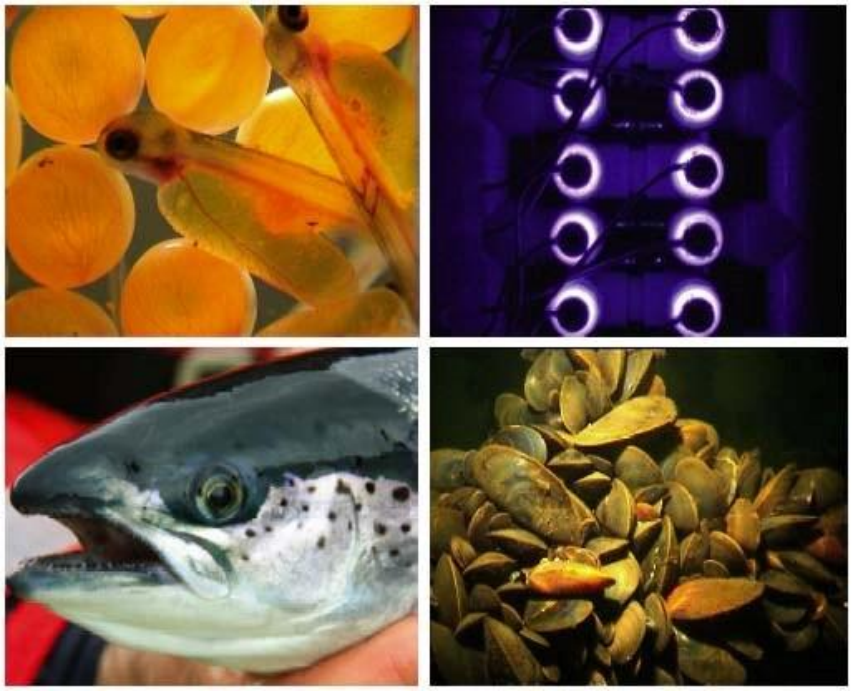
SARF110 - Strategic Considerations for Locational Regulation of Shellfish Aquaculture in Scotland



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Creating sustainable solutions for the marine environment

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Notice

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Summary

Aquaculture is an increasingly important industry for Scotland, helping to sustain economic growth in the rural and coastal communities, and producing Scotland's most valuable food export. In 2014, the Scottish shellfish farming industry produced almost 8,000 tonnes of shellfish for consumption, estimated to be worth approximately £10.5million.

The Scottish shellfish aquaculture industry is aiming to double production volumes by 2020, compared to 2012, and the Scottish Government supports the achievement of these growth targets, with due regard to the marine environment, and refers to the targets in Scotland's National Marine Plan (NMP) and Strategic Framework for Scottish Aquaculture.

Sustainable development demands that such expansion respects environmental limits so that the capacity of the marine environment to accommodate economic development activity is not exceeded. This requires consistent and effective regulation of shellfish aquaculture development to set limits which protect the marine environment but which don't unnecessarily constrain expansion.

The Scottish Aquaculture Research Forum (SARF) commissioned this study to undertake a systematic review of the shellfish aquaculture planning decision-making process after concerns regarding the degree of consistency with which planning applications are treated in different parts of Scotland were raised by the Ministerial Group on Sustainable Aquaculture (MGSA), particularly in relation to the issue of biological carrying capacity.

The study objectives were met through undertaking a review of the shellfish planning applications and determinations made in Scotland between 2009 and 2014 and through consultation with key stakeholders in the process including local planning authorities (LPAs), regulators, other statutory consultees in the planning process, industry representatives and individual shellfish businesses/farmers. The initial findings were also discussed with key stakeholders at a project workshop held in October 2015.

The results of the planning review showed that of the 148 planning applications made between 2009 and 2014 (118 for mussels, 26 for oyster and 4 for integrated multi-trophic aquaculture (IMTA) developments), 131 were granted (89%), 9 were withdrawn (6%) and 8 were refused (5%). These results do not indicate that the planning determination system has unduly constrained the development of the industry over this time period through overly conservative determinations.

Overall, the study found that there was consistency in the approach to planning considerations and determinations across Scotland. The one exception to this was the finding that the current model used to assess the risk of exceedance of biological carrying capacity for proposed shellfish developments produced different results when used by the two end users (the LPA and the statutory consultee) who assess this issue for applications in the Shetland Islands. The reason for this relates to the LPA making allowance for the carrying capacity for the indigenous wild shellfish populations within the model (i.e. using a safety margin for wild shellfish stocks), while the statutory consultee does not as they consider the model to be sufficiently precautionary.

Consultation with stakeholders did highlight a number of more minor but nevertheless important issues, where there is opportunity to improve both the planning and wider consenting process and help support sustainable expansion of the industry.

Within the determination process, landscape and visual impacts (particularly cumulative impacts) and impacts on commercial fisheries are relatively difficult considerations for LPAs to assess. Aspects of the planning process which concerned industry stakeholders included the cost of the process (including the proportionality of the planning fees for the shellfish industry), competition for space with other marine sectors and unutilised capacity (consented sites not producing fish or shellfish). Stakeholders also felt that the wider consenting regime for the aquaculture industry was complex and that there was an element of duplication between the different consents required.

The study also briefly considered future influences on the planning process and the shellfish aquaculture industry. Indicative future projections of shellfish production suggested that the 2020 production targets (13,000 tonnes) may not be met at the current industry growth rate. Expansion of the industry requires expansion at existing and new sites to be available with suitable natural resources and minimal constraints relating to other marine users. The incoming regional marine plans, where based on good data, should be a useful source of information for developers and support industry development where it is appropriate.

The key recommendations are shown below.

With regard to the planning process for shellfish aquaculture developments:

1. The bodies responsible for consideration of biological carrying capacity should ensure that the differences in model parameters do not diminish the fitness for purpose of the model for contributing to planning application determinations in any area of Scotland. Ideally, there should be a consistent and transparent approach to this consideration unless there is a valid reason for differences in model parameters between regions; any such reasons should be clearly justified to ensure industry and stakeholder confidence in the system;
2. Statutory consultees should continue to explore reasonable, practicable and standard approaches to assist the LPAs in the assessment of difficult planning considerations, such as cumulative impacts of developments on landscape/amenity and the commercial fisheries sector. Such approaches could be discussed at 'best practice' workshops between the LPAs, statutory consultees and industry;
3. To assist LPAs in considering impacts specifically on the commercial fisheries sector, it would be useful to have advice and guidance from Scottish Government (via Marine Scotland) on how to best approach and assess this issue using the latest available data (including requirements as stated in the NMP). This advice and guidance should be updated as new data or tools become available. Guidance on the design and structure of the fisheries management and mitigation documents as referred to in the NMP would also be beneficial;
4. To help address the general perception that the planning application process is complicated, further work should assess whether developing separate forms for shellfish and finfish planning applications will make the process simpler and/or clearer (the increasing interest in integrated multi-trophic aquaculture (IMTA) may need to be considered when assessing whether separate forms would simplify the process). This work should also ensure that the application forms are written in an easy to understand non-technical language;
5. Further exploration of how the industry may be best supported with regard to production of site plans, photomontages (if required) etc. for planning applications to help ensure they are correct first time and minimise delays with validations may be helpful, especially for small companies; and
6. Industry should continue to be strongly encouraged to engage in pre-application discussions with LPAs. The continued provision of free advice (where available), or deduction of any pre-application advice fee from the planning application fee required on submission, where this is possible, would help facilitate the uptake of this advice.

With regard to the wider consenting process:

7. Standardisation of information requirements for the multiple consents required should be considered further as part of the general streamlining process for the wider consenting regime. Results from the Marine Scotland/The Crown Estate (TCE) study (Independent review of the consenting regime for Scottish aquaculture) should feed into this process when available (due March 2016); and
8. A concise guidance document (to gaining all relevant consents), specific to shellfish, would be beneficial to the industry. This may be fulfilled by the ongoing review of the SSPO/ASSG protocol for preparing planning applications for aquaculture development (SSPO, 2011). All key stakeholders should input to this process and promote its use to the industry. To help ensure maximum utilisation, the guidance should be easily accessible. Given the current number of agencies/organisations involved in the consenting process, this may be best achieved by ensuring that any new guidance is prominent on all relevant websites (e.g. LPAs, Marine Scotland, TCE, Scottish Natural heritage, Scottish Environment Protection Agency etc.).

With regard to future influences and development potential:

9. The Marine Scotland Science (MSS) Aquaculture Locational Guidance Project (Marine Scotland project SP006) should be used to identify key future development areas and development in these areas should be supported by policies in Regional Marine Plans; and
10. Industry should be supported, potentially through the European Maritime and Fisheries Fund, to explore the scope for increasing production at existing sites.

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Appendices

Tables

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1 Introduction

Aquaculture is an increasingly important industry for Scotland, helping to sustain economic growth in the rural and coastal communities of the north and west, and producing Scotland's most valuable food export. Mussel and Pacific oysters are the main shellfish species produced in terms of both volume and value, although Native oyster, Queen scallop and King scallop are also cultivated. In 2014, the Scottish shellfish farming industry produced almost 8,000 tonnes of shellfish for table trade (i.e. direct human consumption), estimated to be worth approximately £10.5million comprising £9.2million from mussel, £1.1million from Pacific oyster, £0.15million from native oyster, £0.06million from king scallop and £0.003million from queen scallop. (Marine Scotland Science, 2015).

The Scottish shellfish aquaculture industry is aiming to double production volumes by 2020, compared to 2012 (approximately 6,500 tonnes; Marine Scotland Science, 2013). The Scottish Government supports Scotland's aquaculture industry to achieve these sustainable growth targets with due regard to the marine environment, and the targets are referred to in both the Scottish National Marine Plan (NMP) (Scottish Government, 2015a), the renewed strategic framework for Scottish aquaculture (Scottish Government, 2009a) and the UK's Multiannual National Plan (MANP) for the Development of Aquaculture (Defra, 2015).

Sustainable development demands that such expansion respects environmental limits so that the capacity of the marine environment to accommodate economic development activity is not exceeded. This requires consistent and effective regulation of shellfish aquaculture development to set limits which protect the marine environment but which don't unnecessarily constrain expansion. Concerns regarding the degree of consistency with which shellfish aquaculture planning applications (specifically the statutory and non-statutory considerations) are treated in different parts of Scotland have been raised by the Ministerial Group on Sustainable Aquaculture (MGSA). Any such inconsistencies may result in the limitation of shellfish production in some regions, for example, through relatively conservative determinations which may limit expansion of existing farms and/or establishment of new farms, or, through relatively permissive determinations which may lead to an exceedance of the biological capacity of a water body, impacting on shellfish growth and yields. Both scenarios are potentially detrimental to the sustainable development of the shellfish aquaculture industry.

The Scottish Aquaculture Research Forum (SARF) commissioned this study to undertake a systematic review of all aspects of the shellfish planning decision making process. The project remit was to assess the consistency with which planning determinations are made by Local Planning Authority (LPA) areas across Scotland, with regard to the planning considerations which underpin the decisions. The objectives of the study were to:

- Review recent shellfish aquaculture regulatory decision-making in each of the main relevant local authority areas in Scotland, and identify:
  - The key considerations that advise final decision-making;
  - Other considerations that might not be deemed so important, and the reasons for this;
  - The degree of national consistency of approach (including the availability and utilisation of existing guidance papers or documents), across all the types of consideration, major and minor;
  - The actual numbers of positive and negative determinations – by authority;
  - The average and maximum and minimum times to reach determinations – by authority;

- Summarise the main issues or considerations that are difficult and/or inconsistent across Scotland;
- Take account of how current planning considerations under the Town and Country Planning (Scotland) Act 1997 (as amended) (referred to hereafter as the TCPA) might change or be integrated with the new Marine Planning Partnerships (MPPs);
- Specifically identify the extent to which biological growth performance assessment is seen as a key decision-making issue for regulators;
- Identify whether or not there is existing guidance for the key issues identified, and
  - If appropriate, suggest improvements or modifications; or
  - If no guidance exists, provide recommendations for how such guidance should be produced, who might produce it, and what it should contain (i.e. further research required); and
- Discuss the overall findings and recommendations of the research with key stakeholders, regulators and others.

With regard to scope, it should be noted that this study was concerned with planning applications for new shellfish farms or for alterations/expansion of existing shellfish farms, made through the planning system (i.e. under the TCPA). The mechanisms via which planning permission are granted through the Scottish Government Audit and Review process (described in Appendix A) and expansion of production at existing farms through Permitted Development Rights (PDRs) were not considered within the scope of this study.

This report comprises the following sections:

- Section 1: Introduction (this section);
- Section 2: Shellfish Aquaculture in Scotland;
- Section 3: Overview of the consenting process for shellfish aquaculture developments;
- Section 4: Biological Carrying Capacity;
- Section 5 Planning Review;
- Section 6: Stakeholder Consultation;
- Section 7: Future influences on the planning process and shellfish aquaculture industry;
- Section 8: Stakeholder Workshop; and
- Section 9: Conclusions and Recommendations

The approach taken to addressing each of the project's objectives is detailed within the relevant section.

2 Shellfish Aquaculture in Scotland

This Section provides a brief overview of the current shellfish aquaculture industry in Scotland (Section 2.1), including recent (2014) production volumes and policy drivers for expansion of the industry (Section 2.2).

2.1 Overview of Current Shellfish Aquaculture

Marine shellfish aquaculture is concentrated on the west coast of the Scottish Mainland and in the Western Isles, Orkney Islands and Shetland Islands. Installations are normally positioned in sea lochs, voes and inlets (Scotland's Aquaculture, 2015). The shellfish species farmed in Scottish waters in 2014 were mussel (*Mytilus species*), Pacific oyster (*Crassostrea gigas*), native oyster (*Ostrea edulis*), queen scallop (*Aequipecten opercularis*) and king scallop (*Pecten maximus*). Mussel and Pacific oysters are the main species produced in terms of both volume and value (Marine Scotland Science, 2015). Cultivation methods include suspended vertical longlines (mussel, scallop), lantern nets (scallop) and bag/trestle or bag/on-bottom (oysters) (Scotland's Aquaculture, 2015).

The 2014 Scottish shellfish farm production survey (Marine Scotland Science, 2015) reports shellfish production statistics for the following five regions: Highland, Orkney, Shetland, Strathclyde and Western Isles. The 2014 production data for each species in these regions for table (sold directly for human consumption) and on-growing (sold to other production businesses) is shown in Table 1.

The number of active farm sites (farms in a production growing cycle which may contain stock or be fallow) and producing farm sites (placing shellfish on the market for the table and on-growing) within each of these regions is also reported in Table 1.

The 2014 total value at first sale of the table trade for all species was estimated at approximately £10.5million comprising £9.2million from mussel, £1.1million from Pacific oyster, £0.15million from native oyster, £0.06million from king scallop and £0.003million from queen scallop.

Projected future trends in shellfish production, based on recent (2005-2014) historical trends, are presented and discussed in Section 7.3 which looks further at future influences on the planning process and shellfish aquaculture industry.

Table 1. Scottish shellfish production by region, 2014

Region	Mussel (tonnes)		Pacific Oyster ('000s)		Native Oyster ('000s)		Queen ('000s)		Scallop ('000s)	
	Table	On-growing	Table	On-growing	Table	On-growing	Table	On-growing	Table	On-growing
Highland	531	30	1413	3930	1	74	1	0	38	136
Orkney	0	0	0	0	0	0	0	0	0	0
Shetland	5919	1133	0	0	0	0	0	0	0	0
Strathclyde	822	80	1953	2862	241	675	17	500	10	0
Western Isles	411	20	26	0	0	0	0	0	0	0
Scotland Total	7638	1263	3392	6792	242	749	18	500	48	136
Weight Tonnes*	7638	1263	271	-	19	-	1	-	6	-

Number of businesses (active shellfish farms operated by authorised aquaculture production businesses): Highland 48; Orkney 3; Shetland 26; Strathclyde 49; Western Isles 18.
Table = Sales directly for human consumption; On-growing = sales to other businesses for on-growing.
* Conversion to weight assumed the following: individual oysters averaged 80g; king scallop 120g; queen scallop 40g..

Source: Marine Scotland Science, 2015

2.2 Drivers of Shellfish Aquaculture Expansion

Aquaculture is considered to be a key area for development by UK administrations due to its potential to contribute to the sustainability and security of the UK food supply and economic development. European, UK and national (i.e. Scottish) policies which aim to drive the expansion of shellfish aquaculture are reviewed briefly below.

2.2.1 European Commission Blue Growth Strategy

Blue Growth (EC, 2012) is a European Strategy to support sustainable growth in the marine and maritime sectors. The Strategy recognises that the sea and coast are drivers of the economy and identifies five sectors, including aquaculture, for which there is an opportunity for 'blue growth' i.e. harnessing the potential of Europe's oceans, seas and coasts for jobs and growth.

With regard to aquaculture, the Strategy states that this sector has the potential to grow through the provision of quality products to consumers, to help coastal communities diversify their activities and to alleviate fishing pressure and thus help to preserve fish stocks. The Strategy notes that the lack of available maritime space for aquaculture activities, competition in the global market, administrative constraints (in particular concerning licensing procedures which need to be improved) and lack of capital for investment since the economic crisis, have provided challenges to growth.

Aquaculture is promoted through the reformed Common Fisheries Policy (CFP) (see below) and measures to increase sustainable production will be supported by the European Maritime and Fisheries Fund (EMFF), which was due to be available from 2014 (to 2020), but which is now expected to be open for applications in early 2016[1]. The Strategy states that the future Horizon 2020 programme for research and innovation should also play an important role in unlocking the growth potential of European aquaculture, for example, through the farming of new species or moving further offshore (EC, 2012).

2.2.2 Reformed Common Fisheries Policy

As noted above, the EC intends to boost aquaculture through the CFP reform and the EMFF (the financial instrument to support CFP implementation), and has published 'Strategic Guidelines for the Sustainable Development of EU Aquaculture' (EC, 2013) which presents common priorities and general objectives at EU level. Four priority areas have been identified:

- Reducing administrative burdens;
- Improving access to space and water (i.e. through co-ordinated spatial planning);
- Increasing competitiveness of EU aquaculture and exploiting competitive advantages due to high quality; and
- Health and environmental standards.

With respect to reducing administrative burdens, the Strategic Guidelines highlight that there was limited information regarding the time and cost of issuing licences to new aquaculture farms in Europe, however, available information suggested some Member States' authorisation procedure often take around two to three years to complete. The Guidelines stated that Member States should seek to identify possibilities to improve procedures and to reduce administrative burdens through the collection of information on the number of applications for new licences, the average time to

[1] http://www.gov.scot/Topics/marine/grants-subsidies/EMFFUpdate.

complete the process, the average cost of the process for businesses and the average duration of licences granted.

With respect to improving access to space and water, the Strategic Guidelines set a target for Member States:

> *"to put in place coordinated spatial planning, including maritime spatial planning at sea basin level, to ensure that aquaculture's potential and needs are taken into account and to secure an adequate allocation of space in waters and land for sustainable aquaculture development".*

The current status of marine spatial planning in Scotland and the potential future influence on the aquaculture industry is briefly discussed further in Section 7.

In addition, Member States were asked to set up multiannual plans to promote aquaculture based on the Strategic Guidelines, and the Commission will assist with the coordination and exchange of best practices (see below).

2.2.3 UK Multiannual National Plan for the Development of Sustainable Aquaculture

The UK Multiannual National Plan (MANP) for the Development of Sustainable Aquaculture (Defra, 2015) was produced in response to the above Strategic Guidelines, and outlines how the UK intends to foster growth in the aquaculture industry. The UK's MANP for aquaculture takes account of four major areas:

- The structure, management and national support of the industry as it exists in 2013, and the inherent or latent trends in its development and in the developments of the markets it supplies;
- The European Union's clearly articulated objectives for growth in sustainable aquaculture, as a component of Blue Growth, thereby enhancing long term seafood security;
- The outcomes of the Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis and Needs Assessment undertaken in preparation for the new EMFF (described above); and
- Consideration of specific Articles in the (draft) EMFF Regulation, and how these might serve to support elements of the three strands noted above.

With regard to simplifying administrative procedures in response to the Strategic Guidelines, the UK MANP states that administrations in the UK have recognised the challenge that administrative and regulatory compliance presents to aquaculture growth, particularly for small and medium enterprises (SMEs) (an issue also highlighted in the EMFF SWOT Analysis and Needs Assessment; Slaski *et al.*, 2013). Challenges faced by all UK devolved administrations may include available expertise within regulatory organisations and the confidence to take speedy and perhaps controversial decisions, lack of knowledge regarding possible impacts (or lack of impact) of aquaculture and pressure on regulators from key stakeholder groups who are perceived by the industry to be inherently opposed to aquaculture development.

2.2.4 The Renewed Strategic Framework for Scottish Aquaculture

The renewed Strategic Framework for Scottish Aquaculture (SFSA): A Fresh Start (Scottish Government, 2009a) is a framework for the sustainable growth of finfish and shellfish aquaculture in Scotland, updated from the original strategy published in 2003. The strategy has five key themes (listed below), which reflect the main issues faced by the industry and a desired outcome is presented for each theme:

- Healthier fish and shellfish;
- Improved systems for licensing;
- Improved containment;
- Better marketing and improved image; and
- Improved access to finance.

With regard to improved systems for licensing, the desired outcome is stated as:

> *"Development of the right sites in the right places through transparent, streamlined and proportionate regulation and processes to minimise adverse impacts on other users of the marine and freshwater environment"*.

Specific licensing-related issues identified by stakeholders, and the agreed overarching desired outcomes, to be achieved via the implementation of actions plans, that are regularly reviewed and updated by the MGSA (see below), are shown in Table 2.

Table 2. Issues and outcomes identified in relation to licensing systems in the Strategic Framework for Sustainable Aquaculture

Issues Identified by Stakeholders	Desired Outcome
Improved availability of sites for expansion and rationalisation	Aquaculture plans, in the context of marine plans and river basin management plans, which provide a clear indication of where aquaculture development may take place for production of shellfish, finfish and other species
Large numbers of undeveloped leases	Maximise use of available sites where appropriate, informed by an improved database and other information sources and develop an alternative to the current system of ad hoc "firebreaks" created by unused consents
Fitness for purpose of locational guidelines	Clear guidance for environmental quality, disease control and landscape, taking into account the assimilative capacity of water bodies and resolving the issue of unused consents
Simplification of procedures and links with Marine Bill and Marine Scotland	Clear indication of how freshwater and marine aquaculture will be dealt with including maximising opportunities for linkage to other marine industries
Impact of aquaculture on other users	Impact of aquaculture on wild fisheries, biodiversity and wider environment minimised through robust and appropriate planning and licensing systems

Source: Scottish Government, 2009a

2.2.5 Ministerial Group for Sustainable Aquaculture (MGSA)

The MGSA was established in 2013 (replacing the Ministerial Working Group on Aquaculture (MWGA)), to support Scotland's aquaculture industry to achieve the sustainable growth targets[2] as set out in the NMP (see Section 7), with due regard to the marine environment, by 2020. The MGSA is chaired by the Minister of Environment, Climate Change and Land Reform, with representation from industry, wild fish interests, environment non-governmental organisations (NGOs), LPA planners, the enterprise network, The Crown Estate (TCE) and regulatory bodies. The MGSA comprises a number of

[2] The target for Scottish shellfish aquaculture is to increase shellfish production (especially mussels) to 13,000 tonnes by 2020 (compared to 7,980 tonnes in 2014).

working groups through which the work is progressed (see bullets below, adapted from Scottish Government, 2014). Where specific workgroups have deliverables relevant to shellfish aquaculture, these have been expanded on.

- Science & Research Working Group – published a national aquaculture research strategy defining medium (5 years) to long term (20 years) vision and research requirements in July 2014. With respect to shellfish aquaculture, two research priorities were identified:
  - Food safety and hygiene for the shellfish sector, specifically: Norovirus detection and management; detection, quantification and management of algal biotoxins in shellfish production; and
  - Identifying additional areas to increase production capacity through: Integration of aquaculture into marine spatial plans which identify areas for increased capacity; Improved estimates of assimilative and biological carrying capacity for fish and shellfish farms in inshore and offshore marine ecosystems;
- Containment Working Group – remit relates to preventing finfish farm escapes;
- Wellboats Working Group – remit relates to developing standards for wellboats (finfish aquaculture);
- Interactions Working Group – remit relates to the interaction between farmed and wild salmon;
- Farmed Fish Health & Welfare Working Group – remit relates to advice on biosecurity, freshwater finfish mortality reporting, mortality disposal and disease prioritisation;
- Shellfish Working Group – remit relates to identifying and resolving key bottlenecks to the delivery of the shellfish industry's 2020 sustainable growth target and beyond; and
- Capacity Working Group – remit relates to developing a programme to identify and resolve constraints on growth, including infrastructure bottlenecks, spatial issues, business and investor confidence and community engagement, to deliver the right sites in the right places through transparent, streamlined and proportionate regulation and processes.

