a breach of the obligations imposed by this clause the Commissioners may terminate this lease with immediate effect by giving written notice to the tenant to that effect but reserving all rights in respect of any breach of the tenants obligations outstanding at the date of such termination.
- 6.6 if oyster beds or mussel scalps naturally exist or form on the Subjects or any part thereof, not to crop the same and to preserve the oysters and mussels.
- 6.7 to submit to the Commissioners for the Commissioners' approval before installing the Equipment or the Ancillary Equipment which is to be fixed or anchored permanently or semi-permanently whether directly or indirectly on the Subjects such plans and/or specifications of the Equipment or the Ancillary Equipment as the Commissioners may require and not to materially install or alter the Equipment without the

Commissioners prior written consent, nor to install or use any other or additional equipment without the previous written consent of the Commissioners (and such additional equipment, when installed or used with the said consent of the Commissioners, will be included in the meaning of “the Equipment”).

- 6.8 to maintain and keep the Equipment and the Ancillary Equipment in good, safe and substantial repair, order and condition.
- 6.9.1 to keep the Subjects in a clean and tidy condition and to take all reasonable steps to prevent any litter or detritus of any kind arising directly or indirectly from the tenant's operations to be deposited on any neighbouring subjects by whomsoever owned including without prejudice to the foregoing generality the removal of any of the Equipment and the Ancillary Equipment when it is redundant; nor to do or permit any other act whether or not sui generis with the foregoing on the Subjects which may in the sole opinion of the Commissioners be or become a nuisance, annoyance or disturbance.
- 6.9.2 in that the tenant has accepted the Subjects as suitable in all respects for the purposes permitted under this Lease and without prejudice to the terms of clause 6.9.1 hereof the tenant shall at any time during the currency of the Lease when necessary, to prevent injury or damage to any person or property, or at any time on request of the Commissioners during the currency of the Lease and in any event on termination of this Lease however effected take all reasonable steps to prevent any debris, litter or equipment of any description being deposited on or remaining on the Subjects (including for the avoidance of doubt any litter, debris or equipment as may have been present at the date of entry under this Lease as to which the Commissioners grant no warranty, the Tenant being deemed to have made all relevant enquiry) and all at the Tenant's cost and shall not permit anything which is or may be or become a danger to the public or any other party in the opinion of the Commissioners, to remain upon or near the Subjects and generally to ensure that the Subjects are maintained in a clean and safe condition at all times and clear of all rubbish or old or abandoned equipment or matter of any description and are returned to the Commissioners upon termination of the Lease however effected in such condition.

- 6.10 to permit the Commissioners and any person duly authorised by them from time to time and at all reasonable times to enter into and upon and inspect the Subjects and the state and condition thereof and if any want of repair or defect shall be found or appear in the Equipment or the Ancillary Equipment on receiving notice to that effect the tenant shall be bound to repair and amend the same within the three months of the receipt of such notice.
- 6.11 to pay to the Commissioners all reasonable expenses incurred by the Commissioners and by any person duly authorised as aforesaid of and incidental to any inspection of the Subjects of and incidental to the superintendence or supervision of the execution of the repairs and amendments mentioned in sub-clause 6.10 of this clause.
- 6.12 not in any way to hinder or obstruct the due exercise and enjoyment of any rights or privilege hereby excepted and reserved.
- 6.13 not to do or knowingly suffer to be done on the Subjects any act or thing whatsoever which shall in the sole opinion of the Commissioners in any way interfere with, interrupt, damage or diminish the concurrent rights of the Commissioners or other parties having rights as proprietors, tenants or operators of fishings or as cultivators or rearers of shellfish existing or to be granted in respect of the Subjects wherever said fishings cultivation or rearing may be situated.
- 6.14 not to delay in establishing the said rearing and cultivation and in laying the Equipment after the date of entry (as specified in paragraph 2 of the Schedule); declaring (a) without prejudice to the tenant's obligation not to delay as aforesaid that if the tenant has not established the said rearing and cultivating in a proper and businesslike manner and is not properly stocking and rearing the Shellfish using the Equipment all to the reasonable satisfaction of the Commissioners within two years of the date of entry or (b) that if at any time after having commenced to do so the tenant ceases for a period longer than 12 months without the previous written consent of the Commissioners to rear and cultivate and stock the Shellfish as aforesaid, then the Commissioners, after giving written notice to the tenant requiring the tenant to fulfil his obligations under this sub-clause within such period being not less than twenty-eight days as may be reasonably determined by the

Commissioners, in the event of the failure of the tenant so to fulfil his obligations, shall have the option to terminate this Lease, reserving all rights in respect of any antecedent breach of the terms of this Lease by the tenant.

- 6.15.1 to obtain a Marine Licence from the Scottish Government under the Marine (Scotland) Act 2010, or documented confirmation of exemption, and any other statutory or necessary consents including in particular but without prejudice to the foregoing generality any necessary consent (including without prejudice to that generality consent from the relevant planning authority) for farming the Species on the Subjects and for installing the Equipment and Ancillaries and the Additional Ancillary Equipment and for such associated onshore development before initiating development of the Subjects. The Tenant shall be bound at all times throughout the Duration to comply with all statutory duties and requirements relating to the Subjects and/or the Equipment, any Ancillaries, Additional Ancillary Equipment or the purpose for which the Subjects are let.
- 6.16.1 to indemnify Her Majesty and Her Successors and the Commissioners now and in all time coming from and against all and any actions, proceedings, claims, demands, costs and expenses in consequence of the exercise by the tenant of the let hereby granted howsoever said actions, proceedings, claims, demands, costs and expenses may arise and whether they arise at statute or common law and whether they are related to the landlord's interest or the tenant's interest herein; declaring expressly that said right of indemnity hereby conferred upon the landlord shall not extend to indemnifying the landlord from the consequences of any negligent act or omission of the landlord which may give rise to any action, proceedings, claim, demand, costs or expenses whether at statute or common law, but declaring that the Commissioners shall have right to contest any such actions, proceedings, claims or demands (howsoever such actions, proceedings, claims or demands may arise) as they in their sole discretion may decide.
- 6.16.2 To maintain in force Public Liability Insurance in the sum of at least £1,000,000 pounds sterling (which sum shall be increased in each year by the amount by which the General Index of Retail prices published by the Central Statistics Office last published prior to the anniversary of the Date of Entry, has increased over the preceding twelve month period, failing which Index by such increased amount as

the Commissioners shall determine in their reasonable discretion) to include any liability of the Commissioners to pay damages, fines, costs, or other costs of any nature which may be capable of falling directly or indirectly on the Commissioners as a result of or in connection with the Tenants' occupation or use of the Subjects or the placing of equipment or the presence of any old or redundant equipment or structures upon or within the Subjects, and to provide the Commissioners annually or upon request evidence of such insurance and of the payment of the premium therefor.

- 6.17 at the termination of this Lease to leave the Subjects clean and in good condition and without prejudice to the foregoing generality to remove all forms of detritus arising from the Tenant's operations from the seabed and to remove the Equipment (and associated moorings) and the Ancillary Equipment (and any associated moorings) and any other old or abandoned equipment as debris or rubbish and generally to restore the Subjects to a proper safe and clean condition all to the sole satisfaction of the Commissioners and also to the satisfaction of any statutory or regulating authority.
7. The tenant will be deemed to have satisfied himself that the Subjects are suitable for the said purposes mentioned in Clause 2 hereof and shall have no claim against Her Majesty or Her Successors or the Commissioners or their successors in respect of any loss or damage sustained by the tenant as a result of the exercise by others of the public rights including those of navigation and fishing hereby reserved, or by the exercise of the rights by others of fishing for fish of the salmon kind.
8. If at any time while this Lease subsists:-
 - a) the rent or any part thereof shall be in arrear and unpaid for 28 days, from the due date of payment (whether or not demanded) or from the date of the Commissioners' invoice for rent, whichever is the later.
 - b) there shall be any breach by the tenant of any of the obligations and conditions contained in this Lease, or
 - c) the tenant has failed to comply timeously with any notice given by the Landlord referring to the terms of this Lease, or

- d) the tenant (being an individual or individuals or a partnership or unincorporated body) becomes apparently insolvent (or being a company) enters into insolvency (which includes suffering the appointment of an administrator or administrative receiver) or goes into liquidation (save for the purpose of amalgamation or reconstruction not involving insolvency and approved by the Commissioners) or (being any of these) enters into an arrangement or composition for the benefit of the tenant's creditors, then and in any of the said cases, the Commissioners shall be entitled forthwith by written notice to terminate this Lease and treat this Lease and all transmissions thereof with all that has followed or can competently follow thereon as void and null and that without the necessity of any declarator, process of removal, or other procedure at law and the Subjects shall thereupon revert to the Commissioners and it shall be lawful for the Commissioners or any person or persons duly authorised by the Commissioners in that behalf to enter upon possession of the Subjects or any part thereof in the name of the whole and to uplift rents, eject tenants and occupiers and thereafter to use, possess and enjoy the same free of all claims by the tenant as if this Lease had never been granted, but all such rights are without prejudice to any right of action or remedy of the Commissioners in respect of the premature termination of this Lease or of any antecedent breach by the tenant of any of the obligations and conditions contained in this Lease which irritancy is hereby declared to be pactional and not penal and shall not be purgeable at the Bar.
9. All notices hereunder shall be in writing and if sent by post shall be sent by recorded delivery post and shall be deemed to be received at the same time of day 2 business days (Saturday, Sunday and public holidays being excluded) after posting. Notices by or on behalf of the Commissioners to the tenant shall be addressed to the registered office in the case of a corporate body and in the case of a tenant who is not a corporate body to their address as given herein or to the last known private or business (as the case may be) address and if the tenant is more than one person to such address of any one of these persons.
- 10 No variations hereof shall be effective unless made in writing executed by the parties.

- 11 For the avoidance of doubt, it is declared, and the parties hereby agree, that neither the grant of the Lease on behalf of Her Majesty, nor anything expressed or implied herein shall give or be interpreted to give any freedom or immunity from or relaxation of, the requirements of any legislation, regulation, order or instrument having the force of law in the United Kingdom, now or at any time during the subsistence of this Lease.
12. The interpretation and meaning of these presents and of any documentation or agreement supplemental thereto, the rights and obligations of the parties and any questions arising at any time between the parties hereunder or thereunder, shall be determined in accordance with the law of Scotland, and the parties hereto, if not otherwise subject to the jurisdiction of the Scottish Courts, hereby severally prorogate the jurisdiction of the Scottish Courts hereunder and thereunder.
13. In these presents where the context so admits words importing singular number include the plural number and words importing the masculine gender include the feminine and neuter and where there are two or more persons included in the expression "the tenant" the obligations herein expressed or implied to be made by the tenant are made by such persons jointly and severally.

Certificate re prior Agreement of Lease

14. We the parties certify that this Lease is not a lease which gives effect to an agreement for lease as interpreted by the Inland Revenue in terms of the guidance note dated 30.06.94 referring to Section 240 of the Finance Act 1994.

Registration

15. The parties hereto consent to registration hereof for preservation and execution:

IN WITNESS WHEREOF

TCE.....

TCE WIT.....

DIR.....

WIT.....

THIS IS THE SCHEDULE REFERRED TO IN THE FOREGOING LEASE BY THE CROWN ESTATE COMMISSIONERS TO ■ RELATIVE TO THE SEABED AND FORESHORE AT ■

- 1.(a) ALL and WHOLE that piece or those pieces of land situated at ■ and for the purpose of registration of writs in the County of ■ which is or are shown delineated and coloured pink on the plan or plans marked "Fish Farm Plan" annexed and executed as relative hereto.
2. The date of entry as referred to in Clause 1 of the foregoing lease is ■ and the period referred to therein is ■ from the date of entry.
3. The specifications of the species of shellfish referred to in Clause 2 of the foregoing lease is ■
4. The specification of the Equipment referred to in Clause 2 of the foregoing lease is:-
■

or such alternative equipment as may be permitted by the Commissioners.

5. The amount of annual rent to be paid in terms of Clause 5 of the foregoing lease is:-
£ ■ on 1st January ■
And £ ■ each 1st January thereafter, subject to the Rent Review on 1 January 2015
6. The conditions referred to in sub-Clause 6.4 of the foregoing lease are:-
Installations other than navigation markers should be dark matt grey in colour to reduce the effects on the landscape.

7. With effect from the date of entry as referred to in Clause 1 of the foregoing lease (notwithstanding the dates hereof) the Tenant renounces (insofar as not already renounced) its whole right and interest in and to the lease granted by the Commissioners in favour of the Tenant dated ■

8. The sites included in this lease are deemed to be the areas approved for shellfish farming in accordance with Planning Consent ■ dated ■ . Modifications to the site will be subject to the agreement of the Crown Estate Commissioners.

The permitted installations in the leased areas will be confined to equipment required for the purpose of shellfish farming, subject to any restrictions or conditions specified in the Planning Consent and agreed by the Crown Estate Commissioners

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WIT.....



File No: ■

L E A S E

between

THE CROWN ESTATE COMMISSIONERS

and

■

Subjects: ■

Period: ■

GVA James Barr
A Bilfinger Real Estate
company



Appendix 2

Copy of Questionnaire

**CEC – SHELLFISH SITE LEASES
RENT REVIEW JANUARY 2015
WORKING GROUP QUESTIONNAIRE**

CALCULATION OF THE RENTAL AMOUNT

	COMMENTS
Do you consider that the present method of calculating the Crown Estate rental:	
(a) Is appropriate to your business (ie. rents for shellfish farms referenced to consented scale of equipment)?	
(b) Takes sufficient account of changes in the economic circumstances of the industry?	
(c) Is sufficiently simple to understand?	
(d) Is broadly fair and reasonable?	
(e) If not what other approach would be better?	

LEASE TERMS

	COMMENTS
Are there any other comments that you would like to make in connection with the Crown Estate lease?	

INDUSTRY COMMENTS/OBSERVATIONS

	COMMENTS
We would welcome any observations you have on the underlying strength of the wider industry and particular concerns which are current (eg planning regulations, production area Classification, official biotoxin monitoring, environmental issues) and which may impact on future development of the industry.	

GVA James Barr
A Bilfinger Real Estate
company



Appendix 3

Crown Estate 2010 Rent Review Summary Document

Shellfish Farm Lease Rent Review 2010

Proposals for the Terms & Conditions of The Crown Estate Lease for Shellfish Farms - to apply from 1st January 2010

1. The existing style and structure of The Crown Estate shellfish lease be maintained and brought forward.
2. The standard lease term for new leases signed after 1st January 2010 to be moved to 25 years.
3. The lease agreement to allow assignation rights, subject to landlords consent. The Crown Estate already generally permits assignation of leases on this basis, subject to landlord's consent, so this proposal merely seeks to amend the wording of the lease to accommodate current practice.
4. The existing provisions to allow The Crown Estate to initiate termination procedures in the event of sites not being developed or used to be maintained. In view of the proposal to move the standard lease term to 25 years, consideration of termination rights in such circumstances will be carried out on a more frequent basis albeit in conjunction with liaison with tenants to establish the relevance of any mitigating circumstances that may apply.
5. In recognition of the additional costs now required to secure planning consent and in view of the proposal to move the standard lease term to 25 years, the start up discount for new leases to be extended to run over the initial 4 years of the agreement with rents phased as follows:
 - Year 1 - 0% of agreed rent
 - Year 2 – 25% of agreed rent
 - Year 3 – 50% of agreed rent
 - Year 4 – 75% of agreed rent
 - Year 5 – 100% of agreed rent
6. The calculation of rents under shellfish leases to continue to be based upon consented equipment, with the current equipment length banding structure replaced in favour of a rent per metre of consented equipment length. The Crown Estate will also be prepared to consider representations in support of temporary discounts of rent where a material difference exists between consented and deployed equipment, where circumstances are agreed to be appropriate.
7. With effect from 1st January 2010 the underlying level of rent across all species sectors to be reduced by approximately 15%, with rental charges as follows:
Mussel Cultivation – rent based on 20.5 pence per metre of longline length subject to a minimum rent of £135 per annum.

Scallop Cultivation - rent based on 5.5 pence per metre of longline length subject to a minimum rent of £115 per annum.

Oyster Cultivation - rent based on 26.5 pence per metre of trestle length subject to a minimum rent of £115 per annum.

(An Analysis of Proposed Rent Charges is appended to indicate the levels of rent proposed against notional equipment lengths, with comparison to relative change against current rent charges.)