3 Overview of the Consenting Process for Shellfish Aquaculture Developments

In order to review the planning considerations and decision making process for shellfish aquaculture developments, it was necessary to map out the application and determination process for such planning applications, as well as show how the planning system aligns with other consenting processes required for shellfish developments. This enabled any aspects of the planning application and determination process, or the wider consenting process which were commented on by stakeholders (i.e. planning authorities, regulators, other consultees, industry representatives, individual businesses) to be noted and assessed further.

As such, this section provides a brief overview of the current consenting framework for shellfish aquaculture in Scotland (Section 3.1) and the planning permission application and determination process for shellfish developments (Section 3.2). Any aspects of these processes which were commented on by the stakeholders consulted (planning authorities, regulators, other consultees, individual businesses) are described in Section 6.

3.1 The Current Consenting Framework for Shellfish Aquaculture Developments in Scotland

A summary of consents and licences required for shellfish aquaculture developments is provided in Table 3. Each process is further described briefly below.

Table 3. Consents and authorisations required for shellfish farms

Consent/Authorisation	Regulator/Authority	Description
Planning permission	Local Planning Authority (LPA)	Development consent under the Town and Country Planning (Scotland) Act 1997 (as amended).
Seabed/foreshore lease	The Crown Estate (TCE) (or landowner for non-Crown land)	Seabed/foreshore rights for aquaculture developments under The Crown Estate Act 1961.
Authorisation to operate an Aquaculture Production Business (APB)	Fish Health Inspectorate (FHI)	Authorisation under the Aquatic Animal Health (Scotland) Regulations 2009.
Marine Licence	Marine Scotland Licensing Operations Team (MS-LOT)	Licensing of farms where navigational hazards are deemed present under Part 4 of the Marine Scotland Act, 2010.

Source: Defra (2015); Marine Scotland (2014); information provided by The Crown Estate

3.1.1 Planning Permission – Relevant Local Planning Authority

The Town and Country Planning (Scotland) Act 1997 (amended by the Planning etc. (Scotland) Act 2006) (referred to hereafter as the TCPA) is the principal legislation covering the terrestrial planning system in Scotland (Marine Scotland, 2014). This Act sets out the roles of the Scottish Ministers and LPAs with regard to development plans, development management and enforcement (Spice, 2010). In 2007, the Town and Country Planning (Marine Fish Farming) (Scotland) Order 2007 brought marine aquaculture under terrestrial planning control with effect from 1 April 2007, requiring new finfish and

shellfish farms (referred to hereafter collectively as fish farms), and modifications to existing fish farms, to obtain planning consent from the relevant LPA. The Order applies to the placement of equipment in the sea, on the seabed or on the foreshore below mean water high springs (MWHS) out to 12 nautical miles.

Prior to 1 April 2007, all marine fish farms were consented by TCE through a non-statutory scheme of development consent or, in Shetland and Orkney, through a system of works licences issued by those LPAs. Subsequent to the changes described above, the Scottish Government initiated the Audit and Review process which was designed to consider planning permission[3] for existing marine fish farms consented before the transfer of marine aquaculture into the terrestrial planning system. The background to the recent historical changes in the consenting regime for marine aquaculture are described further in Appendix A.

There are four types of application that can be made for aquaculture developments under the TCPA[4]:

- New site – development of a previously undeveloped site or a new use on the site i.e. change from farming shellfish to finfish or vice versa;
- Change of use – a development which involves a change in the species that will be farmed on site, e.g. salmon to cod;
- Alterations/extension to existing site – development which involves a change to the overall size of the site, the layout of the site and/or the equipment used on an existing site; and
- Variation or removal of condition – used to apply for the removal or variation of a condition following the granting of planning permission.

Further information regarding the planning application and determination process is described in Section 3.2.

3.1.2 Seabed/Foreshore Lease – The Crown Estate

The Crown is the owner of around half of the UK's foreshore and virtually all of the UK seabed out to the 12nm limit[5] and in these areas the use of the foreshore/seabed for fish farming operations (finfish and shellfish) requires a lease granted by TCE.

Two types of lease can be applied for:

- A Full Lease - where planning permission has already been obtained by the developer; or
- A Lease Option Agreement (LOA) – which provides a developer with the security of a time-limited exclusive interest in an area of seabed while a planning application is prepared and submitted to the LPA. Once planning permission has been obtained, the LOA can be exercised for a full lease through written notice to TCE within six months of issue of the planning permission.

[3] The planning permission granted through the Audit and Review process differed from that granted by the LPAs under the TCPA because it was granted to enable continued operation of an existing fish farm site. In contrast, planning permission granted by LPAs under the TCPA is for aquaculture development through placement of new or additional equipment in the water. See Appendix A for further detail.

[4] It can be noted that certain Permitted Development Rights (PDRs) exist for fish farms that enable minor changes to be made to farms without the need to apply for planning permission, although only one type of PDR currently applies to shellfish farms (addition of longlines at a shellfish farm; see General Permitted Development Order, 2012). PDRs are outwith the scope of this study and are the subject of a current review by Marine Scotland.

[5] Note in some areas of Scotland, Barony rights (e.g. Dumfries and Galloway private foreshore) and shellfish rights (e.g. Western Isles Crofters) mean that TCE does not own the foreshore of interest to the developer. In addition, under Udal Law, TCE does not own the foreshore in Shetland. However, in these instances, the developer still needs to go through the planning permission application steps described in Section 3.2.

Under Regulation 15 of the Town and Country Planning (Development Management Procedures) (Scotland) Regulations 2013, developers are required to notify landowners of their intent to apply for planning permission and have a 'certificate of proof' of having done this. Applying for a LOA fulfils this requirement and the agreement constitutes the proof.

Detailed guidance notes and information for developers, regarding the types of lease and the application process, are provided on TCE's website[6]. Key guidance points considered of relevance to this study are listed below:

- There is no cost to apply for a lease/LOA (although a standard rate of rent is charged for the leased area once a lease is granted[7]);
- TCE states that it will process applications without "unreasonable delay" (in general, approximately 4 weeks in the absence of any omissions or incomplete/incorrect information, Alex Adrian, TCE, *pers. comm.*);
- It is recommended that where a site has been identified as the subject of a possible application to a LPA for planning permission for a marine aquaculture site, the developer checks with TCE the availability of the area of seabed in question, with respect to any other existing seabed interests, and that an application for a LOA is considered;
- To prevent cumulative sterilisation of large areas of seabed (i.e. areas where other lease applications cannot be made due to minimum development consent spacing requirements where applicable), a maximum number of five LOAs, for which there are no validated planning applications, can be held by one applicant at any time;
- Due to increasing demand for seabed across marine sectors, TCE wish to limit the area of seabed subject to LOA for speculative rather than considered reasons and as such require a supporting statement with the LOA application to provide further information regarding the potential of the site for aquaculture or to demonstrate a clear rationale for seeking exclusive security;
- Lease conditions include that all deployed equipment (including moorings and ancillary equipment) is removed from the leased area(s) when the lease is terminated by either party (i.e. the developer or TCE).

A full lease is granted for 25 years and the terms and conditions of the lease are standard. There is no appeal process if a lease is not granted.

TCE encourages developers to undertake pre-application discussions with them:

- To ensure that the area of seabed of interest is available (i.e. there are no other foreshore/seabed interests present e.g. subsea cable, pipeline, other lease area); and
- To register their interest in the available area (i.e. indicate they will apply for a LOA). TCE also advises developers to speak to other agencies/consultees involved in the consenting and planning process e.g. LPAs (regarding planning permission); the Northern Lighthouse Board (NLB) (navigational issues); the Scottish Environment Protection Agency (SEPA) (Shellfish Water Protected Areas (SWPAs), pollution sources); Scottish Natural Heritage (SNH) (visual impacts and designated areas/features) (Alex Adrian, TCE, *pers. comm.*).

[6] http://www.thecrownestate.co.uk/coastal/aquaculture/working-with-us/aquaculture-leases/.

[7] Shellfish rental rates are related to consented equipment, based on a set rate per metre length of longline/trestle (GVA James Barr, 2014) which vary across the three main species type (mussel, oyster and scallop). This differs from the method for calculating finfish rental rates.

3.1.3 Authorisation to Operate an Aquaculture Production Business – Fish Health Inspectorate, Marine Scotland

The Aquatic Animal Health (Scotland) Regulations 2009, requires the authorisation of all APBs prior to any development taking place. The authorisation procedure is undertaken on behalf of Scottish Ministers by the FHI and is issued subject to a business or establishment meeting the following conditions:

- Provide and maintain details of their business to allow the publication of a register of APBs;
- Keep and make available to the FHI, movement and mortality records, including mortalities during transport and movements of dead fish;
- Participate in a risk-based surveillance scheme;
- Implement acceptable Good Hygiene Practice (by establishing, maintaining and complying with a biosecurity measures plan);
- Notify the Scottish Ministers of breaches in containment; and
- Provide reasonable assistance and access to Fish Health Inspectors and any person accompanying them, to farm sites for inspection and sampling as required.

APBs involved in the transport of aquaculture animals must also maintain movement records in accordance with Article 20 of the 2009 Regulations and ensure the disease prevention requirements in accordance with Article 19 of the 2009 Regulations are being met (Scottish Government, 2014).

As noted in the above list, part of the authorisation process requires each farm site to have a biosecurity measures plan which contains a minimum standard of information relating to the sites biosecurity; part of which relates to containment "…measures that are in place at the farm site to maintain the physical containment of the aquaculture animals held on the farm site."

In general this is primarily relevant to finfish farms. However, it is also of importance for shellfish farms in relation to the risk of potential disease spread from a site and containment measures for non-native or locally absent species (e.g. Pacific oysters[8]), which must be held in containment to prevent release into the wild. For such species, the FHI will consider the equipment used, and the operational and biosecurity practices in place on site, to make an assessment that there is reasonable provision in place to allow the animals to be kept in containment during production (i.e. ensuring good biosecurity practices will be in place on site). Where necessary, advice would be sought from SNH. This assessment takes place primarily at the APB authorisation stage and also at the planning stage in the case of Pacific oysters, or where potential disease spread from a site is deemed a higher risk (during the planning application consultation stage; see Section 3.2.3). Hence ensuring good biosecurity practises are in place at Pacific oyster sites is a requirement under both the planning and APB authorisation processes; see also Section 3.2.3).

3.1.4 Marine Licence – Marine Scotland Licensing Operations Team

Under Part 4 of the Marine Scotland Act 2010, a Marine Licence (or confirmation of an exemption) from Marine Scotland's Licensing Operations Team (MS-LOT) is required for certain activities to be carried out in Scottish waters, including the installation of marine farm equipment, walkways/pontoons, mussel lines and fish farm cages where there is a potential hazard to navigation. The advice from Marine Scotland is that all marine farms, whether finfish, shellfish or algal, are required to apply for a Marine Licence and should contact MS-LOT if they have any queries about this.

[8] Although the Pacific oyster (*Crassostrea gigas*) is classified as a non-native species, it should be noted that it is exempt from the notification requirements of The Alien and Locally Absent Species in Aquaculture (Scotland) Regulations 2015.

Marine Licence application forms are activity specific, including for marine finfish and shellfish farms. For such a licence, applicants are required to provide co-ordinates for the site boundary, moorings and any associated equipment (i.e. storage rafts). Applicants must also provide a map clearly illustrating the location of the proposed site (Marine Scotland, 2015).

Marine Scotland consult with the NLB regarding the Marine Licence requirement and conditions. Marine Licences granted for a marine farm are valid for up to six years, after which they need to be renewed through reapplying for the Marine Licence. Aspects of navigation, specifically the impact of a proposed development on other marine activities such as transport, recreational activities, also have to be considered by the LPAs when determining a planning application (see Section 3.2) and stakeholder comments regarding how these two processes fit together are presented in Section 6.

3.2 The Planning Permission Application and Determination Process

The planning permission application and determination process was described using existing regulatory and guidance documents, supplemented by information provided through consultation with planning authorities and planning consultees to clarify the process and the roles of each stakeholder, the weighting of different planning consideration within the determination process and the utility of available guidance for the planning authorities and consultees regarding such considerations. Their opinion was also sought in relation to whether any particular aspect of the process seemed to deter potential developers, pose particular problems for them and, if so, what could be done to address this issue. These comments are presented in Section 6.

A schematic of the shellfish farm planning application and determination process is shown in Figure 1 and each stage is expanded upon briefly below.

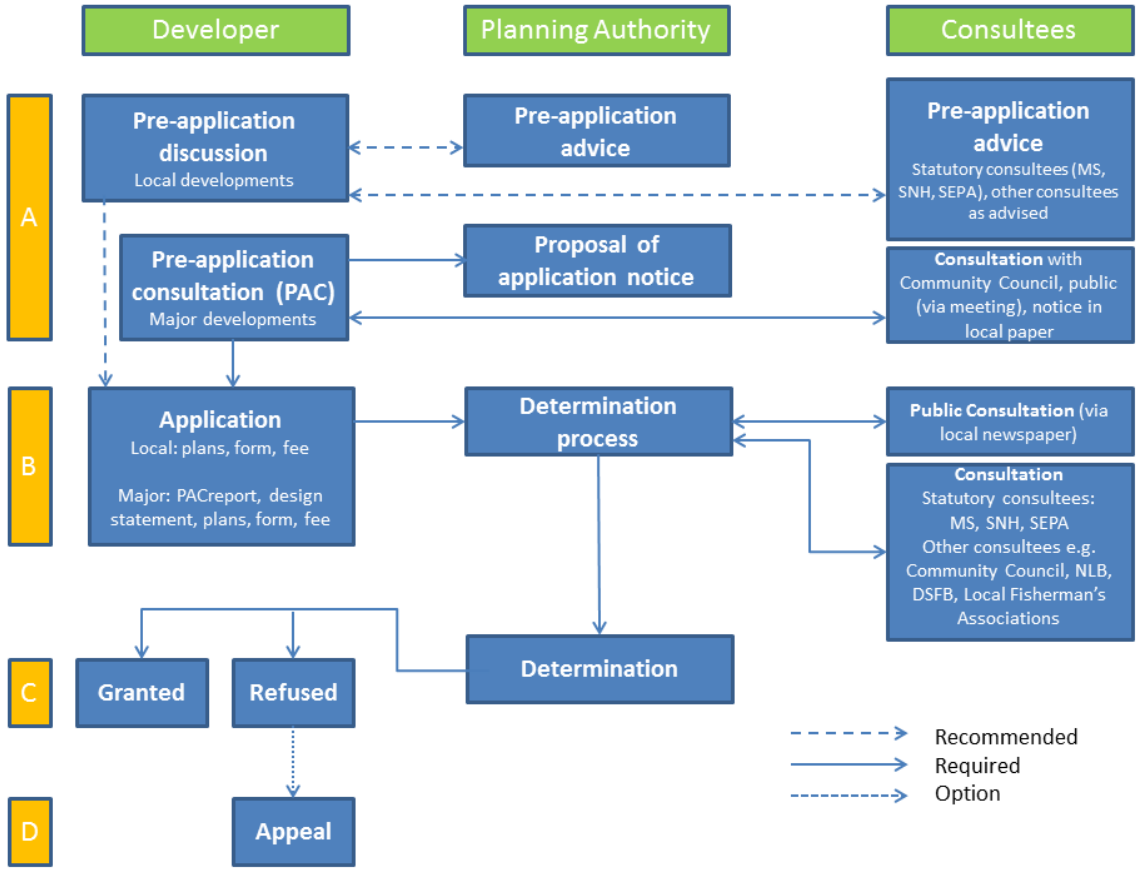

Figure 1. **Schematic of planning application and determination process for shellfish aquaculture developments (MS - Marine Scotland; DSFB – District Salmon Fishery Board)**

3.2.1 Pre-application Advice (Stage A, Figure 1)

Potential developers can have pre-application discussions with the relevant LPA to obtain pre-application advice. Through this engagement process the planning authority can advise on any likely constraints, information requirements and give specific advice on the planning process and can also signpost the developer to other key stakeholders for pre-application discussions. The location, scale and type of development will influence which key stakeholders the developer may wish to consult with at that time. Whilst this process is strongly recommended to developers it is not mandatory.

However, where a proposal is classed as a major development (where surface equipment covers an area in excess of 2 hectares (ha)), Pre-Application Consultation (PAC) is a statutory requirement under the requirements of the Planning etc. (Scotland) Act 2006 and associated Regulations, to enable communities to be better informed about major developments and have an opportunity to contribute their views before a formal application is submitted.

PAC involves the developer undertaking the following (summarised from Scottish Government, 2009b):

- Providing a 'proposal of application notice' to the relevant planning authority at least 12 weeks prior to the submission of a planning application. This application requires a description of the proposed development, location of the development site, a scale plan of the site and an account of the consultation they propose to undertake;

- Consulting with the relevant Community Council;
- Holding at least one public event where the public may make comments; and
- Publishing a notice about the proposed development in a local paper.

When the planning application is submitted it must be accompanied by a PAC report (which should provide evidence that the above steps were conducted, set out who was consulted, what steps were taken to comply with statutory requirements and how they have responded to comments, including the extent the proposal has changed as a result) and a design statement (a written statement about the design principles and concepts that have been applied to the development).

3.2.2 Application for Planning Permission (Stage B)

Planning permission application forms and accompanying guidance on completing the application, with regard to the information required from developers, are provided by the LPAs on their websites (see Appendix B for further details). The planning forms and accompanying guidance for developers appear to be standard across all LPAs [accessed September 2015]. The information required from developers in order for the LPA to validate[9] a planning permission application is set out in the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 and comprise:

- Plans (location and site plans);
- Correctly completed application form; and
- Planning fee.

Planning fees for marine aquaculture developments are based on a combination of the surface area occupied by the growing equipment and the sea bed area occupied by all the mooring equipment (the latter referred to as the 'red line' area). There is also a fee for placing notice of the application in a local paper (advert fee; see Section 3.2.3), for applying to vary a condition on a granted planning application and for Prior Notification in connection with exercising Permitted Development Rights (PDRs). The fees are set by Scottish Government and apply across the whole of Scotland.

3.2.3 Determination Process (Stage C)

Further to the planning application being validated, the determination process requires the following:

- Public advertisement of the planning application in the local press;
- Consultation with statutory and non-statutory consultees;
- The provision of further information from the developer to meet requests from consultees or to resolve issues, if requested; and
- Determination by the planning officer or Council Committee.

Planning applications (proposals) are checked for compliance against all national and local planning policies as set out in key documents such as the Scottish Planning Policy (SPP), NMP and any local Marine Spatial Plan, Local Development Plans (LDPs) and LDP Supplementary Guidance (see Appendix B). All policy topics and criteria cited in these documents are material considerations for planning applications for shellfish farms. Furthermore, any guidance issued by statutory consultees may also be material[10] to the planning decision making process.

[9] The validation date is the date on which the last of the items required to be contained in or accompany an application is received by the planning authority. It is the date from which the time period set for determination of the application by the authority starts to run.

[10] Material considerations are "matters in addition to the Development Plan that the Council may wish to take into account when making a planning decision. Material considerations in planning must be factors relating to the use and development of land" (SIC, 2014).

Compliance with all relevant policies is judged in relation to the potential impacts of the development on specific criteria. The assessment of the likelihood and significance of any impacts is informed through consultation with various statutory and non-statutory consultees.

Where a proposal is not compliant with a relevant national or local policy it may be possible to mitigate against the identified impact(s) through the use of conditions on the consent thereby allowing policy to be set aside and approval given. However, as noted above, if this cannot be done the planning permission is refused.

The planning criteria against which proposals are assessed, the roles of the statutory consultees and the use of conditions are all expanded upon briefly below.

Planning criteria

Examples of the development criteria (i.e. issues) which planning proposals are assessed against are listed below, collated from a range of policy documents, the NMP, LDPs and LDP Supplementary Guidance. This is not an exhaustive list and a more detailed inventory of existing statutory LDPs, Supplementary Guidance and non-statutory guidance documents are provided in Appendix B. Consultees responsible for advising on specific criteria are indicated in brackets and the roles of statutory consultees in the process are described in more detail in Table 4.

- Impact on, and benefits for, local communities;
- Economic benefits of the sustainable development of the aquaculture industry;
- Landscape, seascape and visual amenity (SNH);
- Historic Environment (e.g. archaeology; listed buildings; wrecks etc.) (Historic Environment Scotland);
- Nature conservation designated sites (impacts on and requirements for appropriate assessment (AA)) (SNH);
- Biodiversity (SNH);
- Coastal and marine species (including priority marine features; wild salmonids) (SNH; District Salmon Fisheries Board (DSFB));
- Benthic habitats (SNH);
- Predator control (SNH);
- Water quality (SEPA);
- Biological carrying capacity (of the waterbody) (MSS);
- Other marine sectors and users (commercial and recreational activities, including existing consented aquaculture sites);
- Navigation (ensuring safe navigation is maintained with respect to any military activities, navigational routes, ports and harbours, anchorages, tourism, recreational and leisure activities) (NLB; The Council's Port and Operations);
- On-shore facilities;
- Effects of construction, operation and decommissioning (including waste, noise, light and odour);
- The availability of any necessary infrastructure and potential impact on existing infrastructure where relevant; and
- Cumulative effects on all of the above factors.

With regard to the relative importance of each criteria, consultation with four LPAs confirmed that all criteria are considered equally important (i.e. equally weighted) for a given application. However, which criteria, if any, may be more of an issue for a given proposal depends on the site, scale and type of development. The criteria (issues) cited as the basis of planning application refusals between 2009 and 2014 are presented in Section 5.2.2.

The roles of consultees in the determination process

As noted above, the LPAs seek advice from statutory and non-statutory consultees in relation to the planning criteria described above. The statutory consultees for shellfish planning applications are national organisations and include the Scottish Government (via MSS and potentially other Departments if required), SNH and SEPA. DSFBs are also cited as statutory consultees in the 2007 Planning Circular: planning controls for marine fish farming (Scottish Government, 2007) (note there is no DSFB in the Orkney or Shetland Islands where the DSFB role is undertaken by Marine Scotland). The roles of the statutory consultees are set out in the Working Arrangement document (Marine Scotland Science *et al.*, 2010) and summarised in Table 4, supplemented by information supplied through consultation. It should be noted that the roles of the statutory consultees described relate to shellfish farming planning applications only (the consultees have additional roles in relation to finfish farming).

The Working Arrangement sets how these organisations should consult with each other in order to co-ordinate their response to the LPA, to ensure relevant information is shared between these organisations and to minimise any additional information requests to the developer that the consultees require to provide their opinion and advice to the LPA.

The non-statutory organisations consulted by each LPA are set out in the LPA's LDP and/or LDP Supplementary Guidance and include:

- TCE;
- The Council's Environmental Health Department;
- The Councils Port and Harbour Operations;
- The relevant Community Council[11];
- The NLB;
- Local Fisherman's Associations;
- Inshore Fisheries Group;
- Royal Yachting Association (RYA); and
- The Royal Society for the Protection of Birds (RSPB).

The LPAs may consult with additional consultees (e.g. Scottish Ministers via other Scottish Government departments, the Ministry Of Defence, Scottish Water[12], Local Harbour Authorities) or other organisations in relation to specific matters as required. The delegated report of handling produced for each planning application shows which organisations were consulted during the determination process.

The timescale for determinations is established in the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013, being two months for non-major applications and four months for major applications.

[11] Voluntary organisations set up by statute and run by local residents to act on behalf of their area.

[12] The TCPA Development Management Procedure Regulations 2013 state planning authorities should consult with Scottish Water where a development is likely to require a material addition to or a material change in the services provided by that authority.