8. The existing Outer Island discount to be maintained but at a lower level of 10%, to be phased in over 2 years, such that

It will remain at 20% from 1st January to 31st Dec 2010

Reduce to 15% from 1st January to 31st Dec 2011

Reduce further to proposed 10% from 1st January 2012

This proposal aims to both bring this Outer Isles discount into line with that for finfish, and recognise similar cost burdens incurred by shellfish producers in certain parts of the mainland/inner isles.

9. The existing arrangements for multiple equipment discounts to be brought forward
10. The current structure for multiple species rents to be brought forward with, however, the fixed charge element reduced to £50, irrespective of location.
11. Existing arrangements for the assessment of rent for ancillary equipment to be brought forward without alteration.

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Appendix 4

Summary of Statistical Information

APPENDIX 4

STATISTICS

Table A1:

Mussel production volume and value

	Production Volume (Tonnes)			Scotland £Million
	Scotland	Shetland	Other	
1995	882	21	861	0.8
1996	1,072	10	1,062	0.99
1997	1,307	96	1,211	1.27
1998	1,355	175	1,180	1.39
1999	1,400	196	1,204	1.47
2000	2,003	372	1,631	2.45
2001	2,988	822	2,166	3.14
2002	3,236	1,246	1,990	3.36
2003	3,632	1,552	2,080	3.28
2004	4,223	2,188	2,035	4.44
2005	4,135	2,150	1,985	4.35
2006	4,219	2,284	1,935	4.2
2007	4,806	2,605	2,201	4.3
2008	5,869	3,506	2,363	5.9
2009	6,302	3,698	2,604	6.3
2010	7,199	3,840	3,359	6.7
2011	6,996	4,567	2,429	8.3
2012	6,277	4,344	1,933	7.5
2013	6,757	4,337	2,420	8.1

Table A2:

Oyster production volume and value

	Shells (Thousand)		Value (£Thousand)	
	Pacific oysters	Native oysters	Pacific oysters	Native oysters
1995	1,973	182	700	30
1996	2,781	96	500	50
1997	2,787	11	700	30
1998	2,857	87	700	10
1999	2,895	142	575	70
2000	3,088	51	615	30
2001	3,483	103	695	30
2002	3,114	191	630	100
2003	3,488	161	700	60
2004	3,586	105	720	40
2005	3,070	162	615	60
2006	3,138	300	700	100
2007	2,603	273	700	100
2008	3,093	250	1,500	90
2009	2,900	490	1,200	130
2010	3,008	350	1,000	100
2011	3,136	350	1,250	140
2012	2,709	317	950	190
2013	1,891	260	620	160

Table A3:

Scallop production volume and value

	Shells (Thousands)		Value (£Thousands)	
	King scallops	Queen scallops	King scallops	Queen scallops
1995	300	1,147	150	57
1996	302	1,271	150	64
1997	223	1,207	112	60
1998	343	3,676	220	184
1999	127	2,842	70	140
2000	323	2,084	180	100
2001	236	1,182	130	60
2002	323	472	175	20
2003	180	1,124	95	60
2004	85	1,118	45	60
2005	100	1,441	55	70
2006	87	1,510	30	100
2007	15	384	20	20
2008	15	687	10	50
2009	35	138	20	10
2010	64	184	50	30
2011	78	27	90	3
2012	58	9	100	1
2013	40	33	50	5

Table A4:

Total shellfish production volume and value

	Tonnes	£Thousands
1995	1,137	2,050
1996	1,391	2,100
1997	1,605	2,274
1998	1,811	2,350
1999	1,772	2,507
2000	2,351	2,978
2001	3,350	4,050
2002	3,558	4,280
2003	3,991	4,190
2004	4,573	5,305
2005	4,464	5,660
2006	4,594	5,400
2007	5,053	5,140
2008	6,221	7,550
2009	6,583	7,660
2010	7,483	7,880
2011	7,285	9,783
2012	6,525	8,740
2013	6,935	8,935

Table A5:

Number of Companies, producing sites and productivity

	Total Companies	Producing Sites						Tonnes/Site
		Shetla nd	Strathcly de	Highla nd	WI	Orkne y	Total	
1995	190	NA	NA	NA	N A	NA	185	6.1
1996	187	2	86	59	6	4	157	8.9
1997	170	4	86	52	10	6	158	10.2
1998	171	6	80	56	11	5	158	11.5
1999	151	6	78	38	13	2	137	12.9
2000	176	13	63	44	10	2	132	17.8
2001	173	32	44	40	16	3	135	24.8
2002	183	31	58	37	8	2	136	26.2
2003	178	34	58	34	11	4	141	28.3
2004	175	45	54	37	14	2	152	30.1
2005	183	49	52	36	14	3	154	29
2006	173	47	58	32	16	3	156	29.4
2007	170	47	54	36	18	2	157	32.2
2008	168	58	38	36	19	1	152	40.9
2009	168	50	45	31	23	1	150	43.9
2010	164	54	40	28	22	2	146	51.3
2011	153	65	42	28	24	2	161	45.2
2012	153	71	40	29	21	2	163	40
2013	142	71	39	27	19	2	158	43.9

Table A6:
Shellfish Prices

	Pence/Kg		Pence/shell					
	Mussels		Pacific Oysters		Native Oysters	King scallops		Queen scallops
	Low	High	Low	High		Low	High	
1995	75	110	12	25	50	50	50	5
1996	75	110	12	25	50	50	50	5
1997	75	120	12	25	50	50	50	5
1998	85	120	20	35	45	45	80	5
1999	80	130	15	25	50	50	60	5
2000	80	130	15	25	50	50	60	5
2001	80	130	15	25	50	50	60	5
2002	80	130	15	25	50	50	60	5
2003	80	130	15	25	35	50	60	5
2004	80	130	15	25	35	50	60	5
2005	80	130	15	25	35	50	60	5
2006	80	100	21	21	35	45	65	7
2007	80	90	22	30	35	100	100	6
2008	100	100	40	40	38	60	60	8
2009	100	100	41	41	27	50	50	9
2010	70	100	31	31	35	70	70	15
2011	90	170	40	40	40	115	115	10
2012	120	120	35	35	60	170	170	10
2013	120	120	33	33	60	129	129	15

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Appendix 5

Marine Scotland
Science – Scottish
Shellfish Farm
Production Survey
2013

Marine Scotland Science

Scottish Shellfish Farm Production Survey 2013



marinescotland
science

Written and compiled by : LA Munro and IS Wallace

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// INTRODUCTION TO THE YEAR 2013 SURVEY

This report is based on the returns of an annual survey questionnaire sent to all active authorised shellfish farming businesses in Scotland. The cooperation of the shellfish farming industry is gratefully acknowledged. The report authors also acknowledge Alan Christie, David Fraser, Keith Mutch, Mhairi Sinclair, Ronald Smith and Andrea Warwick for their contributions to the production of this report.

Production survey questionnaires were sent to 142 businesses registered as active during 2013 ([see Appendix 1, p.14](#)). All return forms were received. During 2013, four businesses became authorised and 10 businesses rescinded their authorisation.

The survey showed that, of the 142 businesses authorised at the end of 2013, 61 recorded no sales during that year. These 142 authorised businesses farmed 328 active sites, of which 158 (48%) placed shellfish on the market. Shellfish production by business and site is presented.

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May 2014

// PRODUCTION

The survey indicates that the shellfish species cultivated in Scottish waters in 2013 were:

Mussel:	<i>Mytilus</i> spp.
Pacific oyster:	<i>Crassostrea gigas</i>
Native oyster:	<i>Ostrea edulis</i>
Queen scallop:	<i>Chlamys opercularis</i>
Scallop:	<i>Pecten maximus</i>

Production was dominated by mussel and Pacific oyster, although small quantities of scallop, queen scallop (queen) and native oyster were also produced. The 2013 production data for each species by region are given in Table 1.

TABLE 1
SCOTTISH SHELLFISH PRODUCTION BY REGION, 2013.

Region	Businesses	Mussel		Pacific oyster		Native oyster		Queen		Scallop	
		(tonnes)		(000s)		(000s)		(000s)		(000s)	
		Tonnes Table	tonnes on- growing	000s Table	000s on- growing	000s Table	000s on- growing	000s Table	000s on- growing	000s Table	000s on- growing
Highland	45	1,096	67	369	3,102	0	977	1	0	38	1,470
Orkney	5	0	0	0	0	0	0	0	0	0	0
Shetland	25	4,337	1,148	0	0	0	0	0	0	0	0
Strathclyde	49	796	0	1,503	3,114	260	38	32	1,490	2	0
Western Isles	18	528	66	19	0	0	0	0	0	0	0
All Scotland	142	6,757	1,281	1,891	6,216	260	1,015	33	1,490	40	1,470
Weight (tonnes)		6,757	1,281	151		21		1		5	

NB: THIS REPORT LISTS REGIONS WITH ACTIVE SHELLFISH FARMS OPERATED BY AUTHORISED AQUACULTURE PRODUCTION BUSINESSES.

CONVERSION TO WEIGHT USED THE FOLLOWING ASSUMPTIONS (BASED ON INDUSTRY FIGURES): INDIVIDUAL OYSTERS AVERAGED 80g; INDIVIDUAL SCALLOPS AVERAGED 120g; INDIVIDUAL QUEEN AVERAGE 40g.

TABLE = SALES DIRECTLY FOR HUMAN CONSUMPTION;
ON-GROWING = SALES TO OTHER BUSINESSES FOR ON-GROWING.

Table production by species is illustrated in Figure 1 ([see page 4](#)), while trends in production for the table market and on-growing in Scotland are presented in Table 2.

TABLE 2
TRENDS IN PRODUCTION DATA FOR THE TABLE AND ON-GROWING 2004-2013.

For the table	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% change 12-13
Pacific oyster (000s)	3,586	3,070	3,138	2,603	3,093	2,900	3,008	3,136	2,706	1,891	-30
Native oyster (000s)	105	162	300	273	250	490	350	350	317	260	-18
Queen (000s)	1,118	1,441	1,510	384	687	138	184	27	9	33	>100
Scallop (000s)	85	100	87	15	15	35	64	78	58	40	-31
Mussel (tonnes)	4,223	4,135	4,219	4,806	5,869	6,302	7,199	6,996	6,277	6,757	+8

For on-growing	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Pacific oyster (000s)	2,510	1,467	1,685	945	26	45	1,633	1,400	3,190	6,216
Native oyster (000s)	0	0	0	10	0	0	300	1	677	1,015
Queen (000s)	600	0	0	0	0	30	0	0	0	1,490
Scallop (000s)	80	382	287	45	0	0	0	104	16	1,470
Mussel (tonnes)	61	20	68	44	30	391	175	282	309	1,281

Despite high levels of shellfish toxins which caused a number of businesses to voluntarily suspend commercial production for several months, mussel production, for the table, increased by 8% in 2013 ([see figure 1](#)). The greatest contribution in regional mussel production was from Shetland, accounting for 4,337 tonnes or 64% of Scotland's total. Pacific oyster production decreased by 30% from 2012 reportedly due to the downstream effects of poor seed supply in 2010 and 2011, environmental factors such as poor growth and losses from severe weather conditions. Meanwhile, production of Pacific oysters for on-growing has significantly increased, supplying markets within and outwith Scottish waters. The Strathclyde region produced about 79% of Scotland's farmed Pacific oysters. Scallop production fell by 31% since 2012 while the production of farmed queen scallops increased by >100% with both these sectors continuing to target small niche markets. Production of native oysters decreased by 18% from 2012. Native oyster production accounts for a small percentage of total oyster production, however, demand for this species continues to be high.

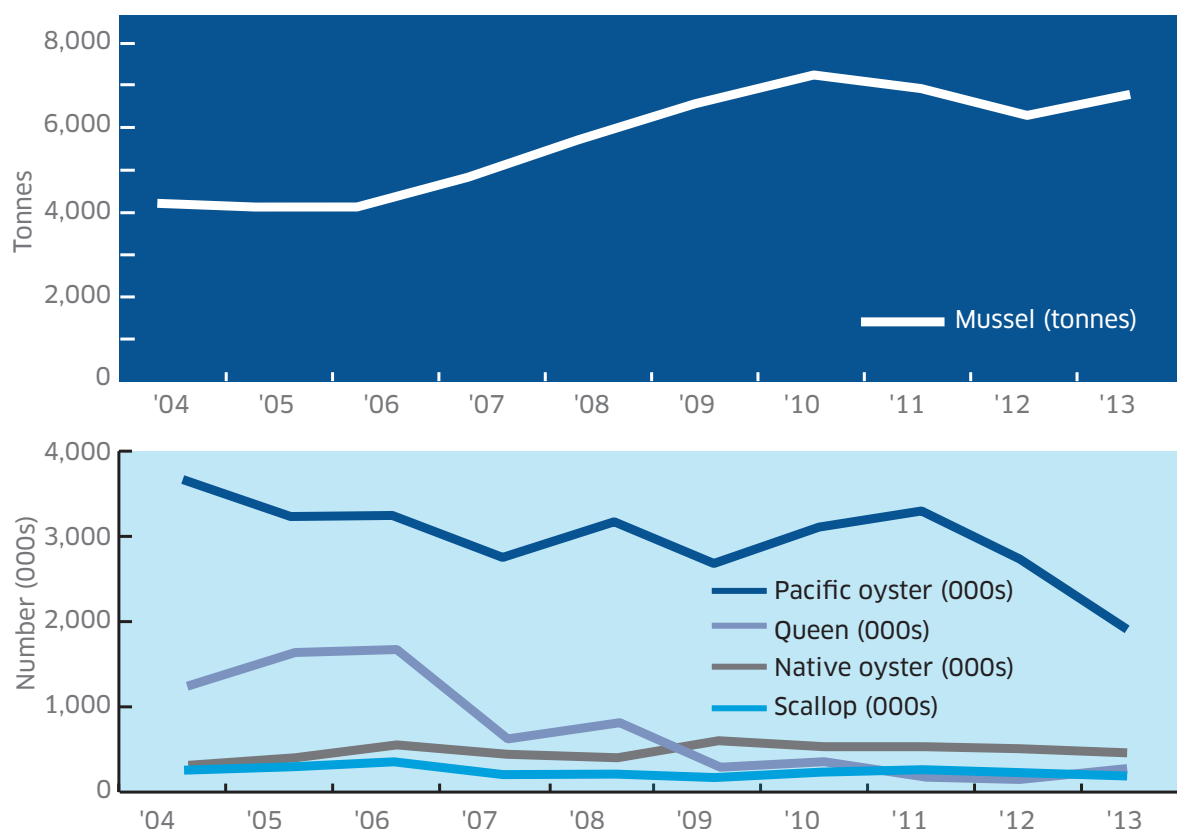


FIGURE 1
TABLE PRODUCTION BY SPECIES 2004-2013.

Prices of farmed shellfish fluctuated throughout the year. Their value at first sale was estimated from the following figures (Supplied by industry, these vary with demand, level of production and geographical area of origin). The average price of Pacific oyster was £0.33 per shell; native oyster, £0.60 per shell; scallop, £1.29 per shell; queen scallop, £0.15 per shell and mussels £1200 per tonne. The value of the table trade is estimated from the production figures shown in Table 1 ([see page 2](#)).

Mussel:	£8.1 million	Pacific oyster:	£0.62 million
Native oyster:	£0.16 million	Scallop:	£0.05 million
Queen:	£0.005 million		

The 2013 total value, at first sale for all species, was estimated at approximately £8.9 million, an increase from £8.7 million in 2012.

// SITES AND BUSINESSES

The numbers of authorised, active businesses and sites in operation are presented in Tables 3 and 4. Many sites held stock not yet ready for market, others were fallow, and some were positioned in remote areas where cost-effective production and marketing of shellfish proved difficult.

Historically, production data have been collected by business. However, since 2002, data have been collected for both business and site, enabling the provision of more accurate site information. In 2013, 158 sites produced shellfish for sale, a decrease of 3% since 2012.

TABLE 3
AUTHORISED AND ACTIVE BUSINESSES 2004-2013.

Number of Businesses										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Active	175	183	173	170	168	168	164	153	153	142

TABLE 4
ACTIVE AND PRODUCING FARM SITES BY REGION 2013.