Table 4. Roles of statutory consultees in shellfish farm planning applications

Statutory Consultee	Role
Marine Scotland (for Scottish Ministers)	MSS provide advice regarding the biological carrying capacity of a waterbody in relation to the proposed and existing developments. MSS use a simple spreadsheet-based model to assess the risk of biological carrying capacity being exceeded for all shellfish planning applications in Scotland in areas of restricted flow (see Section 4), however, MSS currently only comment on this issue if the model raises it as a concern. As noted in Section 3.1.3, MSS also advise on containment at shellfish sites for the purpose of ensuring adequate biosecurity measures are in place in relation to the risk of potential disease spread on site and in relation to containment of non-native or locally absent species (e.g. Pacific oysters). MSS would not advise that conditions are attached to any planning permission granted with respect to the containment of Pacific oysters. However, if Pacific oysters were to be farmed outwith containment, MSS would advise that the applicant may have issues at the [APB] authorisation stage due to inadequate biosecurity (under The Aquatic Animal Health (Scotland) Regulations 2009).
SNH	Provide advice regarding the impacts of the proposed development on biodiversity (including the natural heritage implications of any wild settlement of Pacific oysters), predator control and interactions with wildlife and landscape and visual amenity. In general shellfish developments do not present major concerns in relation to impacts on benthic habitats (especially if the farms are well managed) unless a priority marine feature (e.g. maerl) is present which evidence indicates has a higher sensitivity to deposition. With regard to landscape and visual impacts, SNH's advice is primarily focused on proposals which could impact upon sites designated for their special landscape qualities (such as Wild Land or National Scenic Areas (NSAs)). Where relevant, SNH expect the applicant to provide an LVIA including an assessment against the special qualities for which the site has been designated, the level of detail required will depend on the scale and location of the proposal. SNH will provide advice on LVIA requirements during pre-application discussions (Liam Wright, SNH, *pers. comm*.). If the proposed development is in, or close to, a European Marine Site, SNH will also advise the LPA whether an AA is required.
SEPA	Provide advice regarding water quality issues which include whether the proposed site is within a Shellfish Water Protected Area (SWPA), a classified shellfish harvesting area and any other potential sources of contamination e.g. sewage discharges. SEPA currently issue one of two types of response with regard to SWPAs: i) indicating that the proposed site is within a SWPA or ii) indicating that the proposed site is outwith a SWPA and highlighting potential sources of pollution that the developer should be aware of. It should be noted that the latter response does not constitute an objection from SEPA (shellfish developments can occur outside SWPAs), although developments within SWPAs are considered to be preferable for the industry, as within these areas SEPA have the statutory authority under the Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2013 to address any water quality issues that may affect the shellfish health or hygiene (e.g. through improvement, corrective or remedial actions) (Hazel Macleod, SEPA, *pers. comm*.). To address how their consultation response is interpreted, SEPA will soon issue standard advice about water quality issues relevant to all developers.

Conditions applied to granted planning permissions

Where there is a positive determination, planning permission is granted with conditions. In general, conditions are applied more to new site planning permissions compared to permissions for alterations/extensions to existing farms as the conditions of the original consent persist. A suite of standard conditions, relating to *inter alia* navigation, colour of buoys, lighting, equipment removal have been developed for use by all LPAs and Marine Scotland (listed in Appendix C). A number of these will appear on all permissions while others will only be applied as required to ensure development is appropriate and sustainable. As noted above, in certain cases, development-specific conditions, over and above the appropriate standard conditions, might be required to mitigate the impact identified effectively bringing the application into line with policy and allowing the development to go ahead.

The 'appropriateness' of conditions attached to granted planning permissions was an issue raised by several stakeholders during this study, (see Section 6). It can be noted that any conditions applied to a planning permission must meet the 'six tests' as set out in the National Planning Policy Framework[13] or they cannot be applied and the developer has a right of appeal against any condition applied to a planning consent.

The planning consent granted is specific to the area of foreshore/seabed and not a specific person or company. When granted, planning permission is currently *ad infinitum* (i.e. not time-limited). Under the TCPA, the development has to commence within three years of permission being granted. The developer can apply to vary this condition (i.e. to extend the time period for commencing development), which requires an application and a fee, and the request may well be granted if the reasons for the delay are considered appropriate (Martin Holmes, SIC, *pers. comm*.). Furthermore, all planning permission (from the LPA or Scottish Government via the Audit and Review process) should have the condition that if the development is not in continuous use for three years, equipment should be removed (because it is not being used for the purpose for which permission was granted) (see standard conditions in Appendix C). Again, developers can apply to vary this condition (extend the non-use period), via an application and fee, and this would normally be agreed to if the reasons are appropriate. It can be noted that in Shetland, if the reason for 'non-use' relates to e.g. a disease outbreak, for which other legislation dictates the required action (such as removal of stock), the time period for which such actions are required are not counted as non-use with regard to the planning condition (Martin Holmes, SIC, *pers. comm*.).

3.2.4 Appeal Process (Stage D)

If planning permission is refused, the developer has the right to appeal the decision within a given timescale. If the planning determination was made by a planning officer[14] the appeal will go to a Local Review Body. If the determination was made by the Council Committee, the appeal will go to Scottish Ministers. The appeal decisions at either level are final; if the developer wants to question the decision further they will need to go to judicial review, which will consider the process by which the decision was made (i.e. have the right procedures been followed) but not the actual decision[15].

[13] Paragraph 206 of the National Planning Policy Framework states "Planning conditions should only be imposed where they are: 1. Necessary; 2. Relevant to planning; 3. To the development to be permitted; 4. Enforceable; 5. Precise; and 6. Reasonable in all other respects". This policy requirement is referred to as the 'six tests'.

[14] Every LPA is required to have a scheme of delegation to enable delegation of a certain level of decision to planning officer level. Most planning decisions are probably made by a planning officer. In certain circumstances e.g. where there may be a conflict of interest, or the planning officer is not able to attach a condition that will ensure the development will comply with Council policy, the decision will be made at Committee (Council) level. In these instances, the planning officer will make a recommendation to the Committee via a Report of Handling, however the Committee may not necessarily follow the planning officer's recommendation (see Section 5.2.2).

[15] Court and Tribunals Judiciary website: https://www.judiciary.gov.uk/you-and-the-judiciary/judicial-review/

4 Biological Carrying Capacity

4.1 Introduction

There is considerable discussion and debate over the concept or indeed concepts of carrying capacity when considering aquatic resource use and sustainability. The general definition of carrying capacity with regard to biological systems (biological carrying capacity) is where the population size has a growth factor of zero within a given environment. In other words, the point where a population along with its natural constraints are using resources (such as food) in equilibrium to the provision of those resources (McGinley, 2013). Consequently, when this is used to manage environmental and resource sustainability the biological carrying capacity should never be achieved but only approached within pre-defined limits. An alternative approach for achieving environmental sustainability is to use assimilative carrying capacity. This is defined as the capacity of a body of water to receive nutrient or toxic wastes without deleterious effects and without damage to aquatic life (U.S. Environmental Protection Agency, 1997). This can be estimated using simple waste dilution or in combination with the environment's ability to process/breakdown the wastes. With regards to aquaculture development the two carrying capacity approaches have been reclassified as Production carrying capacity (the stocking density of cultured organisms which at harvest are maximised) and Ecological carrying capacity (the stocking levels or farm densities which cause unacceptable ecological impacts to the wider ecosystem) which along with Physical and Social carrying capacity[16] form the four functional carrying capacity categories defined by Inglis *et al.* (2003) and used by McKindsey *et al.* (2006) and Ross *et al.* (2013) to define aquaculture sustainability.

Physical and production carrying capacities are applied on a farm-scale level, which is only a component of a larger ecosystem which requires inclusion of ecological and social carrying capacities. In particular, ecological carrying capacity considers the Ecological Approach to Aquaculture promoted by the FAO (Ross *et al.*, 2013) and used as a basis for environment management and sustainability of aquaculture development throughout the world. Ecological and social carrying capacities are designated on the basis of acceptability of environmental change or impacts, so depend on social values and defined environmental quality standards (McKindsey *et al.*, 2006).

Often decision makers, regulators and planners use a combination of production and ecological capacity models to estimate the level of development which can take place within a given environment or set of boundary conditions. Therefore a variety of predictive models at different levels of sophistication are used for defining aquaculture production levels.

This section will seek to review use of current carrying capacity models for development of shellfish culture, and relate this to policy and guidance and regulatory requirements in Scotland.

4.2 Brief Review of the Current Biological Carrying Capacity Models for Shellfish

The Production capacity for bivalves will depend on availability of natural resources and how their utilisation is related to ecosystem function. Modelling approaches to define these functions in relation to capacity have been widely used but tend to focus on hydrodynamics, food availability/production,

[16] *Physical carrying capacity* is based on the suitability for development of a given activity, taking into account the physical factors of the environment and the farming system. *Production carrying capacity* estimates the maximum aquaculture production and is typically considered at the farm scale.. *Social carrying capacity* has been defined as the amount of aquaculture that can be developed without adverse social impacts. See Ross *et al.* (2013).

feeding physiology and husbandry. Though the approaches are consistent and widely used they are limited through their restricted ability to determine ecosystem responses to their activity and account for seed collection or harvesting of shellfish. Conversely, Ecological carrying capacity normally has negative connotations and is often linked with the impacts of culture on the immediate environment, e.g. footprint of effect (Corner *et al.*, 2006). Though shellfish aquaculture is considered to have limited impacts on the local environment these still exist and have been modelled (Weise *et al.*, 2009). For most estimations of the capacity of shellfish culture within an environment production (biological) carrying capacity has been used most often.

Though there are many modelling approaches to estimation of biological carrying capacity for shellfish culture, they can be broadly separated into two types; productivity models of the relationship between nutrient-phytoplankton-zooplankton (NPZ), and ecosystem models. The former NPZ models tend to concentrate on primary production processes and interactions between culture and productivity. These models are often complex and are reliant on hi-tech approaches and complicated datasets (e.g. multilayered hydrography, water quality and atmospheric data, as well as primary productivity calculations) and contain a large number of parameters. The ecosystem modelling approach tends to use steady state mass-balance, linear food web models (e.g. Ecopath) investigating nutrient interactions between different trophic levels and species within a food web and their relationship to the cultured organisms.

4.2.1 Production carrying capacity models (e.g. NPZ)

NPZ models can address monoculture systems (Carver and Mallet, 1990) and multi-culture systems (Duarte *et al.*, 2003). In an example of use for the latter, Duarte *et al.* (2003) developed a two-dimensional coupled physical–biogeochemical model for bivalve and kelp production in China. Here 13 years of environmental data were used to calibrate and validate carrying capacity estimations for scallop and oyster polyculture. The model integrated a number of linked forcing objects (wind, air temperature, water temperature, light intensity, and tidal height) with steady state variables (hydrodynamics, dissolved inorganic matter, total particulate matter, phyto and zooplankton biomass, kelp biomass, physiological parameters of primary producers and consumers, feed/filtration rate, assimilation rate, and scope for growth for scallops and oysters). The results for the model showed good agreement with measured levels of environmental variables in the study site in China and from other key shellfish production areas throughout the world. The main innovative aspect of the model was the coupling between hydrodynamics and biogeochemistry, within the same spatial and temporal framework to estimate the carrying capacity for multispecies shellfish culture. Conclusions from the model suggested that the study location was near its capacity for shellfish culture, but by simple alteration in the densities and/or distribution of cultured species, substantial increases in production levels could be achieved.

Scope for growth is a key part of NPZ modelling of carrying capacity for shellfish. One of the most widely used models within a wider modelling framework is ShellSIM (Hawkins *et al.*, 2013). The model simulates interrelations between suspension-feeding bivalve shellfish and the environment, with outputs that quantify consequences for shellfish production, water quality and ecological status. Population dynamics are simulated using a standard conservation equation to calculate transitions between weight classes, accounting for seeding, settlement, harvesting and/or mortality as defined. It is a dynamic model, based upon common principles of energy balance, using differential equations that define functional physiological responses to environmental change. Time-varying rates of feeding and metabolism are simulated as component processes in the prediction of individual growth, reproduction and condition. The individual organism is treated as an input-output system with size and energy content as state variables. ShellSIM has been integrated with NPZ and ecosystem models in a number of studies. One such couples ShellSIM with coastal ecosystem models (EcoWin2000 biogeochemical model and Delft3D hydrodynamic models) and catchment models (SWAT river

loading model and geographic land-use models) within a spatial framework (ArcGIS) (Nobre *et al.*, 2010) to develop models of sustainable shellfish production in multi-trophic aquaculture systems. This combination of models successfully estimated not only the sustainable shellfish production based on primary productivity, but also nutrient loading, distribution and fate of nutrient wastes within coastal waters.

Simple models have been widely used in aquaculture to give straightforward estimates of carrying capacities where there is limited data and as a general regulatory tool for consistent implementation. An example is the spreadsheet model presently used by MSS for estimation of biological carrying capacity of coastal shellfish culture (Gubbins *et al.*, 2008). The model provides an estimate of the relative risk of shellfish developments within an inshore area of restricted water exchange with the open coast. An estimate of the maximum 'clearance potential' of all the cultured shellfish is estimated from the potential standing biomass and permitted equipment used at the location based on the granted seabed conditions and lease (e.g. it assumes 5kg of mussels per metre of suspended drop line and a general clearance rate of 3866 L d^{-1} kg^{-1} is used). Whole loch clearance potential is estimated using the flushing rate of the system (total quantity of water exchanged over a year) calculated from estimates of the tidal flushing time and assuming that water volume is replaced by water entering and leaving a sea loch on each tide. Direct comparison of clearance potential estimates and flushing times (expressed as a percentage) allows comparison between lochs of the relative risk of food supplied by tidal exchange becoming limited for cultured mussels. Results showed that presently for 90% of Scottish lochs the estimated maximum clearance potential by cultured mussels is less than 40% of the tidal exchange. LPAs are advised by MSS to take carrying capacity into consideration in cases where proposals for new shellfish developments are likely to result in clearance potential exceeding 50% of tidal exchange.

A more sophisticated system, based on the coupling of three models, was developed and tested in a number of sea lochs in Scotland (Tett *et al.*, 2011; Wilding, 2012). The first two models comprise an existing assimilative capacity model for fin fish aquaculture: 1) A physical (ACExR) model which parameterises the known physical processes in sea lochs to simulate annual cycles of temperature and salinity and exchange rates, coupled to 2) a biogeochemical 'Loch Ecosystem State Vector' (L-ESV) model which predicts seasonal variations in chlorophyll and oxygen accounting for nutrients (including inputs from fish farms), bio-optics, phytoplankton production and consequent zooplankton grazing. A new innovation is to link these to the ShellSIM model (Hawkins *et al.*, 2013) to predict physiological responses of shellfish to the environmental variables modelled to give a more representative estimate of shellfish carrying capacity. To date the combination of models has been successfully tested in two Scottish sealochs using a simplified shellfish bioenergetic model, GB98 (Grant and Bacher, 1998) and is presently under investigation using ShellSIM in field trials.

Such production capacity models can also be applied to refine the aquaculture technology used and refine system design to maximise the production in a given location. Aure *et al.* (2007) used water flow and exchange models to show how the influence of farm design in influencing water flow can increase the production capacity. Filtering rates (feeding activity) was related to different modelled flows under different system designs and stocking densities of mussels. The results clearly showed that the type and design of the shellfish aquaculture system and its resulting stocking densities have an effect on the production capacity of a given location, and thus changes in the potential production of shellfish within these areas.

4.2.2 Ecological carrying capacity models

Ecosystem function is also an important factor in estimating the capacity of the environment to sustain bivalve culture. Models for ecological carrying capacity consider ecosystem function factors to allow a comprehensive assessment of the major interactions between cultivated bivalves and the

food-web. Therefore in addition to predicting tissue production such models assess the level of top down control on phytoplankton stocks, reduction in turbidity, ability for nutrient removal and the influence on and from other organisms by the filter feeding shellfish (Newel, 2007). These secondary benefits can also have an economic value and a role in predicting mitigation potential on any adverse effects of bivalve aquaculture.

An investigation into the potential ecological carrying capacity of suspended bivalve culture was undertaken using the Ecopath model within New Zealand coastal bays Jiang and Gibbs (2005). Ecopath (Pauly *et al*., 2000) is a linear food web model which uses a steady state mass balance approach to investigate the structure of marine systems. It has previously been used extensively for estimating impacts of fishing pressure (Wolff, 1994; Haggan and Pitcher, 2005) and marine finfish aquaculture (Lopez *et al*., 2008) on marine ecosystems, but is now beginning to be used widely for investigating the contribution of whole ecosystem resources and their capacity for estimating potential production of shellfish culture. The study in New Zealand estimated a capacity for bivalve production corresponding to 65 t km^{-2} y^{-1}, but also found that introducing large-scale bivalve culture resulted in a decrease in the mean trophic level of the ecosystem as a whole and an increase in the total production efficiency as the bivalves replaced zooplankton as the major grazers in culture areas.

Ecopath was also used by Byron *et al*. (2011) for calculating the ecological capacity for shellfish (oysters) in Narragansett Bay, Rhode Island (Bryon *et al*., 2011). They found that the existing levels of oyster production could be increased 625 times to 297 t km^{-2} y^{-1}. This is also more than four times the capacity for unit production in New Zealand (Jiang and Gibbs, 2005) illustrating the importance of the specific location in calculation of ecological capacity.

4.3 Review of Policy and Guidance in Relation to Consideration of Biological Carrying Capacity of Shellfish Culture and Regulatory Requirements in Scotland

A recent report by the MGSA (2014) outlined a number of key areas for research strategy and policy to increase sustainability of Scottish Aquaculture. As part of the generic aquaculture recommendations to increase production capacity in support of the 2020 production target, two issues were highlighted, both of which concern carrying capacity of the environment for aquaculture:

1. The integration of carrying capacity as a concept into marine spatial plans; and
2. Improvement of estimates of assimilative and biological (production) carrying capacity for fish and shellfish farms in inshore and offshore marine ecosystems (MGSA, 2014).

While these were seen particularly as a high priority for further development of fin fish culture, they are also seen as key in the designation of sites for increase in shellfish culture activities within Scottish waters. Thus biological carrying capacity is inextricably linked to changes in our understanding of acceptable thresholds of environmental impact and in the improvement in the accuracy of regulatory tools and procedures. Such improvements and better understanding could lead to changes in the carrying capacity designations for aquaculture in specific areas.

In Shetland, where regulation and policy for aquaculture development has been the responsibility of the SIC since the early 1980s, the considerable growth in the shellfish sector raised a number of concerns in both the aquaculture industry and those responsible for development policy regarding the issue of biological carrying capacity (NAFC, 2007). In consequence, where biological carrying capacity is estimated to be nearing attainment, permissions for new or expansions of shellfish culture will not normally be granted.

In Scotland modelling of the biological carrying capacity for coastal locations for aquaculture is a part of the planning application process. It is one of the planning criteria collated from LDP policy documents and supplementary guidance (see Section 3.2.3). These criteria are considered through the Planning Application and approval process and are also part of the pre-application advisory process in Shetland for shellfish aquaculture development.

In Shetland, consideration of biological carrying capacity is the responsibility of the SIC as the LPA. Throughout Scotland the consideration of the carrying capacity is undertaken by MSS through statutory consultation from the Local Planning Authorities (LPA). As a statutory consultee, MSS consider carrying capacity for every planning application with respect to the location of the site. If the site falls within an area of restricted flow (for example within sea lochs, embayments, inlets and sounds where tidal water flow may be restricted and hence food availability for the shellfish may be an issue), predictive modelling (as described above) will be undertaken and this is the case for the majority of applications (Anna Donald, MSS, *pers. comm.*). However, where sites lie within more open locations, where the risk of exceeding the capacity is much reduced, the predictive modelling is not undertaken, unless there is a perceived risk of the proposed biomass exceeding capacity. In addition, the SIC also carry out a parallel consideration of carrying capacity which is included in the pre-planning advice to developers in Shetland. Carrying capacity is therefore considered for every planning application for shellfish aquaculture, however, it is of particular relevance for areas of restricted water flow or where a large production is proposed and where additional information may be requested by the LPAs or SIC.

MSS may also provide additional advice on biological carrying capacity of water bodies to planning applicants in relation to the proposed and existing developments.

In general, exceedance of biological carrying capacity is not considered to be a key concern at present due to the small size of the industry and large availability of natural food supply, other than in Shetland where the industry is proportionally larger and there is higher demand for fewer suitable locations with adequate food availability.

As described above, the present process for modelling biological carrying capacity in Scotland is to use a simple spreadsheet-based ranking model, mentioned above. It is used by both MSS and SIC. However, there appears to be an inconsistency of use between the two organisations due to the differences in the use of a safety margin for wild shellfish stocks resulting in different values for carrying capacity tonnages. This is because application by SIC makes an allowance of carrying capacity for the indigenous wild shellfish populations whereas MSS do not. The use of the present spreadsheet-based model is considered suitable for estimation of the biological carrying capacity. However, the findings of the Science and Research Working Group (MGSA,, 2014) stated models should be made more sophisticated and integrated into Marine Spatial Plans. The report ranked modelling as the second highest priority in terms of research needs. This requirement is being addressed through the development of the more sophisticated model coupling the physical/hydrography model (ACExR) with biogeochemical model (L-ESV) with the shellfish scope-for-growth model (ShellSIM) (Tett *et al.*, 2011) and validation of this model (Wilding, 2012).

Though biological carrying capacity is considered for each planning application, it is rare that there are related issues and that additional information is considered. Recently biological carrying capacity has only been cited as an issue in a single shellfish planning application to the Highland Council Planning Authority, where statutory advice from MSS was "filtration rate of the proposed biomass could exceed the tidal flushing of the voe and hence there was a high risk of biological carrying capacity being exceeded". However, this was not cited as a material consideration in the delegated report.

5 Planning Review

This Section provides a summary of the approach to the planning review (Section 5.1), the statistics relating to the number of shellfish development planning permission applications granted between 2009 and 2014 and a review of the reasons cited as for refusal of planning applications (Section 5.2). A summary of the key findings arising from the planning review are presented in Section 5.3.

5.1 Approach

The Planning Review was undertaken by searching the LPA planning registers for shellfish farm planning applications between 2009 and 2014. This was undertaken using the advanced search function to identify shellfish aquaculture-related planning applications using keyword searches (e.g. shellfish; mussel, oyster, scallop, aquaculture; marine; fish farm) together with searches for appropriate application types (e.g. marine fish farms) and development types (marine shellfish farming – local and major) as categorised on each LPA planning register. The number of planning applications identified (or the absence of any relevant applications within the time scale assessed) were confirmed with each of the LPAs to ensure all relevant information had been incorporated into the review.

For each LPA, the following information was determined:

- The number of applications for new/modified shellfish farms between 2009-2014 for each LPA (2014 application information was only included if determinations had been made);
- The number of positive and negative determinations by LPA;
- The key reasons cited for the negative determinations (see below); and
- The average, maximum and minimum times to reach decisions by the LPA.

Where negative determinations were made, further review of the objections raised and the planning considerations which underpinned the planning permission refusal was undertaken.

A summary of the results are presented below.

5.2 Planning Application Statistics 2009 to 2014

Planning authorities which were considered by the Project Steering Group (PSG) to have the potential to receive shellfish farm planning applications included:

- Argyll and Bute Council (ABC);
- The Western Isles Council (Comhairle nan Eilean Siar) (WIC);
- Dumfries and Galloway Council (DGC);
- The Highland Council (THC);
- The Moray Council (TMC);
- North Ayrshire Council (NAC);
- Orkney Islands Council (OIC); and
- Shetland Islands Council (SIC).

It should be noted that DGC, TMC and NAC confirmed that they had not received any shellfish farm planning applications between 2009 and 2014 (the time period considered within this study). Hence the information below relates to the remaining five LPAs which did receive and determine planning applications for shellfish developments during the period of interest.

5.2.1 Planning Applications

The number of planning applications, the determinations and the average time to determination are shown in Table 5, Table 6 and Table 7. The results have been presented separately for mussels and oysters due in general to the different cultivation methods and location of farms (i.e. offshore for mussels and foreshore/shallow subtidal for oysters). The number and outcomes of planning applications for integrated multi-trophic aquaculture (IMTA) systems (e.g. applications to farm finfish, shellfish, other invertebrates and/or seaweed) are also shown, however, the details underlying the determinations have not been analysed further in this report.

It should be noted that the study is focussed on the planning applications for new shellfish developments and alterations/extensions of existing shellfish developments, which would represent new or additional shellfish production, made through the planning system (i.e. under the TCPA). However, where applications were made for a change in use or a variation/removal of a condition, these have also been presented in the tables. Furthermore, the results presented exclude any 'retrospective' planning applications[17]. Such cases were identified primarily from the planning application proposal title (which in general states it is a retrospective application) and also in some instances, from review of the LPA report of handling and/or the planning application form. As such, planning applications shown on the LPA planning websites were excluded from the analysis if any of the following were indicated:

- The planning application title stated it was retrospective;
- The application form indicated that the development had been granted planning permission by the Scottish Government; and/or
- The report of handling stated the application was retrospective.

In these instances, the applications were not considered to represent new shellfish development or expansion and hence were excluded from the planning review statistics. A total of eleven applications were excluded from the analysis on this basis (note, all of the retrospective planning permission applications were granted).