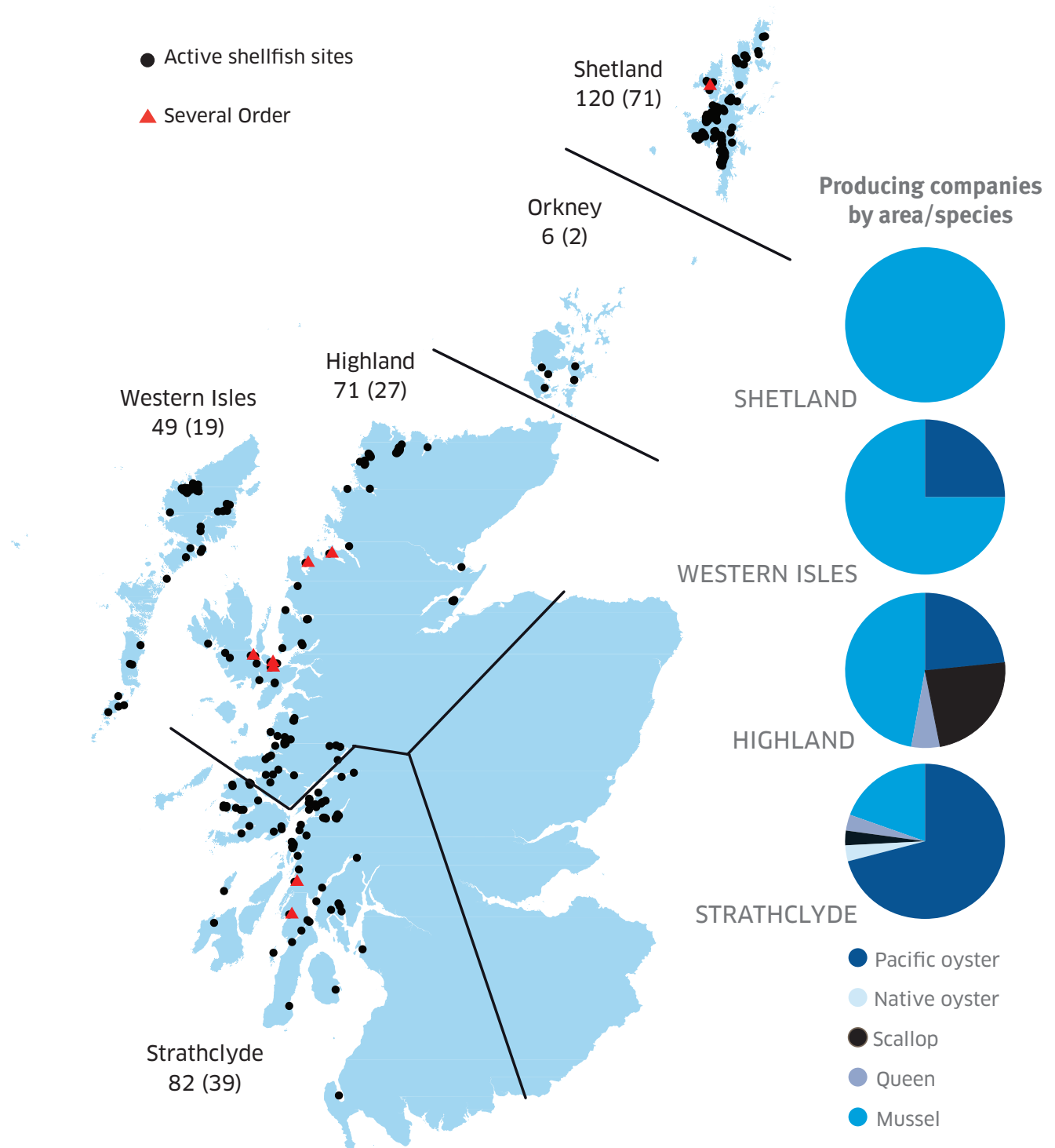
Region						
	Highland	Orkney	Shetland	Strathclyde	Western Isles	All Scotland
Sites						
Active	71	6	120	82	49	328
Producing	27	2	71	39	19	158

ACTIVE = FARMS IN A PRODUCTION GROWING CYCLE WHICH MAY CONTAIN STOCK OR BE FALLOW.

PRODUCING = PLACING ON THE MARKET FOR THE TABLE AND ON-GROWING

NB: A BUSINESS MAY PRODUCE MORE THAN ONE SPECIES AND IN MORE THAN ONE AREA.

FIGURE 2
REGIONAL DISTRIBUTION OF ACTIVE SHELLFISH SITES IN 2013 (NUMBER PRODUCING GIVEN IN BRACKETS) AND NUMBER OF PRODUCING BUSINESSES BY AREA/SPECIES.



Eight Several Orders remain in place for scallop fisheries (*see Fig. 2*). Five of these Orders are in the Highland region, two in Strathclyde and one in Shetland.

Table 5 depicts the number of businesses by region and by species: A) in table production, B) in on-growing production and C) showing no production. Many businesses cultivate more than one species on site, a practice made possible by similar cultivation techniques. For example, scallop can be grown together with queen, Pacific oyster with native oyster, and mussel with Pacific oyster.

TABLE 5
NUMBER OF BUSINESSES BY REGION AND BY SPECIES 2013.

A) PRODUCTION FOR THE TABLE

	Highland	Orkney	Region Shetland	Strathclyde	Western Isles	All Scotland
Pacific oyster	4	0	0	22	2	28
Native oyster	0	0	0	1	0	1
Scallop	4	0	0	1	0	5
Queen	1	0	0	1	0	2
Mussel	8	0	19	6	6	39
Total	17	0	19	31	8	75

B) PRODUCTION FOR ON-GROWING TO OTHER PRODUCERS

	Highland	Orkney	Region Shetland	Strathclyde	Western Isles	All Scotland
Pacific oyster	3	0	0	6	0	9
Native oyster	1	0	0	2	0	3
Scallop	2	0	0	0	0	2
Queen	0	0	0	1	0	1
Mussel	1	0	9	0	2	12
Total	7	0	9	9	2	27

C) NO PRODUCTION, ACTIVELY ON-GROWING OR FALLOW

	Highland	Orkney	Region Shetland	Strathclyde	Western Isles	All Scotland
Pacific oyster	7	0	0	6	5	18
Native oyster	3	0	1	1	0	5
Scallop	4	0	1	3	1	9
Queen	2	0	0	0	1	3
Mussel	15	3	4	8	7	37
Total	31	3	6	18	14	72

TABLE 6
BUSINESS PRODUCTION LEVELS BY SPECIES 2013.

Species	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-200	>200	Total
Pacific oyster (000s)	12	3	0	0	2	1	1	1	0	2	4	2	28
Native oyster (000s)	0	0	0	0	0	0	0	0	0	0	0	1	1
Scallop (000s)	4	0	1	0	0	0	0	0	0	0	0	0	5
Queen (000s)	1	0	0	1	0	0	0	0	0	0	0	0	2
Mussel (tonnes)	3	3	7	1	1	1	1	1	3	3	5	10	39
Total	20	6	8	2	3	2	2	2	3	5	9	13	75

Business production levels by species are shown in Table 6. There were 15 businesses producing more than 100 tonnes of mussels, a decrease of one business since 2012. Out of these 15 companies, ten produced more than 200 tonnes. These ten companies produced 74% of the total mussel production in Scotland. There were two businesses that produced more than 200,000 Pacific oysters. The production from these businesses accounted for 33% of the Scottish total.

// SPAT SETTLEMENT

Following anecdotal industry reports of poor spat settlement and mortality in 2010, Marine Scotland Science developed a questionnaire which was sent to all authorised shellfish production businesses. The results of this 2011 investigation indicated that poor spat settlement and mortality were not widespread in Scottish waters, although they had major impacts on certain individual producers. The causes were associated with environmental variables, guiding the industry to consider focused spat fall monitoring. As a result of talks between the Association of Scottish Shellfish Growers, MS policy and MS scientists, to determine the focus of possible research and development, a spat collection question was introduced to the 2013 survey. This question focused on mussel spat collection and was in two parts: is this a spat collection site; if yes, was spat settlement sufficient for production purposes?

Responses were received from 176 (72%) of the 246 sites authorised for mussel production in 2013. Ninety-seven (55%) of these were spat collection sites, 42 (43%) of which reported that they had sufficient spat settlement for production purposes. To identify trends a longer time series is required and the more growers who respond the better this data will be.