[17] Retrospective planning applications relate to equipment which has been identified as being 'out of position' in relation to the consented boundaries. This situation represents a 'compliance' issue and in these instances, the developer can either move the equipment to be within the consented boundaries or apply for planning permission for the actual location of the equipment. This situation may arise in relation to farms which were granted consent prior to 2007 (i.e. consented by TCE or a Shetland or Orkney Work Licence), and subsequently granted planning permission through the Scottish Government Audit and Review Process, or that have been consented since 2007 but have been found to be out of position. As this study was concerned with the consistency of approach to planning applications for new shellfish farms or extensions to existing farms, issues relating to the requirement for retrospective planning applications has not been assessed further, although it has been noted that this was an issue and area of concern raised by stakeholders (see Section 6).

Table 5. Summary of planning permission applications and determinations for mussel developments between 2009 and 2014

Local Planning Authority	Type of Application	Number of Planning Applications Between 2009 and 2014			
		Total	Granted	Withdrawn	Refused
Argyll and Bute Council	New	4[a]	3	1	0
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**4**	**3**	**1**	**0**
Comhairle nan Eilean Siar	New	11	11	0	0
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	1	1	-	-
	Total Applications	**12**	**12**	**0**	**0**
The Highland Council	New	5	4	1	0
	Alteration/Extension	1	1	0	0
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**6**	**5**	**1**	**0**
Orkney Islands Council	New	0	0	0	0
	Alteration/Extension	1[b]	-	1	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**1**	**0**	**1**	**0**
Shetland Islands Council	New	61[c]	50	5	6
	Alteration/Extension	29[d]	28	1	0
	Change in Use	1[e]	1	0	0
	Variation or Removal	4f	4	0	0
	Total Applications	**95**	**83**	**6**	**6**
Total Across Scotland	New	81	68	7	6
	Alteration/Extension	31	29	2	0
	Change in Use	1	1	0	0
	Variation or Removal	5	5	0	0
	Total Applications	**118**	**103**	**9**	**6**

a = three applications related to the relocation of equipment for a non-commercial scale development; b = application for multiple bivalve shellfish species (mussel, scallop and oyster); c = one application for mussels and oysters; d = two applications for mussels and oysters; e = change in use from finfish to mussel production; f = all applications relate to extension of the condition determining the period of time within which development must be commenced

Table 6. Summary of planning permission applications and determinations for oysters (Pacific and/or native oyster) developments

Local Planning Authority	Type of Application	Number of Planning Applications Between 2009 and 2014			
		Total	Granted	Withdrawn	Refused
Argyll and Bute Council	New	1	1	0	0
	Alteration/Extension	4	4	0	0
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**5**	**5**	**0**	**0**
Comhairle nan Eilean Siar	New	6	6	0	0
	Alteration/Extension	0	-	-	-
	Change in Use	5[a]	5	0	0
	Variation or Removal	0	-	-	-
	Total Applications	**11**	**11**	**0**	**0**
The Highland Council	New	6[b]	6	0	0
	Alteration/Extension	3 (all major)	2	0	1
	Change in Use	0	-	-	-
	Variation or Removal	1 (removal condition)	1	0	0
	Total Applications	**10**	**9**	**0**	**1**
Orkney Islands Council	New	0	-	-	-
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**0**	**0**	**0**	**0**
Shetland Islands Council	New	0	-	-	-
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**0**	**0**	**0**	**0**
Total Across Scotland	New	13	13	0	0
	Alteration/Extension	7	6	0	1
	Change in Use	5	5	0	0
	Variation or Removal	1	1	0	0
	Total Applications	**26**	**25**	**0**	**1**

a - Applications were marked as 'Change in Use' by applicant, however, the report of handling states "this application is for a siting of a new oyster farm". However, as applicant indicated they had pre-application advice from the LPA and so presumably had discussed the type of application being made, the application has been recorded as a change in use as indicated on the application form; b - One application was for oysters and scallop; c - Shetland Islands Council – no planning applications just for oyster production; see Table 5.

Table 7. Summary of planning permission applications and determinations for integrated multi-trophic aquaculture developments

Planning Authority	Type of Application	Number of Planning Applications Between 2009 and 2014			
		Total	Granted	Withdrawn	Refused
Argyll and Bute Council	New	1[a]	1	0	0
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**1**	**1**	**0**	**0**
Comhairle nan Eilean Siar	New	3[b]	2	0	1 (at judicial review)
	Alteration/Extension	0	-	-	0
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**3**	**2**	**0**	**1**
The Highland Council	New	0	-	-	-
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**0**	-	-	-
Orkney Islands Council	New	0	-	-	-
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**0**	-	-	-
Shetland Islands Council	New	0	-	-	-
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**0**	-	-	-
Total Across Scotland	New	4	3	0	1
	Alteration/Extension	0	-	-	-
	Change in Use	0	-	-	-
	Variation or Removal	0	-	-	-
	Total Applications	**4**	**3**	**0**	**1**

a – oysters, mussels, scallops and seaweed; b i) salmon and complimentary shellfish species; ii) salmon, mussels, oysters, scallops, urchins ; iii) mussels, oysters, scallops and urchins in the vicinity of salmon farm

The results show the following:

- Planning applications for mussel developments:
  - There were a total of 118 planning applications for mussel developments between 2009 and 2014. The highest number of applications by far were in the SIC area (95), followed by WIC (12 applications), THC (6 applications), ABC (4 applications) and OIC (1 application);

The vast majority of planning application were granted (103 out of 118; 87% of total), while in total 9 (8%) were withdrawn and 6 (5%) were refused. The reasons for refusing planning permission in these instances are described further in

- Table 10.

- Planning applications for oyster developments:
  - There were a total of 26 planning applications for oyster developments (for cultivation of Pacific and/or native oysters) between 2009 and 2014. The highest number of applications was received by WIC (11 applications), followed by THC (10 applications of which 3 were classifieds as 'major' applications) and ABC (5 applications). No planning applications for oyster farms were received by the SIC or the OIC.
  - All but one of the planning applications were granted (i.e. 96% were granted). The reason for the refused planning permission is described further in
  - Table 10.

- Planning applications for IMTA developments:
  - There were a total of 4 planning applications for IMTA developments that included shellfish production between 2009 and 2014. Three of these applications were in the WIC LPA area and one in the ABC area;

All but one of the planning applications were granted (i.e. 75% were granted). The reason for the refused planning permission is described further in

- Table 10.

The time within which planning applications should be determined is stated in the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 and is 4 months after the validation date for major shellfish applications (defined as having a surface area over 2 hectares (ha)) and 2 months after the validation date for local shellfish applications (surface area of <2 ha). However, it must be noted that:

- A planning application is only validated by the planning authority once all of the required information is provided by the applicant as set out in the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 (see Section 3.2);
- Once the application has been validated, if further information is required from the developer (i.e. requested by the LPA or statutory consultees), in agreement with the developer, the LPA can 'stop the clock' whilst the information is provided.

As such, the times shown in Table 8 and Table 9 do not necessarily represent the actual time taken by the LPA to reach a determination. Furthermore, consultation with LPAs indicated that delays beyond the guidelines for determinations related primarily to delays in receiving the required information from the developer to enable the application to be validated, or in their responding to further information requests arising from the consultation responses.

As such, whilst the data presented in Table 8 and Table 9 should be considered as indicative only, the minimum, maximum and average times between i) applications being received and validated by each LPA and ii) the application being validated and determined by each LPA, may provide an indication of where in the process any delays are occurring and allow comparison between the LPAs. The data

shown only include applications where determinations were reached (i.e. exclude any withdrawn applications) and exclude retrospective planning applications and any applications that went to judicial review (one application in THC). The data are also presented separately for local and major applications (in Table 8 and Table 9 respectively).

Table 8. Time between planning application receipt and validation (local applications)

	THC (n=12)	OIC	SIC (n=87*)	WIC (n=25)	ABC (n=9)
Time between date application received to date validated (weeks)					
Minimum	0.0	-	0.0	0.0	0.0
Maximum	6.7	-	14.0	10.6	10.0
Average	1.1	-	0.7	3.3	4.5
Time between application being validated and determination (weeks)					
Minimum	7.1	-	4.9	4.6	4.9
Maximum	28.0	-	49.1	129.3	10.1
Average	13.2	-	9.4	22.6	7.9

Note: Time calculations exclude withdrawn planning applications and retrospective applications.
* Information not available for two applications

Table 9. Time to planning application validation and determination (major applications)

	THC (n=3)	OIC	SIC	WIC	ABC
Time between date application received to date validated (weeks)					
Minimum	0.0	-	-	-	-
Maximum	2.3	-	-	-	-
Average	1.3	-	-	-	-
Time between application being validated and determination (weeks)					
Minimum	4.4	-	-	-	-
Maximum	31.6	-	-	-	-
Average	18.0	-	-	-	-

Note: Time calculations exclude withdrawn planning applications and retrospective applications. No planning applications for major shellfish developments were made to the OIC, SIC, WI or ABC between 2009 and 2014.

5.2.2 Planning Application Refusals

A total of 8 planning applications for developments to cultivate mussels (n=6), oysters (n=1) and shellfish within an IMTA system (n=1) were refused between 2009 and 2014.
Table 10 provides further detail on the planning considerations which were cited as the reason for refusal of planning permission for these 8 applications. A brief summary of the objections and the decision-making process for each case is then provided.

Table 10. Summary of reasons for refusal of planning permission

Case Study	Local Authority	Species	Application Type (scale)	Level of Determination	Objections Deemed Material	Objections Deemed Non-Material	Reason for Decision	Appeal and Outcome
1	SIC	Mussel	New (local)	Delegated (appointed officer)	Hazard to navigation	-	Safe navigation would not be maintained.	No
2	SIC	Mussel	New (local)	Council Committee	Exposed conditions may damage equipment creating a hazard to navigation	Concern regarding developer operations and management at other sites	Safe navigation would not be maintained	No
3	SIC	Mussel	New (local)	Delegated (appointed officer)	Proposal site overlaps with a scallop and queen fishery	Exposed conditions may damage equipment, creating a navigational hazard	Proposal would impact scallop fisheries.	No
4	SIC	Mussel	New (local)	Delegated (appointed officer)	Proposal site too close to existing lease interest, TCE unlikely to be able to grant a lease without the current tenant's permission.	Concerns over: equipment left from a finfish site in area; speculative nature of the application; lack of developer track record in Shetland.	If seabed lease unlikely to be granted, planning approval could sterilise surrounding areas for future developments.	Yes - granted
5	SIC	Mussel	New (local)	Delegated (appointed officer)	Area has an active scallop and velvet crab fishery. Close proximity to an existing lease (technically expired) – this objection withdrawn	Concerns over: equipment left from other development; speculative nature of application; lack of developer track record in Shetland.	Proposed site within an inshore shellfishery area identified in the SIMSP.	Yes - refusal upheld

Case Study	Local Authority	Species	Application Type (scale)	Level of Determination	Objections Deemed Material	Objections Deemed Non-Material	Reason for Decision	Appeal and Outcome
6	SIC	Mussel	New (local)	Delegated (appointed officer)	Objection relating to seal disturbance and need for an AA withdrawn after boat movement mitigation measures and sign up to local Aquaculture Management Plan agreed.	-	Non-compliance with separation distances	No
7	THC	Oyster	Alt/Ext (major)	Council Committee	Scale of development; spat supply, disease; insufficient landside infrastructure; debris; noise and light pollution; impact on inshore recreational users.	-	Significant impacts on natural heritage and amenity value of area; compromise natural environmental and amenity of NSA	No (significantly reduced proposal submitted in 2015 and granted (James Bromham, TIC, *pers. comm.*)
8	WIC	IMTA	New (not stated)	Not stated	No publically available information	No publically available information	Court of Session issued an interlocutor, quashing this planning permission	n/a

Case Study 1 [SIC, 2011]

Application for a new mussel development.

Objections deemed material: Proposed site situated in the middle of a navigable channel and will create a hazard to navigation (objections from NLB; Shetland Islands Ports and Harbours Operations).

Reason for decision: Failure to comply with the SIC Interim Policy for Marine aquaculture Policy G1, as safe navigation would not be maintained.

Summary: Application was refused on the grounds of navigational safety as the proposed site in centre of a navigable channel which being increasingly used by small to medium size vessels and other aquaculture vessels servicing finfish farms. No other objections were raised.

Key issue: Potential navigational safety issues arising from competition for space with other marine sector users.

Case Study 2 [SIC, 2011]

Application for a new mussel development, which was determined at Council Committee level as an objection was received from the Community Council.

Objections deemed material: Proposed site extremely exposed, posing a danger to infrastructure which if breaks up will pose a hazard to navigation (objection from Community Council and an individual).

Objections deemed non-material: Developer operations and management at other sites not exemplary (objection from Community Council and an individual).

Reason for decision: Failure to comply with the SIC Interim Policy for Marine Aquaculture Policy G1 as safe navigation would not be maintained due to the sea conditions of the proposed development.

Summary: Objections were received from an individual and the Community Council in relation to the exposed nature of the proposed site, stating this may cause the infrastructure to break up and become a navigational hazard. The planning officer sought the opinion of the NLB and SIC Ports and Harbours Operation who both advised that the applicant provide evidence that the infrastructure (moorings) was suitable for the proposed location and the severe weather conditions it would be exposed to.

The applicant provided a letter of attestation from the company which manufactured the moorings, which stated that they had taken into account the physical conditions at the site (including wave height, reach and tidal movements) when designing the moorings for the application, confirming that the design and construction of the mooring system would be of the highest standard required by the Scottish and International Fish Farming industry and more than suitable to endure the environmental conditions at the proposed site. Based on this information the planning officer concluded that the application was not in breach of Policy G1 and recommended that the application be approved (subject to conditions). Correspondence associated with this application shows that the planning officer had sent a copy of the report of handling to the legal and safety department for review prior to presenting it to the Committee. The report of handling also stated that should the members of the Committee be minded to refuse the application as a departure from Council policy, it was imperative that clear reasons for refusing planning permission contrary to Council policy and the officer's

recommendation should be given and minuted in order to comply with Regulation 28 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008, for the avoidance of doubt in the case of subsequent appeal or judicial review.

The decision from the Committee refusing planning permission states that the proposed development was refused due to failure to comply with the SIC Interim Policy for Marine Aquaculture Policy G1 as safe navigation would not be maintained due to the sea conditions of the proposed development. No further information was provided as to why the application was refused against the advice of the report of handling which concluded that due to the attestation letter from the manufacturer, the application was compliant with Council Policies G1 and G2.

Key issue: The Committee refused planning permission despite the planning officer concluding that the application was not in breach of council policy (based on a letter of attestation from the equipment manufacturers) and his recommendation to grant permission. It can be noted that a similar concern regarding the integrity of aquaculture equipment in bad weather leading to potential hazards to navigation (see case study 3 below) was not upheld (i.e. was not considered a material consideration) as it was stated that standard conditions attached to the permission would control any such hazard in relation to weather-related damage or disrepair.

Case Study 3 [SIC, 2013]

Application for a new mussel development:

Objections deemed material: Proposed site overlapped with a scallop and queen fishery, which use the area in poor weather (objection from a local fisherman's association).

Objections deemed non-material: Concern that heavy swells may damage mooring equipment, creating a navigational hazard to the lobster and velvet crab fishery.

Reason for decision: Proposed development would hamper the ability to haul and shoot gear for scallop and queen scallop in the area for several vessels. Does not comply with Policy G1, GEN2, MPF1.

Summary: The planning application form indicated that the developer had engaged in pre-application discussion with the LPA. Objections to the proposed development were received from a local fishermen's association stating that proposal would interfere with the scallop fishery which fishes in the sheltered voe in bad weather conditions. The objector also stated their concern regarding the integrity of the anchoring ropes in bad weather which, if damaged may become a navigational hazard to the lobster and velvet crab fishery.

The delegated report of handling stated that the Shetland Islands Marine Spatial Plan (SIMSP) indicated that the proposed area is used for lobster and velvet crab fishing, straddles the area fished for scallops, and that the fishing effort is moderate to high for these species in the surrounding area. It was concluded that the small area of the development would not cause significant disruption to the setting of creels [for lobster and crab] but would have a significant impact on the scallop fisheries as it would stop or hamper the ability to haul and shoot gear and hence negatively impact the fishing ability for several vessels.

The developer requested to 'stop the clock' whilst he spoke to the objector, however, the delegated report stated there was no indication that such discussions had taken place (over 14 weeks).

The navigational hazard aspect was not upheld as it was stated that standard conditions would control any navigational hazards or impacts with respect to weather related damage or disrepair.

It can be noted that no objection ("no adverse comments") from MSS was recorded, however, they did state that the filtration rate of the proposed biomass could exceed the tidal flushing of the voe and hence there was a high risk of biological carrying capacity being exceeded. However, this was not cited as a material consideration in the delegated report.

Key issue: Competition for space with other users – in this instance, commercial fisheries.

Case Study 4 [SIC, 2014]

Application for new mussel development

Objections deemed material: The proposed development is too close to an existing lease interest, hence TCE would be unlikely to be able to lease the area without the current tenant's permission (TCE). The tenant of the existing lease also objected.

- **LPA response:** requested a more definitive steer regarding likelihood of a seabed lease being granted.
- **TCE response:** Did not say that a lease would not be granted, only that due to the close proximity of an existing lease interest, the current tenant's permission would require to be sought. The developer should make the existing tenant aware of their intentions to ensure a mutually beneficial agreement is reached if there is an issue.

Objections deemed non-material: Concerns over disrepair of a salmon site in the area (ropes and buoys left over) which should be dealt with before future deployment of structures (local fisherman's association). This concern was shared by another fisheries organisation which added concern regarding the speculative nature of the application and lack of track record of the developer in Shetland.

- **LPA response:** effects of equipment left behind [from a previous farm] will not be a material consideration in the determination of the proposed development, although it will be investigated and information fed back to consultee.

Reason for decision: Fact that a seabed lease is unlikely to be granted for the foreseeable future is a material consideration as approval of the application could effectively sterilise the surrounding area for future aquaculture development owing to the existence of the Council's policy regarding minimum separation distance between consented sites. Decision [to refuse permission] is in accordance with Policies G2 and G7 of the Shetland Islands Council Interim Policy for Marine Aquaculture.

Summary: TCE made an initial objection that the site was too close to an existing lease and that permission from the current tenant would be required. The Council refused planning permission based on a lease being considered unlikely to be granted.

The decision was appealed. The developer highlighted additional correspondence from TCE saying that their initial consultation response did not state that they would not grant a lease and that 'permission' from the tenant was not required but that they should be informed. Due to the similarity to a previous case which had been granted, planning permission was granted by the Council Committee at appeal.

It can be noted that the existing TCE lease was for a company which had previously had planning permission revoked for both a marine finfish farm and subsequently a marine shellfish farm at the site, due to not initiating development within three years of each permission being granted. The company

still held a TCE lease at this time. The existing tenant submitted a third planning application shortly after the application from the developer in this case study (see case study 6) for a shellfish farm to be leased to a third party, however, they were informed that their application could not be determined until the previous planning application had been determined. When planning permission was granted for this proposal, the planning application in case study 6 was refused on the grounds of non-compliance with the required minimum separation distance between shellfish farms.

Key issue: separation distance between proposed site and existing lease areas, where the existing tenant had not initiated development and had twice had planning permission revoked because of this.

Case Study 5 [SIC, 2014]

Application for new mussel development.

Objections deemed material: Area has an active scallop and velvet crab fishery (objection from a fisherman's association and a fisheries organisation). Within close proximity to an existing lease (technically expired) (objection from TCE but note objection withdrawn).

Objections deemed non-material: Concerns over trip buoys left in proposal location (objection from a fishermen's association and a fisheries organisation). Concern regarding speculative nature of application and lack of track record of developer in Shetland (fisheries organisation).

Reason for decision: Proposed site would be within an inshore shell fishery area as identified by the SIMSP. Lack of information on the impacts of the proposal on the fishery means it was refused on a precautionary basis in accordance with Policy G1 and G2.

Summary: The main objection was from two fishermen's associations that the area was an active scallop and crab fishery. An objection from TCE, stating that they would unlikely be able to lease the area of seabed due to the proximity of an adjacent lease, was withdrawn when TCE confirmed that impending arrangements to the adjacent lease would significantly increase the distance between the existing lease and proposed site.

The developer stated that they had chosen the site based on information on fishing grounds presented in the SIMSP and had attempted to avoid fishing areas. He contacted the fishing associations to discuss and try to resolve (he requested 'stop the clock' from the LPA but was informed that was not possible for consultation with objectors).

The planning officer asked the fishing associations for further information on the impacts to fisheries in the form of information on species-specific catch data, the number of vessels which fish the area and the frequency of fishing effort for each species fished. The objector was asked for this data on 18 July 2015. The objector stated it would be difficult to collect and collate this information and did not provide any data in time for the delegated decision (9 August 2015). The developer spoke with the fishermen's representative and was of the impression that they had reached an agreement that the proposal would not be a problem (the fishermen's representative indicated verbally they were more worried about the number of applications the developer was making). However, when contacted by the planning officer to confirm if the fishing association upheld or withdrew the objection, the representative said their objection remained. Despite the LPA agreeing with the developer that the site was outwith the scallop fishery identified in the SIMSP, that there had been no surface buoys indicative of creeling observed during a site visit and the delegated report stating that there was insufficient information available which could be used to quantify the level of impact on inshore fishing activity that would occur should the development go ahead, use of the precautionary principle was deemed appropriate and it was recommended that the application should be refused.

The applicant appealed the decision. For the appeal, the applicant provided data regarding the benthic substratum (from seabed surveys and monitoring surveys undertaken for fish farms in the area of the proposed development) to support their query of the suitability of the area for creeling for certain species. The surveys indicated that the predominant substratum appeared to be sand, rather than gravel/pebble as indicated by predictive modelling in the SIMSP. The developer also provided anecdotal evidence from the nearby salmon farmers that they had never observed creeling going on the proposed area. The applicant also provided statements from other LPA planning officers, aquaculture experts and Seafish regarding the general compatibility of longline shellfish farming and static gear use.

The SIC Planning Local Review Body upheld the original decision stating it was of the opinion that no information had been presented which would lead it to alter the original determination.

Key issue: Competition for space with other marine sector – in this instance, commercial fisheries. No evidence was presented from the commercial fishing sector to support the objection, whilst observational/anecdotal evidence was supplied by the developer to refute the objection and support the application.

Case Study 6 [SIC, 2014]

Application for a new mussel development.

Objections deemed material: An objection regarding potential impacts to an SAC (disturbance of seals) and requirement for an AA was withdrawn when the applicant provided boat movement mitigation to avoid seal haul outs and stated they would sign up to a relevant local Aquaculture Management Plan to reduce impacts on seals.

Reason for decision: Proposal would be within 30m of another mussel farm and therefore doesn't comply with Policy S1 which requires a 500m separation distance between mussel sites.

Summary: This application was refused based on non-compliance with the minimum separation distance required between shellfish farms in the SIC Local Authority area (see case study 4).

Case Study 7 [THC, 2014]

Application for an alteration/extension to an oyster development (major), which was determined at Committee level as more than 5 objections received and an objection from the Community Council.

Objections deemed material: Community Council objections:

- Volume of production inappropriate for area;
- No hatchery exists in UK to produce enough spat (concerns on disease);
- Road infrastructure (single track) insufficient to support industry;
- Debris;
- Noise, and light pollution will negatively affect quality of life for residents, tourists and holiday makers;
- Would significantly restrict use of a specific area by inshore craft users (canoeists).

Reason for decision: The Council refused planning permission on the grounds that it would:

- Have significant adverse impact on the natural heritage and amenity value of the area via impacting on scenic and visual amenity; and
- Compromise the natural environment and amenity of the NSA and that the socio-economic benefits provided are not of national importance.

Summary: No objections were received from statutory consultees, although the original proposal was amended to address issues raised by other consultees (relating to the scale of the proposed development and public access to the foreshore).

No significant impacts on the historic environment, the setting of nationally important heritage assets or on the integrity of the NSA, or the qualities for which the NSA had been designated, were anticipated by The Historic Environment Team, Historic Environment Scotland or SNH respectively. The Planning Committee recommended that planning permission should be granted due to the scheme having been amended (reduced in scale with proposed limited operating hours) to address the concerns described above and that it was not considered that any of the issues presented grounds for refusing the amended application (subject to conditions relating to impacts on a nearby SAC, use of machinery on site, site maintenance and monitoring requirements).

It should be noted that the above reasons cited for the Council decision were not considered to be significant in the planning committee report.

Key issue: The Council refused planning permission against the expert judgement of statutory consultees and the planning committee which judged that no significant adverse effects were anticipated.

It can be noted that further to the refusal of planning permission as described above, the developer submitted a significantly reduced scale of development in a revised proposal (2015), which was granted (James Bromham, THC, *pers. comm.*).

Case Study 8 [WIC, 2009]

Application for new IMTA development.

Objections deemed material: No publically available information.

Reason for decision: No publically available information.

Summary: Planning application for a finfish development with complementary shellfish species (i.e. IMTA). Court of Session issued an interlocutor, quashing this planning permission. As this is an IMTA application, no further follow up analysis has been undertaken.

5.3 Summary of the Planning Review Outputs

The main findings of the planning review are summarised below:

- Across Scotland between 2009 and 2014, there were a total of 148 planning applications (not including any retrospective applications) for shellfish aquaculture developments, of which 131 were granted (89%), 9 were withdrawn (6%) and 8 were refused (5%);
- Across Scotland between 2009 and 2014, there were a total of 118 planning applications for mussel aquaculture developments, of which 103 were granted (87%), 9 were withdrawn (8%) and 6 were refused (5%). The number of applications varied substantially across the LPA areas:

4 to ABC (75% granted); 12 to WIC (100% granted); 6 to THC (83% granted), 95 to SIC (87% granted) and 1 to OIC (application withdrawn);

- Across Scotland between 2009 and 2014, there were a total of 26 planning applications for oyster aquaculture developments, of which 25 were granted (96%), 0 were withdrawn and 1 was refused (4%). The number of applications and the % granted by each LPA were as follows: 5 to ABC (100% granted); 11 to WIC (100% granted) and 10 to THC (90% granted). There were no applications for oyster developments to the SIC or the OIC over the time period assessed (although three of the applications to the SIC were for mussels and oysters which are included in the mussel statistics presented above. All were granted);
- Across Scotland between 2009 and 2014, there were an additional 4 planning applications for IMTA developments which included shellfish, of which 3 were granted (75%), none were withdrawn and 1 was refused (25%). The number of applications and the % granted by each LPA were as follows: 1 to ABC (granted) and 3 to WIC (67% granted). There were no applications for IMTA developments to THC, the SIC or the OIC over the time period assessed;
- The high percentage of planning applications granted between 2009 and 2014, do not suggest that the planning decision making process *per se* was a constraint on the expansion of the shellfish aquaculture industry over that time period;
- The low number of refused planning permissions did not enable any analysis of trends or issues (e.g. with respect to certain planning considerations) across LPA areas. With regard to the consistency of approach to the decision making process, consultation highlighted that the LPA planning officers (from the LPAs which receive aquaculture applications) meet on an annual basis to discuss any issues encountered or unusual applications to try and ensure a consistent approach across LPA areas;
- Examination of the refused permissions did indicate that the planning considerations cited as the reasons for refusing permission related to navigational hazards, competition with other marine users (commercial fisheries in the cases refused) and technical lease issues;
- This was in general agreement with the information from the four LPAs consulted, who stated that the planning considerations which could be most difficult were landscape and visual impacts (including cumulative impacts; 3/4 responses), conflict with other users (2/4 responses), navigational issues (1/4 responses); and
- Two of the planning applications were refused by the Council Committee against the recommendation of the delegated (appointed) planning officer and in the face of no material objections from statutory consultees.

Given that the planning review results suggested that negative planning determinations *per se* did not appear to have unduly constrained new production in the shellfish industry between 2009 and 2014, further consultation was undertaken to establish whether there are any aspects of the planning process that are deterring developers from applying for planning permission and/or whether any aspect of the process presents real or perceived issues for the industry. The results of this consultation are presented in Section 6.2.

6 Stakeholder Consultation

Stakeholder consultation was undertaken to seek further opinion from LPAs, statutory consultees, shellfish industry representatives and individual shellfish businesses regarding their practical experience of the planning application and determination process, including the utility of existing guidance, any areas of perceived duplication and opinions on whether any aspects of the process require further clarity.

Section 6.1 summarises the information received from planning authorities and statutory consultees. Section 6.2 provides an analysis of information provided by individual shellfish production businesses in response to a standard questionnaire. Comments have not necessarily been assigned to specific individuals, planning authorities or consultees to preserve anonymity where appropriate.

6.1 Planning Authorities and Statutory Consultees

Table 11 shows stakeholder comments regarding the planning application and determination process and any areas of potential overlap/duplication with other consenting regimes.

Table 11. Stakeholder comments regarding the planning regime and any areas of overlap with other consenting regimes

Aspect of Process	Stakeholder	Summary of Information
Consideration of risks to navigation via the planning and marine licensing systems	Marine Scotland	▪ Aware that industry stakeholders feel there is an element of duplication in the application process for planning permission and a Marine Licence, with regard to considering risks to navigation to other water craft in the area; ▪ The requirement for a Marine Licence does result in an additional time burden for the developer, although this is generally less for shellfish applications compared to finfish applications (the latter is approximately 6-8 weeks).
	LPAs	▪ If there is any duplication of effort it is for the NLB, with whom both the LPA and Marine Scotland consult regarding navigational safety during the determination process. The NLB provide the same advice about a specific proposed development to both the LPA and Marine Scotland.
Pre-application discussion/advice	LPAs	▪ All LPAs encourage developers to undertake pre-application discussion with them and guide developers to statutory consultees if they haven't already contacted them. Currently, only The Highland Council charges for this pre-consultation advice. ▪ Most LPAs were not aware of instances in which these pre-application discussions had deterred developers from subsequently making a planning application. Where concerns have been expressed e.g. regarding navigation with respect to longlines, applicants make modifications to the proposal. Sometimes the proposal is in an area which Environmental Health and SEPA indicate is unsuitable for shellfish because it is not a designated shellfish water protected area. This may be a deterrent. ▪ However, in one LPA area, pre-application enquiries/consultations sometimes don't result in an application being made (this was the case for approximately 7-8 pre-application meetings in 2014). The reason for this is unclear, but it was suggested that developers in this region may have multiple business interests and demands (this appeared to be supported by the industry questionnaire responses which indicated that shellfish farming was the main business for only 1 out of the 6 respondents; see Section 6.2). The LPA was not sure if the planning process was putting developers off from applying, but if so think this relates more to a perception [of the planning system] than a reality. Other general comments ▪ Planning fees (which are same for finfish and shellfish) may be a deterrent for small to moderate sized shellfish farms. ▪ In contrast to finfish farmers, shellfish farmers are less likely to discuss potential sites with the commercial fishing industry. The LPAs can advise them on this aspect [if they undertake pre-application consultation].
	Statutory consultee	In general applicants quite diligent about seeking pre-application advice before taking the proposal further when the site is in a designated site or NSA.

Aspect of Process	Stakeholder	Summary of Information
The planning application process	LPAs	▪ The time between the date the application is received and validated can vary depending on the quality of the information provided by the applicant. ▪ Delays relate to incorrect information being received from developers to enable validation of application or process the application. The submission of plans seemed to be a particular stumbling block (e.g. no site outline in red, no north arrow etc. as requested in the application guidance). ▪ It was suggested that training (e.g. through workshop days) may be beneficial for shellfish farmers, based on some of the issues that shellfish farmers were having [with the planning application process]. ▪ There is a useful page on the SIC planning webpage describing common mistakes to assist developers (http://www.shetland.gov.uk/planningcontrol/Gettingitright.asp#mistakes).
The planning determination process (including criteria against which determinations are made)	LPAs	Timescales to determination (multiple LPA comments shown) ▪ Planning decisions for shellfish planning applications are required within 8 weeks but this time does not include the time taken to get obtain further information e.g. from the developers in response to consultation comments; ▪ Some delays have related to some consultees asking for more information or data than is required for planning i.e. to do with their statutory remit under different legislation. However, further to discussions between LPAs and consultees, this issue has mostly been resolved recently. Weighting of planning considerations (policy topics and development criteria) (multiple LPA comments shown) ▪ The criteria are the same for every application, however, which criteria may be an issue depends on the scale and location of the proposed development. Always consider landscape and visual impacts for every application. More likely to come across cumulative (e.g. landscape in narrow sea lochs) impacts rather than biological carrying capacity impacts as there is not that scale of development [in the LPA area concerned]. In general, shellfish sites are not that big. Interaction with commercial fishing probably most difficult (see comments below). ▪ Account is given principally to what the LDP and supplementary guidance state. Generally no difficulties beyond navigational issues. ▪ Considerations are site and operation specific and considered on a case by case basis. Visual impacts can be the most difficult/important. The SNH guidance is useful but still broad brush and involves an element of interpretation. Some objections relating to visual impacts for specific developments have been resolved by the developer “bending over backwards to avoid ill feeling” amongst the community. ▪ All planning considerations are considered and given equal weighting. The hardest is visual impact, although for some sites also conflict with fisheries is also an issue. ▪ There are no general differences in considerations between mussel and oyster farms, although oyster developments require access to the foreshore through buildings/properties and this is the biggest problem. In contrast, access to mussel farms is via boat, which is not as much of an issue.

Aspect of Process	Stakeholder	Summary of Information
		Landscape and Visual Impacts ▪ A LVIA is only requested where required in relation to a specific site e.g. if a National Scenic Area (NSA) or a listed building in the background. In these instances, the LVIAs received are generally not well done and do not provide the further information required to help the LPA make the determination. The developers have particular difficulty with the photomontages (requires photoshop skills). There is no legal requirement for the LVIA to be undertaken by an accredited practitioner. Conflict with other marine sectors ▪ Interactions with the commercial fishing industry probably the most difficult, especially at the cumulative level e.g. where there are multiple finfish and shellfish farms and lots of fishing. Complicated by the fact that the type of fishery (gear type) is seasonal. In recent applications do more assessment of the impact on fishery, however, for small applications probably wouldn't ask for this. Do ask for evidence from the fishing industry (e.g. gear used, value of landings from the proposed area, proportion of total landings from the proposed development area etc.) and get a variable response (some, all or none of the information requested) and some fisheries organisations more balanced than others. Try to balance with information from ScotMap to get an idea of the areas fished and the value of the fisheries. Guidance (multiple LPA comments shown): ▪ There could be more. The SPP, published in 2014, was very watered down (compared to the previous iteration) and is not very helpful in considering planning applications. ▪ Would like a Planning Circular to set out more guidance for planning applications (note, it is anticipated that the 2007 Planning Circular: planning controls for marine fish farming (Scottish Government, 2007) will be updated and available for consultation in 2016; Amanda Chisholm, Marine Scotland, *pers. comm.*). ▪ One LPA felt that in general guidance is very good. ▪ Concern was raised regarding aquaculture policy in the NMP regarding SWPAs, which if followed to the letter may result in no applications being granted outside of SWPAs (see also Section 3.2.3 regarding SEPA advice on aquaculture development and SWPAs and aquaculture-related policies in the NMP in Section 7.1.1).
	Statutory Consultee	Landscape and Visual Impacts: ▪ A full LVIA (which is a written statement) or a professional photomontage is not always required for a proposed development. The degree of detail required depends on the sensitivity of the site and the scale of the development. If the development is relatively small (e.g. 3-4 lines) a full LVIA is probably not necessary and photographs of certain viewpoints may suffice. Sometimes just need to know where the proposed site is and the surface area and then they can visit the proposed site themselves. Technically the developers struggle to produce photomontages. The key point is that the pre-application discussion provides the opportunity for the developer to discuss the information and detail required for their proposal.

6.1.1 Summary of Areas of Perceived Issues with the Planning Application and Determination Process

Pre-application discussion and advice

Pre-application discussion is strongly encouraged by LPAs and statutory and non-statutory consultees (e.g. TCE) and is an opportunity for the developer to obtain expert advice on their planning proposal, to ensure the correct information is supplied, the proposed site is available, other marine interest/users in the vicinity of the site are identified and other relevant key stakeholders are identified for the developers to discuss such issues with. However, responses from industry (see Section 6.2) indicate that pre-application advice is one of the highest ranked factors in deterring them from making planning applications (see Section 6.2).

Information relating to the uptake of pre-application advice was mixed. In some areas, LPAs and statutory consultees indicated that shellfish farmers had a lot of knowledge regarding the suitability of sites and the planning issues and hence were good at contacting the LPA and statutory consultees when they knew there may potentially be an issue (e.g. in relation to designated sites). However, it was also stated that in general, very little pre-application discussion occurred. Furthermore, it was stated that the issues some developers were having with planning applications suggested that some form of training e.g. via a workshop, would be beneficial for them.

Transfer of consenting process into the terrestrial planning system

Some of the LPAs indicated that the transfer of marine shellfish farms into the terrestrial planning system, including the Audit and Review process, had been associated with complications (e.g. where equipment has not been located in accordance with the original consent/Scottish Government granted planning permission) which had caused concern amongst shellfish farmers. Furthermore, LPAs were receiving complaints about planning decisions that they had not determined and about conditions that had enabled the developers to continue operating. The Audit and Review process was also highlighted by industry stakeholders as an issue (see Section 6.2). Although this process was started in 2007, it will be ongoing as further eligible sites that were operational before 2007 (or consented in 2007 and operational before 1 April 2010) may request to be granted planning permission via the Audit and Review process.

Planning considerations

With regard to planning considerations (policy topics and development criteria), landscape and visual impact was identified as a potentially difficult consideration both for developers (with respect to knowing what information was actually required and in producing photomontages/Landscape and Visual Impact Assessments (LVIAs) if required) and from a determination aspect due to the subjective nature of this consideration and broad brush nature of the available guidance which still required some interpretation. Conflict with other marine users was also highlighted as a potentially difficult consideration. Both of these issues were discussed further at the stakeholder workshop and the outputs presented in Sections 8 and 9.

6.2 Shellfish Industry

The shellfish industry was consulted regarding whether there were any particular aspects of the planning process and/or specific planning considerations which had deterred them from making planning applications or caused them to withdraw a planning application, and how useful any guidance they had received had been.

This was assessed by circulating a questionnaire (see Appendix D) to members of the Association of Scottish Shellfish Growers (ASSG) and TCE lease holders to assess the following:

- Whether shellfish farming was their main business and what species they farmed;
- How useful the available planning application guidance was; and
- Whether there were any aspects of the planning process, or any specific planning considerations which had deterred them from making a planning application or that had led to them withdrawing a submitted planning application.

A total of 20 responses were received as shown in Table 12.

Table 12. Responses to the shellfish aquaculture industry questionnaire

LPA Area	No. of Responses	No. For Which Shellfish Is Main Business
THC	6	3
SIC	7	6
THC and SIC*	1	1
ABC	6	1
Total	**20**	**11**

* Respondent had made applications to both LPAs

6.2.1 The Planning Process

Table 13 shows the aspects of the planning process which stakeholders indicated had deterred them from applying for planning permission, shown in order of the most frequently stated response.

Table 13. Aspects of the process which have deterred stakeholders from applying for planning permission

Aspect of Process	Local Authority				
	THC	THC and SIC	SIC	ABC	Total
Pre-application advice	1	1	3	2	7
Planning application fees	2	0	3	2	7
Timescale to reach decision	1	0	1	2	4
Lack of guidance/clarity of process	2	0	0	2	4
Pre- application advice fees (THC only)	1	1	n/a	1*	2
Pre- application surveys	0	0	0	0	0
Other	-	-	Lack of internal resources		

Note,: Respondents could indicate more than one reason/all that apply.
* Argyll and Bute Council do not charge pre-application advice fees – hence this response not counted in the total

Pre-application advice and planning application fees were the most frequently cited aspects of the planning process which had deterred respondents from applying for planning permission. It should be noted that one of the roles of the pre-application discussion is to advise the developer on the likelihood of planning permission being granted. Hence if an applicant is deterred from applying for permission for an unsuitable site, this is not necessarily a negative aspect of the planning process. Pre-application advice fees were also noted as a deterrent in both of the responses from stakeholders within THC LPA area.

With regard to planning fees, additional consultation supported the suggestion that this is an issue for the industry. One individual stated that planning fees are an "extreme obstacle" for the industry. Both shellfish and finfish planning fees are based on a combination of the surface area occupied by the growing equipment and the seabed area occupied by the mooring equipment and are charged at the same rate per ha. Given the greater complexity of the planning decision making process for finfish (which needs to consider the impact of chemicals released, escapees etc. and requires an Environmental Impact Assessment), and the larger size and value of the finfish industry, it has been suggested that the planning fees for shellfish farms are disproportionately high (see also Section 9).

6.2.2 Guidance for Applicants

Table 14 shows how the stakeholders rated the planning guidance available to them. It should be noted that the questionnaire did not specify what pre-application or application guidance was being referred to and hence, the results have been presented for planning guidance in general (although it can be noted that the same ratings were assigned to pre-application guidance and application guidance within each LPA by the respondents). It should also be noted that the planning permission application form and accompanying guidance is standard between LPAs.

Table 14. Stakeholder rating of available planning guidance (type not specified)

Local Authority	Guidance
THC	Poor-Good
THC/SIC	Adequate
SIC	Adequate - Good
ABC	Poor-Good

6.2.3 Planning Considerations

Table 15 shows the planning considerations which shellfish aquaculture developers indicated in the questionnaire had deterred them from applying for planning permission, withdrawing an application, or been the reason for an application being refused.

In summary, the results in Table 15 indicated the following:

Factors which deterred applicants from making planning applications (ranked by frequency of response):

- Conflict with other users (6/20);
- Impacts on protected habitats and species (3/20);
- Landscape and visual impacts (3/20); and
- Potential exceedance of biological carrying capacity (3/20).

Factors which caused applicants to withdraw a planning application: (ranked by frequency of response):

- Landscape and visual impacts (2/20);
- Impacts on protected species and habitats (1/20);
- Conflict with other users (1/20); and
- Potential exceedance of biological carrying capacity (1/20).

Factors which caused applicants to have a planning application refused (ranked by frequency of response):

- Landscape and visual impact (3/20);
- Conflict with other users (3/20);
- Navigational risks (1/20).

In considering these responses it is important to note that the numbers of refused applications do not tally with the results from the planning review (see Section 5). This is likely to be due to respondents referring to applications made outwith the timescale of the current study (i.e. between 2007 and 2009). Furthermore the questionnaire did not explicitly state that the questions did not relate to planning permission sought through the Audit and Review process.

Table 15. Planning considerations which have deterred aquaculture developers from applying for planning permission, withdrawing an application, or for an application being refused

Criteria	Effect	Local Authority				
		THC	THC & SIC	SIC	ABC	Total
Impacts on protected habitats/species	Deterred	2	0	1	0	3
	Withdrawn	1	0	0	0	1
	Refused	0	0	0	0	0
Landscape/visual impacts	Deterred	1	0	1	1	3
	Withdrawn	1	0	1	0	2
	Refused	1	0	1	1	3
Navigational risks	Deterred	0	0	1	0	1
	Withdrawn	0	0	0	0	0
	Refused	0	0	1	0	1
Conflict with other users (please specify)	Deterred	0	1	5	0	6
	Withdrawn	1	0	0	0	1
	Refused	0	1	2	0	3
Potential exceedance of biological carrying capacity of the waterbody	Deterred	0	0	3	0	3
	Withdrawn	0	0	1	0	1
	Refused	0	0	0	0	0
Infrastructure	Deterred	0	0	0	0	0
	Withdrawn	0	0	0	0	0
	Refused	0	0	0	0	0
Landside impact (e.g. increased road use)	Deterred	0	0	0	0	0
	Withdrawn	0	0	0	0	0
	Refused	0	0	0	0	0
Cumulative impacts	Deterred	0	0	0	0	0
	Withdrawn	0	0	0	0	0
	Refused	0	0	0	0	0

6.2.4 Summary of Industry Stakeholder Consultation

The outcomes of the industry stakeholder consultation undertaken (from the industry questionnaires and further consultation with individuals) is summarised below:

- The responses received (from 20 stakeholders) provides a degree of insight into whether some aspects of the planning process may be deterring shellfish developers from making planning applications;
- Pre-application advice, pre-application fees (where applicable) and planning fees were highlighted as the main issues that had deterred stakeholders from making a planning application.
- In general it was considered that making an application was financially expensive, although it can be noted that at the stakeholder workshop (see Section 8) it was generally agreed that the biggest and potentially prohibitive cost was considered to relate to any additional application requirements such as surveys/specialist reports rather than the planning application fees *per se*. Additional comments relating to fees included:
  - Planning fees for shellfish farms (which are set at the same level as for finfish farms) are disproportionate for the shellfish industry given the end product and price;
  - The issue of the pre-application fee not being deductible from the total planning fee;
  - Planning applications are a financial 'gamble'; and
  - The additional cost to businesses in terms of the internal resource required to complete the applications (in contrast to the salmon farming industry which have specialist advisors to deal with applications and appeals).
- The two highest ranked planning considerations that respondents indicated were responsible for deterring, withdrawing and/or refusal of applications were conflict with other users (n=10; commercial fisheries mentioned specifically by nearly all respondents who highlighted this was an issue) and landscape and visual impacts (n=8);
- Other planning considerations which were cited included impacts on protected species and habitats (n=4), potential exceedance of biological carrying capacity (n=4) and navigational risks (n=1);
- The issue of the clarity and appropriateness of conditions applied to granted planning permissions were raised by several stakeholders. Comments relating to this issue included:
  - Some conditions resulted in increased financial burdens to the business (e.g. through restricting access to a site via boat when land access would be easier and cheaper and through the requirement for pre-development and ongoing surveys);
  - Some conditions constrained business expansion (e.g. through conditions which prevented external storage, outside lights);
  - There was a lack of clarity of planning permission conditions, e.g. relating to the practical definition of 'initiation of development[18];
  - The relevance of conditions to the planning system (i.e. do the conditions fall within the remit of the TCPA or do they relate to other legislation)[19].
- Additional comments highlighted other areas of concern in the planning process and wider consenting regime including:
  - The [wider consenting] process is complicated, time consuming and hence expensive;
  - The uncertainty or the inability to obtain a lease from TCE was a major issue as this was required to obtain planning permission [note – a lease is not required to obtain planning permission];

[18] It was noted that there was one case law example on this issue which related to an Audit and Review case. The outcome of the Judicial Review was that "anchors" constitute development. Hence, it is not unreasonable to assume that installation of anchors constitutes initiation of development for sites in the marine environment permitted under the TCPA (Martin Holmes, SIC, *pers. comm*.).

[19] This aspect is discussed further in Section 9

- Unutilised capacity i.e. issues regarding expired consents [assumed referring to planning consent but not specifically stated] and clear ways to get these sites into use;
- Issues with the accuracy of [site] location and costs to resolve this [this comment relates to retrospective planning applications (described in Section 5) and associated costs, especially where multiple sites are involved];
- The degree of duplication in the process (specifically between planning\Marine Scotland\TCE);
- Unquantified objections from commercial fishermen to shellfish farm planning applications and the ability for the commercial fishing industry to object through multiple channels (e.g. through local fishermen's associations and the Community Council);
- The timescale to obtain planning permission (one stakeholder stated years). Length of time to get Marine Licence also raised;
- The inability to carry out trials to test a site [for viability] prior to having to apply for planning permission;

- Several stakeholders stated that the LPA planning officers had been helpful or helped the individual with the process as much as they could (n=4), were fair and professional and that overall, despite being a lengthy and difficult process to go through, was a fair process (n=1).

7 Future Influences on the Planning Process and Shellfish Aquaculture Industry

The study has reviewed the current shellfish aquaculture planning and consenting process. However, statutory developments in Marine Spatial Planning (MSP), implemented under the Marine (Scotland) Act 2010, have resulted in the establishment of Scottish Marine Regions (SMRs) through The Scottish Marine Regions Order 2015. Within SMRs, planning at a local level will be undertaken by Marine Planning Partnerships (MPPs). Section 7.1 provides a brief overview of marine spatial planning in Scotland while Section 7.2 explores how the existing planning system may be influenced by, or be integrated with, the new statutory MSP system being introduced.

7.1 Marine Spatial Planning and the Development of Regional Marine Plans

The Marine (Scotland) Act, which came into force on 10 March 2010, together with the UK Marine and Coastal Access Act 2009 (which gained Royal Assent on 12 November 2009), provides a framework to help balance competing demands in Scotland's seas, including through the introduction of a new statutory marine planning system to sustainably manage the increasing and often conflicting demands for marine space.

As part of the new system of marine planning, the UK Marine Policy Statement was developed to ensure a consistent approach to marine planning across UK waters. The Statement forms the basis for developing national marine plans, including Scotland's NMP, and sets out short and long-term objectives for the sustainable use of the marine environment and high level marine objectives (listed below) to achieve the UK vision for 'clean, healthy, safe, productive and biologically diverse oceans and seas' and reflect the principles for sustainable development:

- Achieving a sustainable marine economy;
- Ensuring a strong, healthy and just society;
- Living within environmental limits;
- Promoting good governance; and
- Using sound science responsibly.