// EMPLOYMENT

The industry employed 160 full-time and 173 part-time and casual workers during 2013, a decrease of 11 full-time and 14 part-time and casual employees since 2012. The regional breakdown of employment is given in Table 7. The number of people employed by the shellfish farming industry in Scotland fell by 7% from the 2012 total of 358. This decrease in employment can be attributed to the reduced number of authorised businesses in 2013.

TABLE 7
REGIONAL EMPLOYMENT 2013.

Region	Businesses	Staff						Total
		Full-time Male	Full-time Female	Part-time Male	Part-time Female	Casual Male	Casual Female	
Highland	45	31	5	30	3	6	1	76
Orkney	5	0	0	2	0	1	0	3
Shetland	25	54	4	28	9	17	0	112
Strathclyde	49	50	3	32	8	19	1	113
Western Isles	18	10	3	11	0	4	1	29
Scotland	142	145	15	103	20	47	3	333

// HEALTH INFLUENCES ON THE INDUSTRY

In accordance with Council Directive 2006/88/EC, a risk based surveillance programme targeting 91 shellfish site inspections was undertaken during 2013. On these visits, facilities, stock health, bio-security measures plans, movement records and details required for authorisation were checked. In addition, native oysters were sampled from seven sites, including three wild beds, for the notifiable diseases bonamiasis (causative agent, protozoan parasite *Bonamia ostreae*) and marteiliasis (causative agent, protozoan parasite *Marteilia refringens*). Results were negative. Native oyster is a species known to be susceptible to these shellfish diseases. Movement restrictions placed due to confirmation of the presence of *Bonamia ostreae*, remained in place in Loch Sunart and in West Loch Tarbet during 2013. These movement restrictions covering both sea lochs prevent the relaying of native oyster from them ([see Appendix 2, p.21 for maps of areas under movement restrictions](#)). Approved Zone status continued to protect the health of both wild and farmed native oyster stocks for the remainder of Scotland's waters.

Most of the reported mortalities were attributed to: predation from wild ducks, starfish and oyster catchers; adverse weather conditions including storms and frost; damage due to grading and handling and from natural causes. Reports of high, unexplained shellfish mortalities generated three shellfish diagnostic cases during 2013, at sites holding mussels. Results of diagnostic investigations showed no association with notifiable diseases. It is the responsibility of shellfish farmers to inform Marine Scotland of any abnormal or unexplained shellfish mortality on their sites ([see guidance on shellfish mortality in appendix 1, p.14-20](#)).

In 2013 there was a continued demand for imported mussel seed into Scotland to supplement the vagaries in natural settlement. The industry should be aware of the increased disease risk with the introduction of pests and pathogens, and the importance of ensuring good bio-security practices when sourcing shellfish from other areas.

In March 2010 Commission Regulation No. 175/2010 was introduced to implement Council Directive 2006/88/EC as regards measures to control increased mortality in Pacific oysters, in connection with the detection of Ostreid Herpes Virus OsHV-1 µvar.

Following completion of a targeted surveillance programme, the UK has been granted disease free status for OsHV-1 µvar (Decision 2014/12/EU). This includes the territorial waters of Great Britain (except Whitstable Bay (Kent), Blackwater estuary (Essex), Poole Harbour (Dorset)), Larne Lough in Northern Ireland and Guernsey. Movements of Pacific oysters into an area recognised as free from OsHV-1 µvar must originate from another disease free area. Movements are still allowed from disease free areas to non-approved areas.

<http://www.scotland.gov.uk/Topics/marine/science/Research/aquaculture/diseases/notifiableDisease/oshvdec>

// SUMMARY

- In 2013, 6,757 tonnes of mussels were produced for the table market in Scotland. This was despite the toxin issues which caused a number of producers to voluntarily suspend commercial production for several months during 2013;
- Mussel and Pacific oysters remain the main species produced in terms of both value and tonnage. Mussel production increased by 8% while Pacific oyster table production decreased by 30% during 2013;
- Production of Pacific oysters for on-growing has significantly increased (95%) in 2013 as new markets, home and abroad, have been established;
- There has been an increase in queen scallop production but a decrease in scallop production, production for on-growing of both queens and scallops has increased since 2012;
- Native oyster production dropped from 317,000 to 260,000 shells in 2013. The sector continues to target a strong niche market;
- Employment levels showed a decrease of 7% from the previous year, with 333 full, part-time and casual staff being employed during 2013.
- The Scottish shellfish farming industry is estimated to be worth £8.9 million at first sale value.
- Surveillance for the shellfish diseases Bonamiasis and Marteiliasis was maintained in 2013 resulting in no new infected areas. Movement restrictions remain in place for the presence of *Bonamia ostreae* at Loch Sunart and West Loch Tarbet;
- For shellfish health purposes, 91 out of 329 sites were inspected during 2013 as part of a risk based surveillance programme implemented under Council Directive 2006/88/EC;
- The UK was granted disease free status with regard to OsHV-1 μ var, ([See page 11 for details of disease free areas](#)). Immediate notification of increased mortality on farm sites must be reported to Marine Scotland Science, Fish Health Inspectorate ([see Contact details page II](#)).

// GLOSSARY

Active sites	Farms in a production growing cycle which may contain stock or be fallow
Inactive sites	Farms not in a production cycle, without stock and not to be used by the company in the foreseeable future
Authorised business	Any shellfish production business authorised under Regulation 6 of the Aquatic Animal Health (Scotland) Regulation 2009 (as amended). <i>See</i> the Marine Scotland website for more details www.scotland.gov.uk/marinescotland
Several Order	An area of the seabed severed from the public right to fish, in order to conserve or enhance named shellfish stocks

// APPENDIX 1

Covering Letter and Guidance Notes

marinescotland
science



Ref no: A7411304
16th December 2013

Dear Sir/Madam

ANNUAL RETURNS OF SHELLFISH FARM PRODUCTION – 2013

For the year 2013 we seek production data from your business and site(s).

I enclose forms requesting information on your shellfish farming enterprise and a self-addressed envelope for their return. Alternatively these forms can be issued electronically upon request by contacting MS productionsurvey@scotland.gsi.gov.uk providing business name, number and correspondent name. FORMS (a) & (b) will then be issued to you electronically for completion and return to MS productionsurvey@scotland.gsi.gov.uk.

The data you supply to Marine Scotland Science (MSS) is of great assistance to your industry and the Scottish Government. It is our intention to continue to publish the data in a summarised form in the MSS Scottish Shellfish Farms Annual Production Survey 2013 which should be available in the spring of 2014.

Marine Scotland is obliged to consider any request it receives in relation to this under the Freedom of Information (Scotland) Act 2002 (FOISA) and the Environmental Information (Scotland) Regulations 2004 (EISRs).

FORM (a) requests data on production by business.

FORM (b) requests data on production, facility size and number of shellfish movements by site(s) and by species. Guidance notes are enclosed.

FORM (b) can accommodate one site return. If your business operates more than one site, extra forms have been provided. Please note that production recorded by business must equal total production recorded by site. If the business has a nil return please place an X against the species registered as cultured, in FORM (a). This data will allow a more accurate reflection of site production both geographically and by species. Input into capture based aquaculture should be recorded on form (b). Recording of movements of live shellfish for on-growing (NOT for the table), on or off-site, should be recorded on FORM (b).

Industry concerns have prompted the addition of a question on natural spat settlement at each farm site. Results will be summarised in the report to help give an indication of future production potential.

Please note that it is your duty to notify a competent authority or a veterinarian if you know or suspect that increasing mortality has occurred or is occurring in aquaculture animals in accordance with the Aquatic Animal Health (Scotland) Regulations 2009. **See guidance notes** for reporting of mortality events where appropriate and registration changes.

Thank you for your co-operation. If you have any queries regarding the survey, please do not hesitate to contact me at the address given below, or telephone 01224 425535 or e-mail MS productionsurvey@scotland.gsi.gov.uk

Please send returns to me by post, or electronically, before **31st January 2014**.

Yours faithfully,
Lorna Munro
Marine Scotland Science

Marine Laboratory, PO Box 101, 375 Victoria Road, Aberdeen AB11 9DB
www.scotland.gov.uk/marinescotland



FORM (a) – BUSINESS PRODUCTION

**SCOTTISH SHELLFISH FARMS PRODUCTION SURVEY 2013
ANNUAL PRODUCTION BY BUSINESS**

Please use BLOCK LETTERS and write in INK unless completing electronically:

Please indicate production of shellfish for business _____ in 2013 and an estimate of production in 2014 for:

- A) the table (which should include any shellfish sent for depuration or cleansing, or temporarily held in other waters or tanks etc, prior to consumption or processing), AND
B) depositing in other waters (ie for restocking or growing-on, including in tanks etc).

Species	Production of shellfish for 2013				Production of shellfish for 2014 (Estimate)			
	A) for the table		B) for depositing in other waters		A) for the table		B) for depositing in other waters	
	No.	Weight*	No.	Weight*	No.	Weight*	No.	Weight*
Mussels <i>M. edulis</i>								
Pacific oysters <i>C. gigas</i>								
Native Oysters <i>O. edulis</i>								
Scallops <i>P. maximus</i>								
Queens <i>C. opercularis</i>								
Lobsters								
Other (Specify)								

*Please state unit of measurement, eg tonnes, kilogrammes.

Please state the number of persons employed by your business in 2013

Full time male Full time female

Part time male Part time female

Casual male Casual female

Please detail any accreditation schemes you are a member of:

Was any of your production certified as organic (circle appropriate option)? Yes No

Signature: Date:

Thank you for your cooperation. Please return the completed form in the envelope provided, or electronically, by 31 January 2014.

Marine Laboratory, PO Box 101, 375 Victoria Road,
Aberdeen AB11 9DB
MS productionsurvey@scotland.gsi.gov.uk
01224 425535



FORM (b) – SITE PRODUCTION, SIZE and MOVEMENTS

SCOTTISH SHELLFISH FARMS PRODUCTION SURVEY 2013

*Please state the unit of measurement, e.g. tonnes, kilogrammes.

Name of **SITE** / **SITE No**:

SPECIES	PRODUCTION OF SHELLFISH FOR 2013 (EXCLUDES NURSERIES AND HATCHERIES)				HIGHEST MORTALITY	
	A) for the table		B) for depositing in other waters			
	No.	Weight*	No.	Weight*	% of facilities type / period	Reason
Mussels <i>M. edulis</i>						
Pacific oysters <i>C. gigas</i>						
Native Oysters <i>O. edulis</i>						
Scallops <i>P. maximus</i>						
Queens <i>C. opercularis</i>						
Lobsters						
Other						

SPECIES	SIZE OF PRODUCTION FACILITIES 2013			
	Molluscs			
	On bottom (Lease area in Hectares or m ²)	Off Bottom		Other methods (specify no, type and size)
		Total rope length (m) (No. of droppers x length of droppers)	Leasing area containing trestles (m ²) (Lease area in Hectares or m ²)	
Mussels <i>M. edulis</i>				
Pacific oysters <i>C. gigas</i>				
Native oysters <i>O. edulis</i>				
Scallops <i>P. maximus</i>				
Queens <i>C. opercularis</i>				
Other (specify)				

SPECIES	INPUT TO CAPTURE BASED AQUACULTURE		PRODUCTION OF SHELLFISH FOR 2013 (HATCHERIES AND NURSERIES)			
			Transferred to controlled environment for on growing		Released to the wild	
	No.	Weight*	No. Eggs	No. Juveniles	No. Eggs	No. Juveniles
Mussels <i>M. edulis</i>						
Pacific oysters <i>C. gigas</i>						
Native oysters <i>O. edulis</i>						
Scallops <i>P. maximus</i>						
Queens <i>C. opercularis</i>						
Lobsters						
Other (specify)						

SPECIES	SIZE OF PRODUCTION FACILITIES 2013			
	Crustaceans			
	Ponds (Hectares or m ²)	Enclosures and pens (Hectares or m ²)	Tanks and Raceways (m ³)	Other methods (Specify no, type and size)
Lobsters				
Others (specify)				

SHELLFISH MOVEMENTS BY SITE AND SPECIES

NAME OF SITE/SITE NO			NAME OF SITE/SITE NO			NAME OF SITE/SITE NO			NAME OF SITE/SITE NO		
No of movements			No of movements			No of movements			No of movements		
Species	On-site	Off-site	Species	On-site	Off-site	Species	On-site	Off-site	Species	On-site	Off-site

*Please record only live shellfish movements on or off-site where they are for on-growing, NOT for the table.

2013 SPAT SETTLEMENT

Is this a spat collection site? (Circle appropriate option)	Yes	No
If yes, was spat settlement sufficient for production purposes? (Circle appropriate option)	Yes	No

GUIDANCE ON COMPLETION OF THE SURVEY FORMS

BUSINESS PRODUCTION FORM (a)

Please check your business title and address at the top of the page. If you are no longer the correspondent for the business then please notify the Fish Health Inspectorate (FHI, details below) and your details can be changed on our database. If the business is no longer producing shellfish or the lease for the site has been lost or sold, the FHI will have to be informed.

Please provide your total business production next to the relevant species (the individual site production should add up to the total business production form). The weight and number of shells produced should also be stated in the correct column. The 'for the table' column is for shellfish sold for human consumption (which should include any shellfish sent for depuration or cleansing, or temporarily held in other waters or tanks etc, prior to consumption or processing), and the column 'for depositing in other waters' should be filled in when shellfish have been partially grown and then sold or transferred to another business for on-growing. Please state the unit of measurement used in your total business production (e.g. kilograms, tonnes etc.). If your business has not produced any shellfish then please put an X next to the species of shellfish that is authorised to be grown on site.

Employment section: please state the number of people employed in the business under the following headings; full time male, full time female, part-time male, part-time female, casual (occasionally employed) male, or casual female.

Accreditation schemes; please include membership to trade associations, quality schemes or organic certification schemes (for example Association of Scottish Shellfish Growers, Tartan Quality Mark, Soil Association).

Please finish the form by signing and dating.

SITE PRODUCTION, SIZE and MOVEMENTS – FORM (b)

Shellfish Mortality

- It is your duty to notify the competent authority or a veterinarian if you know or suspect that increasing mortality has occurred or is occurring in aquaculture animals in accordance with the Aquatic Animal Health (Scotland) Regulations 2009. This should be interpreted as being where mortality affects 15% or greater of stocks in a single facility, over a short period. It is also a requirement to maintain mortality records detailing the number of any aquaculture animals that have died in each epidemiological unit within the area. Where significant abnormal mortalities occur, our Duty Inspector (DI) should be informed immediately stating suspected cause (if known). You will then be contacted to discuss the possible need for a diagnostic investigation of the case. Copies of movement records should be included in the correspondence. The DI can be contacted by telephone on 01224 295525, by Fax on 01224 295620 or by e-mail at MS.fishhealth@scotland.gsi.gov.uk
- Please indicate in the box provided on FORM (b), the highest mortality as a percentage (%) of the facility type, for each species registered as cultured. Mortality should be recorded over a defined

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period of time. Please also indicate the reason for this mortality if known, in the box provided on FORM (b). Examples are given below.

Example 1 – A mussel farmer has ten long lines and one line suffers total mortality through predation over one month. The highest % mortality recorded would be 10% / 1 month. Reason was eider duck predation.

Example 2 – An oyster farmer has 100 trestles and shellfish from 90 are lost through disease in spring. The highest % mortality recorded would be 90% / 3 months. Reason was suspect notifiable disease eg. Bonamia

Example 3 – A scallop farmer has 50 long lines and one line is destroyed by storm damage during the year. The highest % mortality recorded would be 2% / 12 months. Reason was storm damage.

FACILITY SIZE

The form can accommodate one site return. If your business operates more than one site, extra forms have been provided. If more forms are needed then please contact the Fish Health Inspectorate to acquire more sheets. You have been issued with forms appropriate to the details which we hold for your sites. If you held species in 2013 which are not listed on the form please specify these in the row marked 'Other'.

Conversion factors have been supplied overleaf.

Molluscs

- Where molluscs are cultured on the seabed, or where a Several Order is in place the total extent of the **lease area** should be recorded in hectares or metres squared (m^2) (please specify) in the column titled 'On bottom'.
- Where molluscs are cultured on long lines / rafts please record the **total length** of rope used in metres (= number of droppers x length of droppers used) in the column titled 'Off Bottom' and subtitled 'Total rope length (m)'.
- Where molluscs are cultured in trestles please record the total extent of the **lease area** in hectares or metres squared (m^2) (please specify) in the column titled 'Leasing area containing trestles'
- If molluscs are cultured by more than one method on a site an entry should be recorded for both methods.
- If utilising types of culturing methods other than those specified please give details of the type, number and size in the column titled 'Other methods'.