The introduction of the new statutory marine planning system in Scotland is being undertaken via a two stage process:

- A NMP which sets out sets out strategic policies for the sustainable development of Scotland's marine resources out to 200nm; and
- Regional Marine Plans (RMPs), to implement marine planning at a local level within SMRs, extending out to 12nm.

Both the NMP and subsequent RMPs must conform with the Marine Policy Statement. The current status of these plans and the implications for the terrestrial planning system (via which aquaculture developments are consented) are reviewed briefly below.

7.1.1 The National Marine Plan

The NMP contains both general planning policies and marine sector-specific objectives and planning policies.

Within the general planning policies, policy Gen 1, highlights that a number of sectors, including aquaculture, are key specialist sectors for Scotland and important (socio-economically) in rural areas and, as such, there should be a presumption in favour of sustainable development of these sectors when consistent with the policies and objectives of the NMP[20].

An additional general policy (GEN 15[21]) highlights that most marine developments/activities, including aquaculture, also have an onshore component. As such, alignment between marine and terrestrial planning is important and should be achieved through consistency of policy guidance, plans and decisions. This aspect is expanded on in more detail in the recently published Planning Circular 1/2015 (see Section 7.2).

Aquaculture specific objectives and marine planning policies in the NMP are shown in the boxes below (note, relevant to finfish and shellfish aquaculture).

Box 1: Aquaculture-specific objectives listed in the NMP are:

- An aquaculture industry that is sustainable, diverse, competitive economically viable and which contributes to food security whilst minimising environmental impact;
- With due regard to the marine environment and carrying capacity, support for the industry's target to grow marine finfish (including farmed Atlantic salmon) production sustainably to 210,000 tonnes; and shellfish, particularly mussels, to 13,000 tonnes sustainably by 2020;
- A proportionate and transparent regulatory framework within which the industry can achieve these targets;
- Quality employment and sustainable economic activity in remote and rural areas, as well as more widely in Scotland;
- Improve business confidence and industry investment and reduce environmental impact by identifying areas where sustainable aquaculture growth is optimal, taking account of key resource and constraints considerations;
- Maximise benefits to Scotland and to local communities from the Scottish aquaculture value chain;
- Support research and development, including trials and technical innovation, to improve knowledge and understanding of the requirements for sustainability of the industry, with a particular focus on the issues of sea lice, containment and interactions with other activities.

[20] **GEN 1 General planning principle**: There is a presumption in favour of sustainable development and use of the marine environment when consistent with the policies and objectives of this Plan.

[21] **GEN 15 Planning alignment A**: Marine and terrestrial plans should align to support marine and land-based components required by development and seek to facilitate appropriate access to the shore and sea.

Box 2: Aquaculture-specific marine planning policies listed in the NMP are:

- **AQUACULTURE 1**: Marine planners and decision makers should seek to identify appropriate locations for future aquaculture development and use, including the potential use of development planning briefs as appropriate. System carrying capacity (at the scale of a water body or loch system) should be a key consideration;
- **AQUACULTURE 2**: Marine and terrestrial development plans should jointly identify areas which are potentially suitable and sensitive areas which are unlikely to be appropriate for such development, reflecting Scottish Planning Policy and any Scottish Government guidance on the issue. There is a continuing presumption against further marine finfish farm developments on the north and east coasts to safeguard migratory fish species;
- **AQUACULTURE 3**: In relation to nutrient enhancement and benthic impacts, as set out under Locational Guidelines for the Authorisation of Marine Fish Farms in Scottish Waters, fish farm development is likely to be acceptable in Category 3 areas, subject to other criteria being satisfied. A degree of precaution should be applied to consideration of further fish farming development in Category 2 areas and there will be a presumption against further fish farm development in Category 1 areas (note – not relevant to shellfish developments);
- **AQUACULTURE 4**: There is a presumption that further sustainable expansion of shellfish farms should be located in designated shellfish waters if these have sufficient capacity to support such development;
- **AQUACULTURE 5**: Aquaculture developments should avoid and/or mitigate adverse impacts upon the seascape, landscape and visual amenity of an area, following SNH guidance on the siting and design of aquaculture;
- **AQUACULTURE 6**: New aquaculture sites should not bridge Disease Management Areas although boundaries may be revised by Marine Scotland to take account of any changes in fish farm location, subject to the continued management of risk;
- **AQUACULTURE 7**: Operators and regulators should continue to utilise a risk based approach to the location of fish farms and potential impacts on wild fish;
- **AQUACULTURE 8**: Guidance on harassment at designated seal haul out sites should be taken into account and seal conservation areas should also be taken into account in site selection and operation. Seal licences will only be granted where other management options are precluded or have proven unsuccessful in deterrence (note seal licences not relevant to shellfish developments);
- **AQUACULTURE 9**: Consenting and licensing authorities should be satisfied that appropriate emergency response plans are in place;
- **AQUACULTURE 10**: Operators should carry out pre-application discussion and consultation, and engage with local communities and others who may be affected, to identify and, where possible, address any concerns in advance of submitting an application;
- **AQUACULTURE 11**: Aquaculture equipment, including but not limited to installations, facilities, moorings, pens and nets must be fit for purpose for the site conditions, subject to future climate change. Any statutory technical standard must be adhered to. Equipment and activities should be optimised in order to reduce greenhouse gas emissions;

Box 2: continued…:

- **AQUACULTURE 12**: Applications which promote the use of sustainable biological controls for sea lice (such as farmed wrasse) will be encouraged;
- **AQUACULTURE 13**: Proposals that contribute to the diversification of farmed species will be supported, subject to other objectives and policies being satisfied; and
- **AQUACULTURE 14**: The Scottish Government, aquaculture companies and Local Authorities should work together to maximise benefit to communities from aquaculture development.

7.1.2 Regional Marine Plans

RMPs will be developed to implement marine planning at a local level within SMRs, extending out to 12nm. Within these regions, RMPs will be developed by MPPs to take account of local circumstances and smaller ecosystem units.

Unless relevant considerations indicate otherwise, the RMPs are required to be in accordance with the NMP, the Marine Policy Statement, the SPP, National Planning Framework 3 and relevant LDPs, to ensure they are consistent with national objectives and priorities, and are subject to adoption by Scottish Ministers (Scottish Government, 2015a).

The boundaries of the 11 SMRs were established by The Scottish Marine Regions Order 2015. The regions extend from Mean High Water Springs out to 12 nautical miles (Scottish Government, 2015b - Planning Circular 1/2015). RMPs will be prepared for each of the SMRs and the first MPPs to be established will be Shetland and Clyde. In the interim period, the Marine Policy Statement and the NMP will apply (Scottish Government, 2015a).

The NMP states that regional planners should consider the need for the following (Scottish Government, 2015a):

- Better understanding of the current position and the vision for their area;
- Local strategic and sectoral objectives;
- Understanding local opportunities and challenges in terms of sustainable development and use and the need to manage conflict;
- Deriving general and specific policies which align with those in this Plan and the Marine Policy Statement, but are sensitive to local circumstances;
- Further research to understand the local ecosystem and the impacts and pressures upon it; and
- Consistency with local and strategic development plans and other relevant local plans.

The SPP, National Planning Framework 3 (NPF3) and LDPs will all be relevant whilst RMPs are being developed.

7.2 Alignment of the Marine and Terrestrial Planning Systems

As noted above, the NMP highlights that alignment between marine and terrestrial planning is important for the sustainable development of many marine sectors. A recent Planning Circular (Scottish Government, 2015b) was produced to explain the relationship between the marine and terrestrial planning systems (the latter responsible for consenting for aquaculture), including related regimes such as marine licensing. Key points from this document are listed below:

With respect to MPPs:

- MPP powers will not include licensing or consenting. These will remain the responsibility of consenting bodies such as Marine Scotland and LPAs;
- MPPs will be statutory consultees for marine licence applications submitted to Marine Scotland;
- Terrestrial planning authorities will be advised to consult MPPs on fish farm applications.

With respect to marine (spatial) planning for aquaculture:

- The NMP sets out high-level objectives for the aquaculture industry and includes policies relating to the sustainable growth of the sector and where new development should be permitted and its interaction with other sectors (see Section 7.1.1 above);
- RMPs will need to conform with the NMP on aquaculture and be compatible with LDPs;

With respect to interaction between LDPs and RMPs (replicated directly from Scottish Government, 2015b - Planning Circular 1/2015):

- Planning consent for fish farm proposals within 12 nautical miles is a function of terrestrial planning authorities and decisions will be made in accordance with development plans. Terrestrial planning authorities are also required to accord with marine plans in decision making unless relevant considerations indicate otherwise, and to have regard to marine plans in preparing development plans. Development plans and marine plans will direct decision making based on common evidence and policy, minimising the potential for ambiguity.
- Marine Scotland is undertaking a three year project to identify areas of opportunity and restriction for both finfish and shellfish sectors[22]. This work will contribute to the development of spatial policy to be reflected within both development and marine plans.
- Scottish Ministers expect that, as the evidence base develops, marine plans will provide spatial frameworks for decisions about the location of new aquaculture development. The consenting process will remain with terrestrial planning authorities.

The document clearly states that the consenting process will stay with the terrestrial planning authorities and informal discussion with Marine Scotland indicated that this is the intention. In paragraph 93, the Planning Circular does refer to a provision in the Marine Scotland Act which allows the Scottish Government to bring fish farming in an area under the Marine Scotland licensing regime (and hence not require planning permission), but only with the consent of the relevant LPA[23].

[22] MSS Aquaculture Locational Guidance Project; Marine Scotland project SP006

[23] Conversely it can be noted that Schedule 51 of the Marine (Scotland) Act 2010 allows for the delegation of functions relating to marine licensing to a public authority.

7.3 Projected Future Trends in Shellfish Production

7.3.1 Recent Historical and Projected Future Production Trends

In 2012, total shellfish production was approximately 6,500 tonnes (see Section 2.1). The target for 2020 is to produce 13,000 tonnes. In this section, recent historical trends in the number of shellfish production companies and the tonnage of shellfish produced have been used to investigate whether the projected production volumes in 2020 are likely to meet the shellfish production targets referred to in the NMP.

The linear (average) growth rate (in tonnes per annum) of shellfish production (all species) was calculated between 2005 and 2014 from Scottish shellfish farm surveys, and extrapolated forward to provide an indicative estimate of production levels in 2020 (see Figure 2). The average increase in shellfish production between 2005 and 2014 was c. 352 tonnes per annum. This increase in production was achieved even though there was an overall trend of decreasing numbers of shellfish companies in Scotland, which would suggest that over the last ten years, a smaller number of farms have been producing a greater tonnage of shellfish (although it should be noted that by assessing all shellfish species together, trends related specifically to mussel and oyster production will have been masked).

Projecting the average increase in shellfish production per annum from 2015 to 2020, the indicative projected tonnage of shellfish in Scotland in 2020 would be just over 10,000 tonnes, approximately 3,000 tonnes short of the industry target. Hence, this methodology suggests that, if shellfish production targets for 2020 are to be met, the sector needs to increase production per annum at a faster rate than has occurred over the last decade.

At a more regional level, as part of the stakeholder consultation, planning authorities were asked if they had any observation of recent trends and/or indications of likely future trends in shellfish aquaculture planning applications within their LPA area. The responses are shown in Table 16.

Table 16. LPA comments on recent historical and possible future trends in shellfish planning applications

Local Authority	Recent and/or Possible Future Trends
Argyll and Bute Council	Pre-application enquiries/consultations do not always translate to planning applications (see also Section 8)
Western Isles Council	No recent trends in shellfish industry – the character and location has remained pretty static. There have been more changes in the finfish sector with a lower number of larger farms locating further out to sea. This is providing opportunities for shellfish development in areas previously occupied by finfish (i.e. changes in the finfish sector are influencing the shellfish sector). Recently shellfish applications have been combined with finfish proposals (IMTA).
The Highland Council	The number of applications has increased as a result of the Scottish Government Audit and Review process. Much interest in oysters recently (related to disease issues in France).
Shetland Islands Council	Growth in the shellfish industry will be small or stand still over the next five years (and longer term unless able to move offshore) due to limitations on the available space because of the separation policy (0.5km), which was requested by the shellfish industry for biosecurity reasons. It can be noted that the SIMSP states that "currently there is limited potential for new shellfish or finfish sites within Shetland's voes without the revocation of existing licences. However, as technology advances there is the potential for the growth of offshore aquaculture".

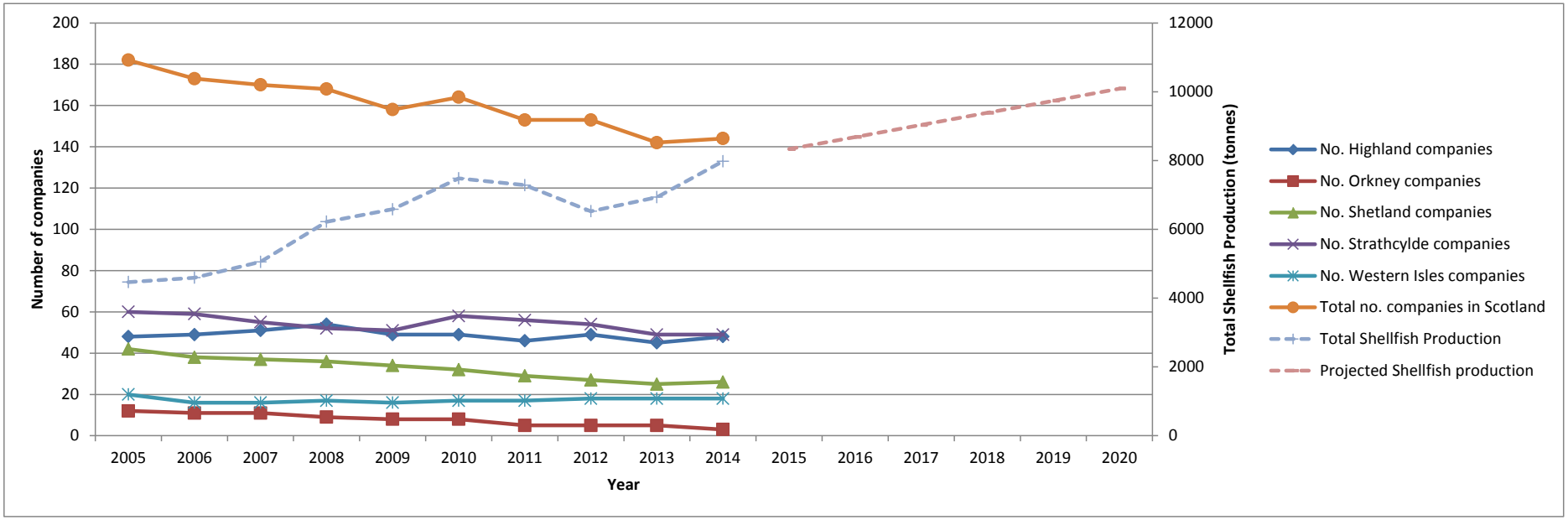

Figure 2. **Recent historical trends (from 2005 to 2014) in the number of shellfish farms and shellfish production tonnages and projected shellfish tonnages to 2020**

7.3.2 Meeting Future Production Targets

Increased production, via the development of new farms or expansion of existing farms, will require sites to be available where natural resources (e.g. water depth, temperature, salinity, tidal and wave regime and substratum (where applicable to the cultivation method)) are suitable, where there are minimal constraints relating to other marine users and where compliance with development plan and marine plan policies and development criteria is possible.

Marine Scotland is currently undertaking a study to identify areas of future aquaculture potential (MSS Aquaculture Locational Guidance Project; Marine Scotland project SP006), the outputs of which will feed into existing strategies, such as LDPs, regional plans and future iterations of the NMP. This should help inform the industry regarding the availability of sites with suitable natural resources and the level of constraints associated with them (in relation to other sector activity and associated infrastructure). However, stakeholder consultation has indicated that such sites may be limited in inshore waters, at least in some areas of Scotland. Given that both terrestrial planning and marine spatial planning policies are designed to account proportionately for all marine sector requirements, this situation is unlikely to change unless society determines that aquaculture should be given a higher priority for development.

A potentially relevant issue with regard to availability of suitable sites for expansion of the industry was stated by one stakeholder as "issues regarding expired applications and clear ways to get these sites into use". This issue was discussed further at the stakeholder workshop and described further in Section 8).

Furthermore, it has been suggested that a potential way to meet the 2020 production targets is through more efficient use of existing sites (that are producing), for example, through conversion to continuous production methodologies, such as those used in New Zealand. According to the Scotland's Aquaculture website (Scotland's Aquaculture, 2015) there were 113 mussel farm sites with 776 longlines registered as active as at 1 September 2015 in Shetland. If it is assumed that an average length of longline is 200m, and the yield using a continuous production method is 40 tonnes (t) per line per year and a three year production cycle, this equates to a potential production in Shetland of about 10,000 t (per annum), compared with the actual 2014 production of 5,900t (Scottish Government, 2014) i.e. a potential increase of 70% just through making better use of existing sites. If extrapolated to all Scottish mussel production (7683t in 2014) this would allow the 13,000t target to be met, although it should be noted that within this example, other factors such as spat availability or biological carrying capacity, have not been taken into consideration. In addition, the capital cost of continuous systems is high and, together with working capital requirements over what can be a three year production cycle, suggests that the main obstacle to this approach would be cash flow. This cash requirement also poses a high barrier to entry to any new investor coming into the sector, and hence it is much more likely that any growth will come from existing players with knowledge of the planning system and thus able to realise any extra capacity if they need it.

8 Stakeholder Workshop

A project workshop was held on the 29 October 2015 in Inverness to discuss the study findings and initial recommendations with key stakeholders. Attendees included LPAs, regulators, statutory consultees for shellfish planning applications and industry representatives. The agenda and organisations represented at the workshop are shown in Appendix E.

The objectives of the workshop were to:

- Discuss the project results with key stakeholders (validate findings); and
- Discuss potential solutions to validated issues and seek consensus on recommendations to best facilitate sustainable expansion of industry.

Delegates were also invited to provide feedback on an interim report (which summarised the project results presented in Sections 5 and 6 of this report) and initial conclusions and recommendations which had been circulated prior to the event, to inform the workshop discussions.

The results of the planning review, biological carrying capacity review and stakeholder consultations were presented and discussed with attendees. Information and feedback from these discussions have been incorporated into the report in the relevant sections (for example, in relation to biological carrying capacity in Section 4, the planning review results in Section 5 etc.).

Further to discussion of the results, the attendees identified three key areas for further discussion and exploration of potential solutions to issues raised. The topics covered were:

- The current consenting regime for shellfish aquaculture developments;
- Unutilised capacity vs. security of sites; and
- Competition for space.

This Section summarises the outputs of these discussions. Additional information provided by key stakeholders who were unable to attend the workshop, but who reviewed the interim report has also been included. The conclusions and recommendations which arose from them are presented in Section 9.

8.1 The Current Consenting Regime

This session explored whether there was potential for streamlining the current consenting regime and/or practical ways to help the industry use the current system. The discussion considered what an ideal system would be and what could actually be achieved. The group focussed initially on planning specific issues and then considered wider consenting issues.

8.1.1 Summary of Discussion

It was considered by some stakeholders that the planning system *per se* is not complicated, although there was not complete consensus on this. However, it was generally agreed that the wider consenting process was complex. The potential to have one application form to cover all required consents was discussed, however, it was felt this was only likely to work if all requirements were addressed under one consenting regime i.e. a one-stop shop. As such, separate simple forms, using plain English, may be best. It was suggested that existing forms (for all consents required) could be reviewed with a view to highlighting where similar information is required and attempting to standardise the format of the

information required (e.g. in relation to site co-ordinates). Numerous technical barriers to standardising some aspects of the forms (e.g. site co-ordinates) were highlighted, however, there was consensus that this would be useful and should be explored further.

Furthermore, there are issues with shellfish farmers having access to the required software to produce e.g. the site maps required for planning applications. There were issues which prevented the organisations present from being able to easily assist with this problem (e.g. not able to supply maps/software due to licensing and copyright issues). This issue is something that could be further assessed as part of the above recommendation if it is taken forward.

There was discussion of the additional costs and technical ability of developers to provide the information required for the relevant authorities to assess landscape and visual impacts (including cumulative impacts). It was highlighted that unless shellfish proposals were of a relatively large magnitude and in sensitive areas, LVIAs were rarely required. It was noted that it would be very helpful for planners to be able to see photographs of the proposed site marked out e.g. with buoys – to help them assess cumulative impacts. It was queried whether this was something that could be reasonably requested (and whether such an approach in itself would require consent). Potential practical solutions to such issues (which should be standardised and easily applied for maximum benefit to both the industry and LPAs) should be explored further between relevant parties (e.g. in this instance between Marine Scotland, LPAs and industry). This process could benefit from the sharing of best practice with e.g. the finfish industry and/or other marine sectors where relevant.

If shellfish farmers are aware that they can seek pre-application advice from planners, it was generally felt it was not frequently taken up. There are numerous guidance documents available for applicants (see Appendix B), however, in general it was felt that a concise guidance document, specific to shellfish, would be beneficial for the industry, although to be effective it must be promoted to the industry. This may be fulfilled by the revised Scottish Salmon Producers Organisation (SSPO)/ASSG protocol for preparing planning applications for aquaculture development (SSPO, 2011). The message that help for developers is available if they contact the LPA prior to submitting an application should continue to be promoted.

8.2 Unutilised Capacity vs. Security of Sites

This session discussed the issue of developers needing a balance between having some site security but also freeing up any unutilised capacity (undeveloped sites with leases). Related issues such as finance were also discussed.

8.2.1 Summary of discussion

Unutilised capacity (sites not being used for production but which have an extant lease) is an issue that was raised by stakeholders via the industry questionnaire and at the workshop. This is a particular problem in Shetland. The issue relates to the fact that planning permission for a site can be revoked if conditions relating to initiation of development/continuous production are not met but the developers lease is still extant. In such circumstances, the developer will be in breach of their lease conditions and TCE can contact them to ask what they are going to do. However, TCE cannot remove tenants from site (the lease is an agreement) and the process to address a breach of lease conditions is long (approx. 18 months) and expensive. It was highlighted that there were generally reasons that sites hadn't been developed/continued production, including production being uneconomically viable. However, the shellfish industry felt that if the biological carrying capacity of such a site was sufficient to support shellfish production, this was unutilised capacity that could be used. It was highlighted that stakeholders can come to arrangements (e.g. a fish farm tenant can lease a site to a shellfish

developer). It was suggested there may be potential for TCE to encourage/incentivise this process (assigning lease to someone else).

The current (and recent historical) financial climate and delay in the implementation of the new round of EMFF funding (which was to be implemented between 2014 and 2020) were highlighted as reasons for both lack of planning applications in some LPA areas and lack of production at some consented sites. For example, in Shetland, it is estimated that out of 140 approved sites [i.e. with planning permission], 115 are currently producing, whilst 25 are not in use. Whilst there are several reasons why development has stalled at some sites, a lack of working capital is a relatively significant issue. To counter this issue, Seafood Shetland has recently supported members by providing loan finance for various projects totalling over £800,000 (Ruth Henderson, Seafood Shetland, *pers. comm*.).

8.3 Competition for Space

This session explored the interaction with other marine users/areas (fisheries, designated sites) and how the new marine planning system could help. The discussion focussed on the approach to determinations where there were objections from the commercial fisheries sector to shellfish development planning applications (e.g. what evidence was required to support objections, how is the impact on fisheries assessed?) as interaction with commercial fisheries was an area of tension highlighted by industry stakeholders.

8.3.1 Summary of Discussion

The discussion explored how the planning process approached the issue of trying to balance multiple sector demands for marine space. The discussion focussed predominantly on the commercial fisheries sector as objections from this sector had been highlighted by numerous industry stakeholders as an issue. However, it was cautioned that the issue should be kept in perspective, for example, in relation to the small number of applications that had been refused on the grounds of impacts on commercial fisheries between 2009 and 2014 (see Section 5).

The planning authorities confirmed that this was a difficult issue to assess, particularly due to data availability relating to fishing activity distribution and economic value. Some tools are available e.g. ScotMap, however, it is known this is not representative of all fishing activity, vessel sizes etc. It was noted that a current pilot study should enable more data, particularly for small vessels, to be available in the future. RMPs, which should incorporate available data (e.g. ScotMap, VMS), and information from fishermen to help ground-truth the available data, are likely to be a key tool in the future for developers, planning authorities and stakeholders.

If a proposed shellfish development was considered to have an economic impact on a fishery, this could be a material consideration in the planning determination. However, planning authorities need evidence of an economic impact and have to assess each application on a case by case basis as it is not a straightforward economic trade-off. Assessment of cumulative impacts (e.g. where multiple areas are lost to fisheries within a loch) is particularly difficult. As planning decisions set precedents, planners need to be careful about how they use quantitative figures to make decisions (e.g. percentages of area / value lost) in these assessments. The issue may not be leading to a high number of refusals of planning permission but planning authorities do need to show how it was assessed.

The NMP refers to the requirement for fisheries management and mitigation documents[24] (where existing commercial fishing opportunities or activities cannot be safeguarded) however, it is not clear what should be assessed and presented in such documents. It was highlighted that guidance from Marine Scotland on how to design and structure a cumulative fisheries assessment would be useful for LPAs.

Given this issue, the key challenge for the future is to counter the issue of competition for space through co-existence / co-location with other marine sectors and exploration of opportunities this may present. For example, could shellfish developments present different fishing opportunities through attracting certain fish species? Are there lessons that can be learned from other areas/countries where co-existence of aquaculture and other marine sectors occurs or even provides mutual benefits? The development of strategic relationships for example with the finfish sector and/or the renewable sector would likely be beneficial in addressing the challenge of competition for space through co-location.

[24] Where existing fishing opportunities or activity cannot be safeguarded, a Fisheries Management and Mitigation Strategy should be prepared by the proposer of development or use, involving full engagement with local fishing interests (and other interests as appropriate) in the development of the Strategy. All efforts should be made to agree the Strategy with those interests. Those interests should also undertake to engage with the proposer and provide transparent and accurate information and data to help complete the Strategy. The Strategy should be drawn up as part of the discharge of conditions of permissions granted (Scottish National Marine Plan: Marine Planning Policies – Fisheries 3).

9 Conclusions and Recommendations

This study was tasked with undertaking a review of all aspects of shellfish planning considerations in Scotland to assess whether there are any differences in approach to these considerations across LPA areas and to provide recommendations to address any differences in approach highlighted by the study.

The study objectives were met through undertaking a review of the shellfish planning applications and determinations made in Scotland between 2009 and 2014 and through consultation with key stakeholders in the process including LPAs, regulators, other statutory consultees in the planning process, industry representatives and individual shellfish businesses/farmers. The initial results were discussed with the key stakeholders at a project workshop held in October 2015 in Inverness (see Section 8).

The results of the planning review do not indicate that the planning determination system has unduly constrained the development of the industry through overly conservative determinations, based on 89% of applications being granted planning permission, compared to only 5% being refused. Overall, with the exception of one planning consideration, the study did not identify any fundamental issues with respect to the consistency of the approach to planning considerations and determinations across Scotland. The exception to this was the finding that the current model used to assess the risk of exceedance of biological carrying capacity for proposed shellfish developments produced different results when used by the two end users who assess this issue for applications in the Shetland Islands (SIC and MSS). The reason for this difference relates to the SIC making allowance for the carrying capacity for the indigenous wild shellfish populations within the model (i.e. using a safety margin for wild shellfish stocks), while MSS do not as they consider the current model to be sufficiently precautionary.

The study did highlight a number of more minor but nevertheless important issues, where there is opportunity to improve the process and help support sustainable expansion of the industry. The key findings and accompanying recommendations are summarised below.

9.1 The Consistency of the Planning Determination Process

As noted above, stakeholder consultation highlighted an inconsistency relating to the assessment of biological carrying capacity for planning applications in the SIC LPA area. Currently the same simple spreadsheet-based model is used by both MSS and the SIC to assess the risk of a proposal in this LPA area of exhausting potentially available food supply for farmed and wild populations. However, SIC sometimes consider there to be an issue when MSS does not and this is due to differences in the safety margins set within the model (SIC use a safety margin for wild shellfish stocks whereas MSS does not). This can result in different carrying capacity tonnages when the model is used by the two organisations. Although this study has found that biological carrying capacity is not currently considered to be a significant issue of concern outside of Shetland (where there is higher demand for fewer suitable locations with adequate food availability), the shellfish industry in Shetland and the rest of Scotland is seeking to increase production to meet 2020 production targets, **It is therefore recommended that the bodies responsible for consideration of this criteria in Shetland (i.e. SIC and MSS) ensure that the differences in model parameters do not diminish the fitness for purpose of the model for contributing to planning application determinations. Ideally there should be a consistent and transparent approach to this consideration and any valid reasons for differences in model parameters when applied to different areas of Scotland should be clearly justified to ensure industry and stakeholder confidence in the system (Recommendation 1).**

The low number of refused planning applications between 2009 and 2014 necessarily prevented clear identification of any trends in the consistency of approach to planning considerations across LPA areas. However, inspection of the refused planning permissions between 2009 and 2014 did highlight one case of inconsistency in a planning decision (within one LPA area) where an application was refused based on objections that the equipment may not be robust enough to withstand the physical conditions at the proposed site and, if it were to fail would pose a risk to safe navigation. This decision was made despite a letter of attestation from the equipment manufacturer and against the recommendation from the planning officer that the permission be granted. In another later case, a similar objection was made but was not considered material and was dealt with via conditions attached to the permission regarding the action required should any disrepair occur. It can be noted that one of the standard conditions which may be applied to a granted planning permission relates to the actions required by the developer if equipment becomes damaged and becomes a danger to navigation (see Condition 5, Appendix C).

Other issues identified through inspection of the refused applications included:

- A case in which objections from other marine users (in this instance commercial fishermen) did not appear to be supported by evidence;
- One case in which the application was refused on the grounds of impacts on the heritage and amenity value of the area despite all statutory consultees concluding there would be no significant impacts of the development and against the recommendation of the planning officer that permission be granted.
- Two related cases in which the applications were refused on the grounds of the sites being within the minimum separation distance required, which demonstrated the issue of unutilised capacity (one site was not producing and had twice had planning permission revoked on this basis) and was likely related to the issue of 'ground holding'.

It is important to note that the above cases only represent 5% of the planning applications made across the whole of Scotland for new shellfish farms, modifications to existing farms or variation of conditions between 2009 and 2014. As such, it is not considered that the above case studies affect the general conclusions arising from the planning review which is that the data do not indicate that the planning determination system has unduly constrained the development of the industry through overly conservative determinations, based on 89% of applications being granted planning permission, compared to only 5% being refused. A similarly small percentage of applications (6%) were withdrawn, although very little detail could be ascertained from the publically available data as to why (although industry consultation did provide an indication of why some developers had withdrawn applications in the past - see below). Similar ratios of granted vs. refused/withdrawn applications were observed for both mussel and oyster related planning applications.

With regard to consistency of approach to planning applications, the approach to validating and determining shellfish farm planning applications is set out in statutory regulations, and planning considerations are set out in statutory documents such as the Scottish Planning Policy, LDPs and adopted LDP Supplementary Guidance (see Appendix B). Opinion on the guidance available to LPAs for planning determinations varied between LPAs, however it was felt that the 2014 iteration of the SPP had been 'watered down' compared to previous iterations and hence was not particularly useful in marine fish farm planning determinations. An updated Planning Circular for marine fish farms (last published in 2007) would also be welcomed by LPAs[25].

[25] It is anticipated that the updated Circular will be available for consultation in 2016, Amanda Chisholm, Marine Scotland, *pers. comm.*

Consultation with LPAs confirmed that all of the planning considerations are equally weighted, however, the scale, type and location of each specific development will influence whether the proposal will comply with Local Council policies, as set out in the relevant LDPs and LDP Supplementary Guidance, so determinations may vary between LPA areas. The LPAs which receive shellfish planning applications meet on an annual basis to help ensure consistency of approach to determinations across LPAs and to discuss unusual cases or any new issues arising.

The role of the statutory consultees in the determination process is set out in the Working Arrangement document. This document states that statutory consultees for shellfish planning applications (Marine Scotland, SEPA and SNH) should share data and co-ordinate consultation responses to minimise any additional information requests to developers (made via the LPA which collates such requests). This process is generally considered by the LPAs and statutory consultees to work well. A previous issue of statutory consultees requesting additional information from developers via the LPAs, relating to the wider consenting process rather than specifically to the planning process, is considered to have been resolved.

The workshop highlighted that landscape and visual impacts (especially cumulative impacts) and impacts on commercial fisheries are relatively difficult considerations for LPAs to assess within the determination process (there were also related issues for the industry regarding these considerations– see below). Practical ways to assist the LPAs to assess cumulative visual impacts within a given water body (e.g. via marking out the site with marker buoys within photographs taken from land) were suggested and there was interest in exploring how practical and reasonable such approaches would be to apply. It was noted that any such approaches would need to be standardised. Regarding fisheries impacts, the NMP referred to the provision of fisheries management and mitigation documents where existing commercial fishing opportunities or activities cannot be safeguarded, however it was not clear what should be assessed and presented in such documents. **It is recommended that relevant organisations (e.g. LPAs, Marine Scotland, SNH) should continue to explore reasonable, practicable and standard approaches to assist in the assessment of difficult planning considerations such as cumulative impacts on landscape/amenity and commercial fisheries. Such approaches could be discussed at 'best practice' workshops between the LPAs, statutory consultees and industry (see also below) (Recommendation 2). To assist LPAs in considering impacts specifically on commercial fisheries sector activity, it would be useful to have advice and guidance from Scottish Government (via Marine Scotland) on how to best approach and assess this issue using the latest available data (including requirements as stated in the NMP). This advice and guidance should be updated as new data or tools become available (e.g. from recent pilot studies on small fishing vessel activity). Guidance on the design and structure of the fisheries management and mitigation documents as referred to in the NMP would also be beneficial (Recommendation 3).**

9.2 Industry Experience of the Planning and Wider Consenting Process

Consultation with industry indicated that in general the consenting process for shellfish developments was considered to be complex, costly and involve duplication between processes. Many of the issues raised by industry stakeholders related to the wider consenting process rather than the planning process *per se* and hence the conclusions and recommendations regarding planning-specific and wider consenting issues are presented separately.

9.2.1 The Planning Application Process

Examination of the small number of refused planning permissions (as described above) did provide an indication of the issues faced by the industry in seeking to obtain planning permission for new or modified sites, namely competition for space with other marine users, particularly commercial fisheries, and unutilised capacity (sites consented for finfish or shellfish aquaculture production which are not producing). Competition for space with other marine users was one of the highest-ranked issues responsible for deterring, withdrawing and/or refusal of applications from the questionnaire responses. In Shetland, the area where the shellfish industry is most developed, stakeholders at the workshop confirmed that lack of available sites/space is resulting in an increasing level of tension with other marine users such as commercial fisheries. This was starting to occur in the Highlands LPA area as well.

Consultation (via questionnaire) indicated that pre-application advice and planning fees were the main issues that had deterred stakeholders from making a planning application. It is not clear why pre-application advice deters existing or potential developers from proceeding with planning applications. Workshop discussions indicated that the developer may have been advised that the site was not suitable (one of the roles of pre-application advice) or highlighted issues that could be a concern and the developer had decided not to pursue the application. It was suggested that recent trends in some areas where pre-application advice meetings had not translated into actual planning applications was likely due to the financial climate and lack of working capital, a situation that may have been exacerbated by the delay in implementation of the EMFF from 2014 to 2016.

In relation to fees, shellfish aquaculture stakeholders considered that making an application was a costly process both in terms of economic cost and time and it was noted that the shellfish industry lacked the specialist staff to deal specifically with planning applications and appeals compared to the finfish industry. It was generally agreed by all stakeholders that the planning fees may be overly onerous on the shellfish industry, compared to the finfish industry, given the difference in end product and price. Marine Scotland have committed to reviewing the fees, however, the fees are set under the TCPA and hence changing the fees would require legislative change which was considered unlikely. There was more scope for reducing the financial costs to the industry through the current PDR review if more shellfish development modifications are permitted under this system. However, currently developers design boundaries to be as tight as possible around mooring equipment to minimise planning fees, which may pose issues with regard to having adequate space for safe and proper moorings in addition to restricting the developers' ability to make any future modification under the PDRs. It was noted by a LPA representative that shellfish developers may apply for a larger area than is required for the moorings (i.e. an 'extended' red line beyond the mooring equipment) to provide the developer with space to expand production at a later date (e.g. via an additional longline which can be applied for under the PDRs and for which the fee is unrelated to sea area) and/or allow for drift which may reasonably occur. Whilst it was stated that all LPAs would consider such requests where they were sensible and pragmatic, decisions would need to be made on a site by site basis and when developers contact their LPA for pre-application advice, this could be discussed (Martin Holmes, SIC, *pers. comm*.).

The most significant cost was considered to relate to any additional application requirements such as surveys/specialist reports (e.g. LVIAs, surveys for protected species), and landscape and visual impacts was one of the highest-ranked planning considerations responsible for deterring, withdrawing and/or refusal of applications amongst the questionnaire respondents. However, it was noted by LPAs that LVIAs were generally required for finfish farms and rarely required for shellfish developments (see also below). However, workshop stakeholders noted specialist survey requirements may increase in the future in relation to the increasing number of designations. The potential impact on the shellfish industry should be raised by the industry in Government consultations on new marine designations.

The introduction of mandatory pre-application discussion fees in one LPA area was considered to represent an additional barrier to the industry, especially given the financial climate and that the fee was not deductible from the fee required for the actual application.

Although not considered to be within the scope of the current study, it was clear that a particular issue for the shellfish industry related to sites being assessed as 'out of position' in relation to the consented area. This situation may arise in relation to farms which were granted consent prior to 2007 (i.e. consented by TCE or a Shetland or Orkney Work Licence), and subsequently granted planning permission through the Scottish Government Audit and Review Process, or that have been consented since 2007 but have been found to be out of position. This situation represents a 'compliance' issue and in these instances, the developer can either move the equipment to be within the consented boundaries or apply for a new planning permission for the actual location of the equipment. The cost to the industry of applying for new planning permissions, including for sites that have been in production for many years, and for businesses that have multiple sites, was raised by numerous industry stakeholders. At the project workshop, LPAs highlighted that they need to know where the site is (i.e. the red line boundary) and that the equipment is where it is supposed to be. If not, there needs to be a mechanism for dealing with this. Whilst this issue was not considered within the scope of this study (and hence no specific recommendation(s) have been made), this issue is clearly an area of concern for the industry that appears to be exacerbating poor perceptions of the planning system and trust issues with the planning officers.

Industry consultation also raised questions from industry stakeholders regarding the appropriateness and proportionality of conditions attached to planning permissions. All conditions have to be relevant to the TCPA and planning cannot be used to meet the requirements of other legislative frameworks. While some site-specific conditions may appear related to other legislative frameworks, for example, a condition requiring a Habitat Management Plan, the condition would be applied to ensure *inter alia* that the LPA was confident that the development took place in the manner described and mitigated any environmental impacts, etc. The need for such a condition would result from an objection/representation from a statutory consultee highlighting a specific environmental issue where the only means of mitigating the identified impacts was for the developer to produce such a Plan. In other words, the condition is there to support the main function of planning in ensuring sustainable development. (Martin Holmes, SIC, *pers. comm.*). Any conditions applied to a planning permission must meet the 'six tests', as set out in the National Planning Policy Framework, or they cannot be applied.

With regard to the planning process for new shellfish farms and alterations/expansion to existing farms, it is recommended that to help address the general perception that the planning application process is complicated, further work should assess whether developing separate forms for shellfish and finfish planning applications will make the process simpler and/or clearer (the increasing interest in IMTA may need to be considered when assessing whether separate forms would simplify the process). This work should also ensure that the application forms are written in an easy to understand non-technical language (Recommendation 4).

Further awareness, support and/or training for shellfish developers should be provided with regard to the planning considerations which may be unnecessarily deterring planning applications if suitable sites are available (e.g. landscape and visual impacts,) or with aspects of the application forms which most frequently result in delays to validation of the application. For example, there are issues with developers having access to the required software or technology to produce the site maps required for planning applications, and licence/copyright issues currently prevent a simple solution to providing assistance with such issues. **It is recommended that there is further exploration of how the industry may be best supported with regard to production of site plans, photomontages (if required) etc. for planning applications to help ensure they are correct first time and minimise**

delays with validations. Such support may be especially helpful for small companies (Recommendation 5).

Many of the issues developers have with planning applications and/or concerns about what is required for the application (e.g. a LVIA), could be addressed through pre-application discussion with the LPA and other statutory consultees to help clarify what is actually required from the developer. **It is recommended that industry should continue to be strongly encouraged to engage in pre-application discussions. The continued provision of free advice (where available), or deduction of any pre-application consultation fee from the planning application fee required on submission, where this is possible, would help facilitate the uptake of this advice (Recommendation 6).**

9.2.2 The Wider Consenting Process

Some of the industry's concerns related to the wider consenting process, for example, in relation to obtaining a lease from TCE or a Marine Licence from Marine Scotland, rather than the planning system *per se*. It was generally agreed that the current wider consenting regime was complex and this is an issue of concern at EU and UK level as well as in Scotland. A study, commissioned by Marine Scotland and TCE, looking at the wider consenting regime for finfish and shellfish aquaculture is currently underway in Scotland and will be reported on in March 2016.

There are similarities in data/information requirements between consents and attempts to standardise the format of such data/information will simplify the process. Currently there are some technical barriers to standardising some aspects (e.g. site co-ordinates), however, there was consensus that this would be beneficial to the industry and should be explored further. **Hence it is recommended that standardisation of information requirements for the multiple consents required is considered further as part of the general streamlining process for the wider consenting issue. Results from the Marine Scotland/TCE study (due in March 2016) should feed into this process when they become available (Recommendation 7).**

Although there are numerous guidance documents available for applicants regarding the planning and wider consenting process (see Appendix B), **a concise guidance document (for obtaining all relevant consents), specific to shellfish, would be beneficial to the industry. This may be fulfilled by the ongoing review of the SSPO/ASSG protocol for preparing planning applications for aquaculture development (SSPO, 2011). All key stakeholders should input to this process and promote its use to the industry. To help ensure maximum utilisation, the guidance should be easily accessible. Given the current number of agencies/organisations involved in the consenting process, this may be best achieved by ensuring that any new guidance is prominent on all relevant websites (e.g. LPAs, Marine Scotland, TCE, SNH, SEPA etc.) (Recommendation 8).**

9.2.3 Future Influences

Indicative future projections of shellfish production suggest that 2020 production targets may not be met at the current industry growth rate. In Shetland, available sites for expansion of the industry are far more limited compared to the rest of Scotland so to meet the targets expansion of the industry in the short-medium term future will need to be met mainly through increased production at existing sites in Shetland combined with expansion of the industry outside of Shetland.

Incoming RMPs, where based on good data (i.e. regarding the distribution and intensity of all marine sector activities), should be a useful source of information for developers and support industry development where it is appropriate. Existing local spatial plans and related policies can be used to inform the development of the RMPs to prevent duplication where good information already exists. **The MSS Aquaculture Locational Guidance Project (Marine Scotland project SP006) should be used**

to identify key future development areas and development in these areas should be supported by policies in RMPs (Recommendation 9).

Increasing shellfish production per annum to meet the targets will require suitable sites to be available, or increased production at existing farm sites. Expert opinion has suggested that the required increase in production is most likely to be achieved (in Shetland at least) via increased productivity at existing sites (if spat availability and biological carrying capacity are adequate), for example, through utilising new cultivation techniques, although high capital costs may preclude this approach. **It is recommended that industry is supported to expand production at existing and new sites, for example through EMFF** (Recommendation 10).

10 References

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11 Abbreviations/Acronyms

AA	Appropriate Assessment
ABC	Argyll and Bute Council
APB	Aquaculture Production Business
ASSG	Association of Scottish Shellfish Growers
CFP	Common Fisheries Policy
DGC	Dumfries and Galloway Council
DSFB	District Salmon Fishery Board
EMFF	European Maritime and Fisheries Fund
FHI	Fish Health Inspectorate
IMTA	integrated multi-trophic aquaculture
LDP	Local Development Plan
LOA	A Lease Option Agreement
LPA	Local Planning Authority
LVIA	Landscape and Visual Impact Assessments
MANP	Multiannual National Plan
MGSA	Ministerial Group on Sustainable Aquaculture
MPP	Marine Planning Partnership
MSP	Marine Spatial Planning
MS-LOT	Marine Scotland Licensing Operations Team
MSS	Marine Scotland Science
MWGA	Ministerial Working group on Aquaculture
NAC	North Ayrshire Council
NGO	non-governmental organisations
NLB	Northern Light House Board (
NMP	National Marine Plan
NPF3	National Planning Framework 3
NPZ	Nutrient-phytoplankton-zooplankton
NSA	National Scenic Areas
OIC	Orkney Islands Council
PAC	Pre-Application Consultation
PDR	Permitted Development Rights (PDRs
PSG	Project Steering Group
RMP	Regional Marine Plan
RYA	Royal Yachting Association
RSPB	Royal Society for the Protection of Birds
SARF	Scottish Aquaculture Research Forum
SEPA	Scottish Environment Protection Agency
SFSA	Strategic Framework for Scottish Aquaculture
SIC	Shetland Islands Council
SIMSP	Shetland Islands Marine Spatial Plan
SME	small and medium enterprises
SMRs	Scottish Marine Region
SNH	Scottish Natural Heritage
SPP	Scottish Planning Policy
SSMG	Scottish Shellfish Marketing Group
SSPO	Scottish Salmon Producers Organisation
SWOT	Strengths, Weaknesses, Opportunities and Threats
SWPA	Shellfish Water Protected Areas

TCE	The Crown Estate
TCPA	Town and Country Planning Act
THC	The Highland Council
TMC	The Moray Council
WGS84	World Geodetic System 1984
WIC	The Western Isles Council (Comhairle nan Eilean Siar)

Cardinal points/directions are used unless otherwise stated.

SI units are used unless otherwise stated.

Appendices

A Historical Context of Consenting for Marine Shellfish Farms in Scotland

A.1 Scottish Government Audit and Review Process

As described in Section 3 of the main report, prior to 01 April 2007, all marine fish (finfish and shellfish) farms were consented by The Crown Estate (TCE) through a non-statutory scheme of development consent or, in Shetland and Orkney, through a system of works licences issued by those LPAs.

After 1 April 2007, new fish farms were required to obtain planning consent from the relevant planning authority under the Town and Country Planning (Marine Fish Farming) (Scotland) Order 2007.

Subsequently the Scottish Government initiated the Audit and Review process, which was designed to consider planning permission for existing marine fish farms[26]. Existing fish farms were eligible to go through this process if they were:

- In operation using equipment placed in the water before 1 April 2007; or
- In operation using equipment placed after 31 March 2007 and before 1 April 2010 if done under an existing Crown Estate consent or Orkney or Shetland works licence (transitional cases).

All shellfish farms were assessed through the Audit process (whereas the Review process was applied to finfish farms whose environmental impacts had not been previously assessed). The planning permission granted through the Audit process differed from that granted by the Local Authorities because it was granted to enable continued operation of an existing fish farm site consented before the transfer of marine aquaculture into the terrestrial planning system. In contrast, the permission granted by LAs is for aquaculture development through placement of new or additional equipment in the water. Planning permission granted through the Audit process remains valid as long as the site continues to operate although any modifications to the site require permission from the Local Authority (Bridget Bryden, Marine Scotland, *pers. comm.*).

In total 487 shellfish farm sites were identified as eligible for the Audit process (consented prior to 2007) of which 240 shellfish farms were considered through this process. In total, 67 sites were granted planning permission by application through the Audit process; additionally, a further 149 sites were granted permission through the Town and Country Planning (Marine Fish Farms Permitted Development) (Scotland) Order 2011 as they met the criteria described in that Order. Where the Scottish Government were not able to consent farms (because they did not fulfil the Audit and Review process eligibility requirements), the farms were notified that they needed to apply to the relevant LPA for planning permission.

[26] Unless the site was never developed or ceased to operate before the review process started.

It should be noted that Marine Scotland could only grant planning permission for the growing equipment that was deployed in the water before 2007 (2010 for transitional cases). As such, even if the original consent from TCE provided for additional equipment (e.g. more longlines), but this equipment had not been deployed, the consent for this additional capacity would have been lost (Bridget Bryden, Marine Scotland, *pers. comm*.).

The review process was started in 2007 and Marine Scotland are still accepting applications from farms which do not have planning permission (often realised when their TCE lease is due for renewal). In these instances, Marine Scotland notify the LPA, which waits to see if the site is eligible for the review process. If they are not, the farm will need to go through the terrestrial planning system via the LPA.

B Guidance Inventory

There are numerous guidance documents for developers and regulators relating to the marine fish farm planning application and determination process. These include:

- National planning documents;
- Local Planning Authority (LPA) Local Development Plans (LDPs) and LDP Supplementary Guidance;
- Guidance documents provided by LPAs, consultees in the planning process and industry representatives for developers.