Crustaceans

- On sites holding lobsters, either for release to the wild or for placing on the market, data is required only for those facilities where the animals are **being fed**.
- The size of each type of holding facility being utilised for these purposes should be recorded:

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- For ponds, enclosures and pens, the **bottom area** should be recorded in either hectares or m²
- For tanks and raceways the **volume** should be recorded in m³

CAPTURE-BASED AQUACULTURE

Capture based aquaculture refers to the practice of collecting aquatic animals from the wild for aquaculture purposes prior to placing on the market. For the purposes of this survey this **does not** include the natural settlement of mussel, oyster or scallop spat on long lines or the seabed.

The active capture of animals from the wild which are then held for a period of time prior to being placed on the market should be recorded only **where those animals are being fed**. There is no requirement to record those animals which are intended for release back into the wild or are not being fed.

For example:

- Wild caught oysters held temporarily in depuration facilities **would not** be recorded
- Wild caught lobsters held temporarily in holding facilities and being fed **would** be recorded

Note: Minimum landing sizes for shellfish are laid down in Annex XII of Council Regulation (EC) No. 850/98 for the conservation of fishery resources through technical measures for the protection of juveniles of marine organisms. The minimum size for scallops (*Pecten maximus*) is 100mm and as such it is illegal to retain on board, tranship, land, transport, store, sell, display or offer for sale undersized animals of this species. **Juveniles and spat for relaying must be sourced from aquaculture establishments only.**

CONVERSIONS

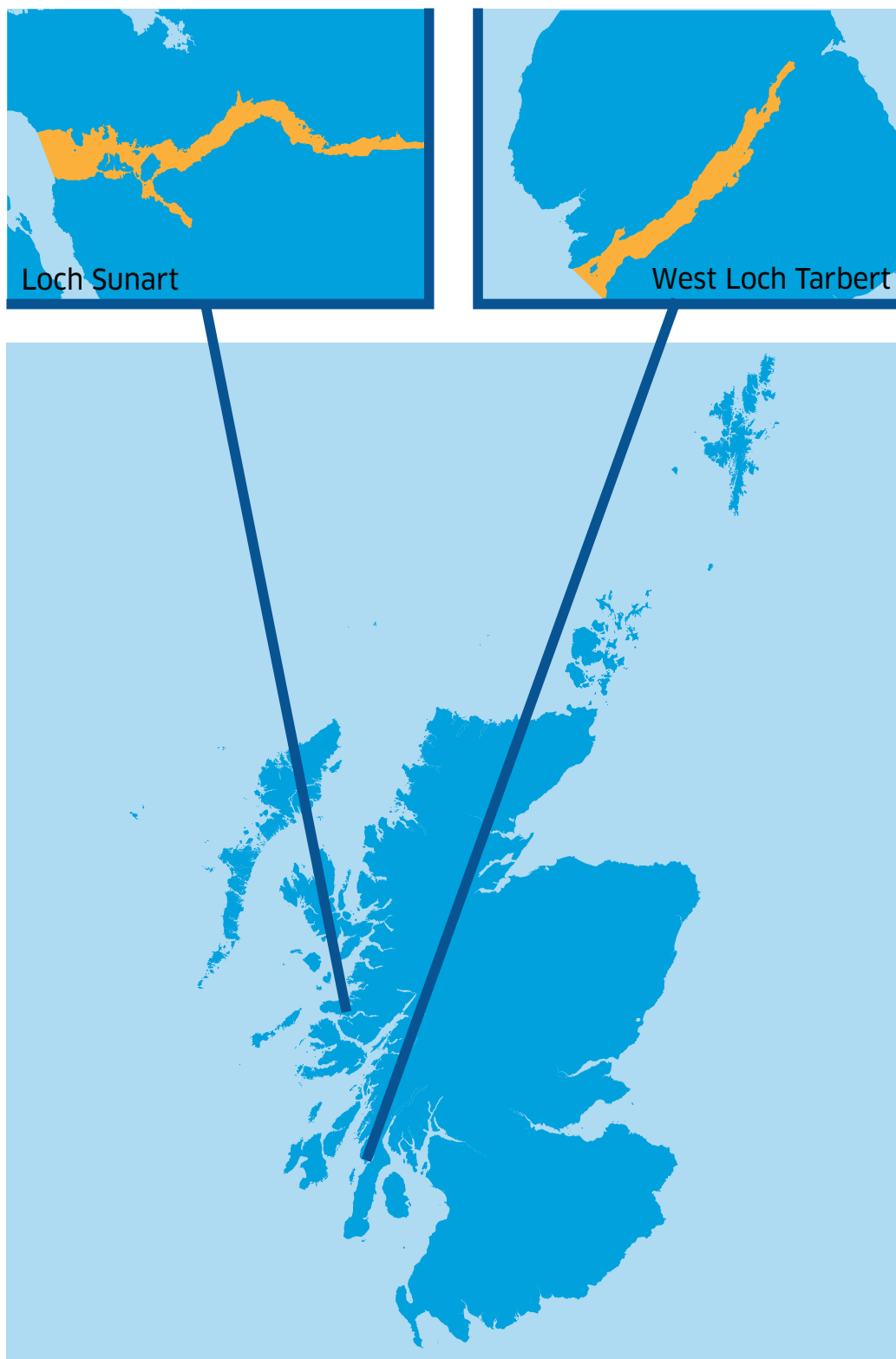
To convert	To	Multiply (X) or divide (/) by
Yards	Metres	X 0.9144
Miles	Kilometres	X 1.609
Acres	Hectares	X 0.4047
Square Metres	Hectares	/ 10000
Cubic feet (ft ³)	Cubic metres (m ³)	X 0.0283

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// APPENDIX 2

MAP OF MOVEMENT RESTRICTIONS IN PLACE FOR THE PRESENCE OF *BONAMIA OSTREAE* (DESIGNATED AREAS IN ORANGE).



NOTE: OTHER CONFIRMED DESIGNATIONS ARE IN PLACE FOR THE PRESENCE OF *BONAMIA OSTREAE* IN THE GREAT BRITAIN ZONE. PLEASE CONTACT THE MSS FISH HEALTH INSPECTORATE IF YOU HAVE ANY QUERIES ABOUT SHELLFISH IMPORT FROM ENGLAND AND WALES.



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A Bilfinger Real Estate
company



Appendix 6

Executive Summary

The Crown Estate

Shellfish Site Leases – Rent Review 2015

Consultancy Report -Executive Summary

- Against the background of the wider economic downturn, the Shellfish sector has proved resilient and there continues to be optimism around future trading and growth potential.
- Industry sentiment has identified a number of factors, partly external, viewed as complicating the way forward and adding costs against the background of marginal profitability.
- The consultation exercise brought forward general satisfaction with the style and format of the existing standard lease template
- There remains a view within the industry that growth is being in part curtailed through under-utilisation of sites and a desire to see the Crown Estate be more pro-active in exercising rights which they have to take back sites in relevant circumstances.
- There continues to be upward pressure on main production costs (labour and transport). Given the characteristics of the industry, any support available to reduce or minimise fixed overheads (site rent/planning fees/regulation expenditure) is viewed as significant in supporting existing production and future potential growth.
- Having reviewed the existing basis for rent calculation (consented equipment) this is considered to still offer the best approach over others (deployed equipment/turnover or production levy).
- There are concerns over costs and procedures required under Marine Planning via Local Authorities.
- The industry is vulnerable to bio-toxin events. Whilst there is acknowledgement and acceptance that a strict regime of testing, monitoring, and thereafter management of incidents is necessary, the extent of regulation and ancillary costs are a concern.
- The vulnerability of sectors of the industry to natural spatfall was raised and support for a potential hatchery expressed, albeit that investment in such venture may require public support.
- Reflecting the observations set out, we recommend that the existing approach for rent calculation based on consented equipment be brought forward with no amendment to rental current rates.
- We also propose that existing provisions for stepped rents over the initial period of a new lease be maintained and that the current Outer Island discount be brought forward at the current level of 10 %.