This appendix provides an inventory of such guidance documents. The inventory is not exhaustive, and has focussed on providing information to further support the description of the planning process in the main report, and to signpost developers to available sources of information and guidance on the planning process.

B.1 National Planning Documents

Table B1 provides brief descriptions of key planning documents which are relevant to marine fish farming (finfish and shellfish) in Scotland.

Table B1. Key planning documents relevant to marine aquaculture

Title	Description
National Planning Framework 3 (2014) (statutory)	Scotland's third National Planning Framework (NPF3) 3 provides a statutory framework for Scotland's long term spatial development, setting out the Scottish Government's development priorities over the next 20-30 years. Refers to the aquaculture industry targets for finfish and shellfish production in 2020.
Scottish Planning Policy (2014) (non-statutory)	The Scottish Planning Policy (SPP) sets out the Scottish Government policy on nationally important land use and planning matters. With regard to supporting aquaculture, the policy states that the planning system should: ▪ Play a supporting role in the sustainable growth of the finfish and shellfish sectors to ensure that the aquaculture industry is diverse, competitive and economically viable; and ▪ Guide development to coastal locations that best suit industry needs with due regard to the marine environment. States that to deliver this policy, Local Development Plans (LDPs) should make positive provisions for aquaculture developments, identifying areas potentially suitable for new development and sensitive areas which are unlikely to be appropriate for such developments. Also sets out the issues to be considered when assessing fish farm proposals: ▪ Impacts on, and benefits for, local communities; ▪ Economic benefits of the sustainable development of the aquaculture industry; ▪ Landscape, seascape and visual impact; ▪ Biological carrying capacity; ▪ Effects on coastal and marine species (including wild salmonids) and habitats; ▪ Impacts on the historic environment and the sea or loch bed; ▪ Interaction with other users of the marine environment (including commercial fisheries, Ministry of Defence, navigational routes, ports and harbours, anchorages, tourism, recreational and leisure activities); and ▪ Cumulative effects on all of the above factors.
Planning Circular 1/2007: Planning Controls for Marine fish Farming	Provides guidance to planning officers, developers, regulators and communities on the provisions contained in the Acts, Regulations and Order which relate specifically to marine fish farming (post 1st April 2007). Annex C relates to the Town and Country Planning (Marine Fish Farming) (Scotland) Regulations 2007, which brought marine aquaculture under terrestrial planning control from 1 April 2007.
Planning Circular 1/2015: The relationship between the statutory land use planning system and marine planning and licensing	Explains the relationship between the marine and terrestrial planning systems, including related regimes such as marine licensing. The Circular explains the arrangements outlined in the National Marine Plan on marine and terrestrial planning.

B.2 Local Planning Authority Documents

Table B2 provides brief descriptions of the key planning documents for each LPA.

Table B2. Local Planning Authority planning-related documents

LPA	Title	Description
The Shetland Islands Council	The Shetland Local Development Plan (LDP) (2014)	The established planning policy for Shetland. Sets out a Vision and Spatial Strategy for the development of land in the Shetland Islands up to 2030. The land use planning policies contained in the Plan are used for determining applications submitted under the Planning (Scotland) Acts. For marine aquaculture, new developments and amendments to existing farms will need to have regard to CST1 Coastal development criteria and will be assessed against the Supplementary Guidance Policy for Aquaculture (see below)
	Interim Policy for Marine Aquaculture (2007)	Provides background information and general advice to prospective developers. General Policy G1 states that: In determining planning permission applications the Council will take account of, *inter alia*, the following factors: ▪ The need to ensure safe navigation is maintained; ▪ Potential effects, including cumulative, on the environment and natural heritage; ▪ The implications for fishing interests; ▪ Existing fish farms in the locality; ▪ The implications for recreational and other interests and users of the marine or freshwater resource; and ▪ The availability of any necessary infrastructure and potential impact on existing infrastructure when relevant.
	Shetland Islands' Marine Spatial Plan (SIMSP) (2015)	Supplementary Guidance to the LDP. Provides an overarching policy framework to guide marine development and activity (note including, but not specific to, marine aquaculture developments). Sets out the policies and criteria against which planning applications for marine aquaculture developments submitted in Shetland will be considered (the policies in the SIMSP are material considerations in decision-making on individual marine planning applications and works licences).

LPA	Title	Description
Argyll and Bute Council	Local Development Plan (2015)	Provides the local planning framework, including general policy, against which planning applications for new development proposals are assessed, and maps which show the range of development opportunities and constraints within the area ,including potential areas for future development.
	Proposed Supplementary Guidance: Aquaculture Development (SG AQUA 1) (2015)	Draft Aquaculture Supplementary Planning Guidance (not yet submitted to Scottish Government for adoption as statutory Supplementary Guidance). Provides detailed guidance for developers and regulators to help guide development to the most appropriate areas (by taking account of other activities and environmental sensitivities) and assist in determinations of individual proposals. Supported by Integrated Coastal Zone Management (ICZM) Plans for specific coastal areas (see below). Sets out the development criteria which planning proposals are assessed against: ▪ Landscape/seascape and visual amenity; ▪ Isolated coast and wild land; ▪ Historic or archaeological sites & their settings; ▪ Priority habitats/species (including wild migratory salmonids) and designated sites for nature conservation; ▪ Ecological status of water bodies and biological carrying capacity; ▪ Commercial and recreational activity; ▪ Amenity, arising from operational effects (waste, noise, light and odour); and ▪ Economic Impact.
	Loch Fyne (2009) and Loch Etive Integrated Coastal Zone Management Plan (2011)	Non-statutory planning guidance (spatial guidance for aquaculture) designed to complement the Argyll and Bute Development Plan. Provide guidance for local authority planners, regulators and stakeholders on the future use and development of Loch Fyne and Loch Etive respectively.
	Sound of Mull Marine Spatial Plan (2011)	Non-statutory planning guidance (spatial guidance for aquaculture) to develop and deliver more integrated and sustainable management of the marine and coastal areas of the Sound of Mull through the preparation and implementation of a marine spatial plan.
Western Isles Council	Outer Hebrides Development Plan (2012)	Sets out the development strategy and policy to guide development in the Outer Hebrides. Policy 22 relates to fish farming and marine planning.

LPA	Title	Description
	Outer Hebrides Local Development Plan – Supplementary Guidance: marine fish farming (2012)	Sets out a spatial strategy and a development policy framework to guide fish farming development in the Outer Hebrides. The spatial strategy identifies areas for potential growth including areas subject to constraint, and areas that are sensitive to new or further fish farming development (Strategy map). The development policies set out specific topic matters against which fish farming proposals are assessed. These are: ▪ Siting and design in the landscape; ▪ Water quality and benthic impact; ▪ Other Marine Interests; ▪ Noise and Lighting; ▪ Operational Impacts; ▪ Cumulative impact; ▪ Economic benefit; and ▪ Onshore facilities.
The Highland Council	The Highland-wide Local Development Plan (HwLDP) (2012)	The plan is a vision for the area and sets out how land can be used by developers for the next 20 years. It should be noted that the HwLDP will replaced in the next 2-3 years, becoming a policy only Plan to guide how development should happen. Three Area Local Development Plans are being developed which will guide where development can happen. The first stage of the revised HwLDP (the Main Issues Report) is under consultation until 29 January 2016. The HwLDP must be read alongside Local Plans which remain in place until the three area plans are adopted. The 2012 HwLDP highlights that due to the scale of the Highland's coastline, producing meaningful spatial guidance for the whole Highland area was impracticable and detailed planning guidance for the main areas of pressure is provided by the Aquaculture Framework Plans and the Integrated Coastal Zone Management Plans (see below). Policy 50 relates to aquaculture and states that the Council supports the sustainable development of finfish and shellfish farming subject to there being no significant adverse effect, directly, indirectly or cumulatively on:

LPA	Title	Description
		Natural, built and cultural heritage considerations: ▪ Landscape character, scenic and visual amenity with reference to SNH's report on landscape/seascape carrying capacity for aquaculture; ▪ The classification and objectives set out in the river basin management plan for the Scotland river basin district and supplementary area management plans; ▪ Wild fish populations; ▪ Biological carrying capacity; ▪ Cumulative benthic and water column impacts; and ▪ Habitats and species, including designated sites and protected species; Existing activity considerations: ▪ Commercial inshore fishing grounds; ▪ Existing and consented aquaculture sites; ▪ Established harbours and natural anchorages and navigation (including recreational); ▪ The location of existing/proposed pipelines/outfalls and discharge points for treated; and ▪ Waste water and storm water. Where located on a suitable site proposals also need to show: ▪ Appropriate operational and site restoration arrangements (including management of noise and lighting impacts, public health and safety, and the effective control of pollution, fish farm escapes, predator interaction and disease); ▪ Good design of cages, lines and associated facilities (refers to SNH's Marine aquaculture and the Landscape guidance); ▪ That opportunities for shared use of jetties, piers and ancillary facilities are promoted where possible. The policy notes that the national presumption against expansion of marine finfish farms on north and east coasts does not preclude shellfish farming

LPA	Title	Description
	Draft Aquaculture Supplementary guidance (2015)	Detailed guidance which will support the updated aquaculture policy in the revised HwLDP. Contains a spatial strategy and a set of 6 development criteria. The spatial strategy guides aquaculture developers to locations of least sensitivity for sustainable development and highlights areas of constraint (areas for potential growth and areas of potential sensitivity). The 6 development criteria against which aquaculture proposals will be assessed are described in detail. The Criteria are: ▪ DC1 Landscape/Seascape; ▪ DC2 Historic Environment; ▪ DC3 Biodiversity; ▪ DC4 Water Quality; ▪ DC5 Other Marine Users; and ▪ DC6 Construction, Operation and Decommissioning. Chapter 4 contains a very comprehensive list of additional sources of information for aquaculture developers.
	The Highland Coastal Development Strategy (2010)	Guidance for sustainable development and use of Highland's coastal zone at the regional scale.
	Aquaculture Framework Plans (AFPs)	AFPs contain more detailed policy relating to key pressure areas for aquaculture and whilst the review process of the HwLDP and supporting guidance takes place, the AFPs are supplementary planning guidance that are material considerations in the determination of planning applications. AFPs are available for: ▪ Loch Torridon; ▪ Loch Nevis ▪ Loch Sunart; ▪ Loch Bracadale; ▪ Loch Hourn; ▪ Loch Inchard; and ▪ Loch Eriboll.

B.3 Additional Guidance Documents

Table B3 provides a summary of planning-related guidance documents available to aquaculture developers. This list is not exhaustive, but rather highlights documents which provide guidance in relation to the planning application and determination process described in the main report.

Table B3. Additional guidance documents

Organisation	Title/Description and Source
Association of Scottish Shellfish Growers (ASSG)	Code of Good Practice (2005) Available at: http://assg.org.uk/code-of-practice/4536619829
LPAs	Standard guidance for planning permission applications which can be downloaded, along with other relevant information, from each LPA website: SIC: http://www.shetland.gov.uk/planning/Marine_planning_default.asp; See also: http://www.shetland.gov.uk/planning/Marine_Right_first_time.asp THC: http://www.highland.gov.uk/info/1225/countryside_farming_and_wildlife/62/fisheries_and_aquaculture/4 WIC: http://www.cne-siar.gov.uk/planningservice/forms.asp#Marine ABC: http://www.argyll-bute.gov.uk/planning-and-environment/aquaculture OIC: http://www.orkney.gov.uk/Service-Directory/A/Aquaculture.htm
Scottish Government	Aquaculture – information on the wider aquaculture consenting process http://www.gov.scot/Topics/marine/Fish-Shellfish/18716
	Aquaculture – information on aquaculture planning http://www.gov.scot/Topics/marine/Fish-Shellfish/18716/fish-farm
	General planning-related guidance and publications (including planning circulars, planning advice and policy documents) http://www.gov.scot/Topics/Built-Environment/planning/Roles/Scottish-Government/Guidance
	Information on Shellfish Waters, including maps http://www.gov.scot/Topics/Environment/Water/15561/ShellfishWaters
Scottish Natural Heritage (SNH)	Guidance on Landscape/Seascape Capacity for Aquaculture (2008) http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=976
	The siting and design of aquaculture in the landscape: visual and landscape considerations (2011) (updated guidance) http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=113
Scottish Salmon Producers	Protocol for preparing planning applications for aquaculture development (under review)

Organisation	Title/Description and Source
Organisation (SSPO)	http://www.scottishsalmon.co.uk/userFiles/826/Planning_Protocol_1-4-11.pdf
The Crown Estate (TCE)	Scotland guidance notes for applicants for leases of fish farming sites http://www.thecrownestate.co.uk/media/5628/aquaculture-guidance-notes-scotland.pdf
	Scotland marine fish farm lease processes http://www.thecrownestate.co.uk/media/5572/scotland-marine-fish-farm-lease-processes.pdf
	Scotland lease option agreements http://www.thecrownestate.co.uk/media/501990/aquaculture-lease-option-agreements-scotland.pdf
	Scotland marine fish farm lease advice note http://www.thecrownestate.co.uk/media/5633/aquaculture-advice-note-lease-applications-scotland.pdf
	Summary of all consents required for aquaculture developments (finfish, shellfish and seaweed) – developers can request from TCE

C Planning Permission Standard Conditions

This Appendix shows the 'standard conditions' developed for use by all Local Planning Authorities (LPAs) and Marine Scotland in relation to marine fish farm (finfish and shellfish) developments (see Section 3.2.3 in the main report). A number of these will appear on all granted planning permissions with others only being included as required (i.e. not all twelve of the standard conditions are applied to granted planning applications, only those appropriate for the development are applied). In certain cases, site-specific conditions over and above the following standard conditions might be required to mitigate potential impacts and allow the development to go ahead (see Section 3.2.3).

C.1 Standard Conditions

SCOTTISH PLANNING AUTHORITIES

Suite of Model Planning Conditions for Aquaculture Developments

1. The development hereby permitted shall not be carried out other than wholly in accordance with the following plans and details unless previously approved in writing by the Planning Authority:

   - Application
   - Admiralty Chart
   - Site Plan/Longline Section
   - Environmental Statement

   received by the Planning Authority on .....

   Alternative wording (or could be included as well):
   All equipment and associated moorings approved by this permission shall be wholly contained within the area identified on the Admiralty Chart received by the Planning Authority on ..... , the coordinates, in WGS84 projection, of the approved mooring containment area being:

   Example:
   Mid Point: 60º 26.117' N -1º 10.664' W
   NW extremity: 60º 26.132' N -1º 10.910' W
   NE extremity: 60º 26.204' N -1º 10.495' W
   SE extremity: 60º 26.089' N -1º 10.423' W
   SW extremity: 60º 26.030' N -1º 10.842' W

2. All lighting above the water surface and not required for safe navigation purposes should be directed downwards by shielding and be extinguished when not required for the purpose for which it is installed on the site.

Example of site specific alternative:
Underwater lights shall not be used out with the period 01 December to 31 March inclusive. During the same period, all lights on the barge hereby approved shall be turned off unless required for safety or navigation purposes.

Reason: To minimise impacts on storm petrels nesting and feeding in the vicinity.

3. At all times when equipment is on site the following navigational marks shall be provided:

Example: The site shall be marked by a special mark buoy which is yellow in colour, conical in shape, and fitted with a yellow multiplication cross topmark. The buoy shall have a diameter of approximately 1 metre at the waterline and the cross topmark shall measure a minimum of 75cm in length by 15cm in width. The buoy shall be positioned at the Northeasterly extremity of the longlines and must be installed at the same time as the site equipment.

4. The finished surfaces of all equipment above the water surface including surface floats and buoys associated with the development hereby permitted (excluding those required to comply with navigational requirements) shall be non-reflective and finished in a dark muted colour unless otherwise agreed in advance with the Planning Authority.

5. In the event of equipment falling into disrepair or becoming damaged, adrift, stranded, abandoned or sunk in such a manner as to cause an obstruction or danger to navigation, the developer shall carry out or make suitable arrangements for the carrying out of all measures necessary for lighting, buoying, raising, repairing, moving or destroying, as appropriate, the whole or any part of the equipment.

6. Any necessary predator control measures shall be non-lethal and non-destructive. If anti-predator nets are used, either above or below water, they must be properly installed and maintained to ensure effective protection. Any changes to the permitted anti-predation measures stated in the application shall be submitted to the Planning Authority for consideration and approval prior to any installation and use.

Site specific alternative:
In respect of anti-predation systems to be deployed in conjunction with the development hereby permitted:

(i) Underwater anti-predator measures shall be restricted to the use of adequately tensioned cage nets. Secondary predator nets must not be deployed;

(ii) All top nets shall be secured to the handrails along their whole length and must be adequately tensioned;

(iii) Acoustic Deterrent Devices (both submerged and surface-mounted) must not be used;

(iv) In any event, all deployed anti-predation systems shall be non-lethal and non-destructive.

Reason: To ensure the development will not adversely affect the integrity and conservation objectives of the *(name)* Special Protection Area (SPA), in the interest of minimising impacts on populations of common seals which are known to haul out in the vicinity of the site, and to protect wildlife in general

7. Where more than one type or size of barge is approved at a site only one of the barges shall be deployed at the site at any one time unless approved and agreed in writing by the Planning Authority.

8. The development hereby permitted shall be commenced within three years of the date of this permission unless otherwise approved by the Planning Authority.

9. The developer shall submit a written 'Notice of Initiation of Development' to the Planning Authority at least 7 days prior to the intended date of commencement of development. Such a notice shall:

(a) include the full name and address of the person intending to carry out the development;

(b) state if that person is the owner of the land to which the development relates and if that person is not the owner provide the full name and address of the owner;

(c) where a person is, or is to be, appointed to oversee the carrying out of the development on site, include the name of that person and details of how that person may be contacted; and

(d) include the date of issue and reference number of the notice of the decision to grant planning permission for such development.

10. The development hereby permitted shall relate to the *(equipment type)* culture of *(species).* Details of any other species to be on-grown on site shall be submitted to the Planning Authority for prior written approval.

11. In the event of an escape of fish, gill nets shall not be used to attempt recapture of fish. Other methods, such as towing nets from a boat, should be used in consultation with the appropriate authorities.

    Reason: To ensure the development will not adversely affect the integrity and conservation objectives of the *(name)* Special Protection Area (SPA)/Special Area of Conservation (SAC).

12. In the event that the (fish cages/longlines) or associated equipment approved by this permission cease to be in operational use for the growing of (finfish/shellfish) for a period exceeding three years, they shall be wholly removed and the site restored to the satisfaction of the Planning Authority within 4 months of being notified, unless agreed otherwise in writing by the Planning Authority. For the avoidance of doubt, in that event the permission will have been deemed to have lapsed.

Reason: In the interest of visual amenity and to ensure that redundant development does not sterilise capacity for future development within the same water body.

Note to applicant

The Aquatic Animal Health (Scotland) Regulations 2009 requires the authorisation of all Aquaculture Production Businesses (APB's) in relation to animal health requirements for aquaculture animals and products thereof, and on the prevention and control of certain diseases in aquatic animals. The authorisation procedure is undertaken on behalf of the Scottish Ministers by the Fish Health Inspectorate (FHI) at Marine Scotland Marine Laboratory. To apply for authorisation for an APB or to amend details of an existing APB or any site that an APB is authorised to operate at, you are advised to contact the FHI as follows: Fish Health Inspectorate, Marine Scotland Marine Laboratory, PO Box 101, 375 Victoria Road, Aberdeen, AB11 9DB. Tel: 01224 295525; Email: ms.fishhealth@scotland.gsi.gov.uk

D Shellfish Industry Questionnaire

SARF Research Project 110: Locational Regulation of Shellfish Aquaculture in Scotland

SARF have commissioned a study to review all aspects of the decision making process for shellfish farm planning applications across Scotland. The study will assess the consistency of the approach to planning decisions, identify examples of best practice and make recommendations for improving consistency and guidance if required.

The study is being undertaken by ABPmer and the Institute of Aquaculture (University of Stirling) and we would value your assistance in responding to this questionnaire. **Your responses will be treated as confidential**. The project has a steering group of industry members and regulators.

About you

Is shellfish farming your main business?

Y		N	

What species do you farm (tick all applicable):

Mussel	Native Oyster	Pacific Oyster	Other (please specify)

Planning application guidance

How do you rate the usefulness of information/guidance on the planning application process, e.g. from the Planning Authority website, discussions with the Planning Authority and/or conservation advisors and regulators (e.g. Scottish Natural Heritage, Scottish Environmental Protection Agency)?

	Poor	Adequate	Good
Pre-application guidance			
Application guidance			

The planning application process

Have any of the following ever deterred you from making a planning application?

Reason	Please tick any that apply
Pre-application advice (e.g. related to application requirements or potential conditions attached to any permission granted)	
Pre-application surveys (please specify survey type if possible)	
Pre-application advice fees	
Planning application fees	
Timescales to reach a decision	
Lack of guidance / clarity of process	
Other (please specify):	

Have any of the following planning considerations (shown in the table on the next page) ever been the reason for you:

I. not applying for planning permission,
II. withdrawing a planning application (pre or post consultation), or
III. being refused planning permission for a shellfish development.

If more than one applies – please rate the biggest issues by scoring 1, 2, 3 etc.

	Deterred from applying	**Withdrawn application**	**Refused planning permission**
Impacts on protected habitats/species			
Landscape / visual impacts			
Navigational risks			
Conflict with other users (please specify)			
Potential exceedance of biological carrying capacity of the waterbody			
Infrastructure			
Landside impact (e.g. increased road use)			
Cumulative impacts			
Other (please specify)			

Do you have any comments about any of the conditions attached to planning permission you have been granted and the ease of compliance? (please feel free to continue on another page)

Is there anything else you would like to tell us from your experience of the planning application and/or decision process? (please feel free to continue on another page)

Name of your local Planning Authority:

Contact Details (Optional)

It would be useful to have your contact details, however, an anonymous response is also useful to us.

Name	**Telephone**	**Email**

E Stakeholder Workshop Attendees and Agenda

E.1 Attendees

The following organisations were represented at the workshop:

Organisation
ABP Marine Environmental Research Ltd (ABPmer) (Project Team)
Argyll and Bute Council
Association of Scottish Shellfish Growers (ASSG)
Institute of Aquaculture, University of Stirling (Project Team)
Marine Scotland Aquaculture Policy
Marine Scotland Science
Scottish Aquaculture Research Forum (SARF)
Scottish Natural Heritage (SNH)
Scottish Shellfish Marketing Group (SSMG)
Seafish
Scottish Environmental Protection Agency (SEPA)
Shetland Islands Council
Stirling Aquaculture (Project Team)
The Crown Estate
The Highland Council
The Western Isles Council

E.2 Agenda

Strategic Consideration for Locational Regulation of Shellfish Aquaculture in Scotland

Stakeholder Workshop
29 October 2015

Great Glen House, Leachkin Road, Inverness, IV3 8NW

10.30am	**Refreshments**
11.00 – 11:15	**Welcome and background to study – SARF** **Overview of the day and workshop aims - ABPmer**
11:15 – 12:00	**Overview of the study outputs** **A brief presentation from the project team of the results of the planning review, key messages from the stakeholder consultation and initial conclusions.**
	Views from industry and Local Authority.
12:00 – 13:00	**Group feedback on the study outputs and areas of concern - All** **Session aim: To enable all attendees to feedback and discuss the key findings to ensure all relevant aspects have been captured (i.e. stakeholder validation of the analysis). This session will also enable further discussion of issues highlighted in the interim report and any others raised by the group. The issues to be explored further after lunch will be agreed by the group.**
13:00 – 14:00	**Lunch**
14:00-15:30	**Break out groups - All** **Session aim: To explore further the areas of concerns from the morning session and explore potential solutions. What solutions work best for stakeholders? What are the pros and cons of the potential solutions?**
15:30 – 16:00	**Group Review and Conclusions - All** **Feedback from the break out groups to inform the study recommendations.** **Summary and conclusions from the day.**

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Creating sustainable solutions for the marine environment

Scottish Aquaculture Research Forum

Charity Registration: SC035745
Company Registration: SC267177

SARF - Member Organisations

Industry

SEAFISH
Association of Scottish Shellfish Growers
Scottish Salmon SSPO
British Trout Association

Government and Regulators

Scottish Natural Heritage
SEPA Scottish Environment Protection Agency
marinescotland
The Scottish Government
HIE Highlands and Islands Enterprise
Iomairt na Gaidhealtachd 's nan Eilean

Non-Governmental Organisations

The Crown Estate
Scottish Environment LINK
Rivers & Fisheries Trusts of Scotland
Safeguarding Scotland's Rivers & Lochs
ASFB The Association of Salmon Fishery Boards