



Houses of the
Oireachtas
Tithe an
Oireachtais

AN COMHFHOCHOISTE UM IASCACH

**Tuarascáil ar Phobail Thuaithe Inmharthana ar an gCósta agus ar na
hOileáin a Chur chun Cinn**

JOINT SUB-COMMITTEE ON FISHERIES

**Report on Promoting Sustainable Rural Coastal and Island
Communities**



**Tithe an
Oireachtais**
**Houses of the
Oireachtas**

AN COMHFHOCHOISTE UM IASCACH

**Tuarascáil ar Phobail thuaithe Inmharthana ar an gCósta agus ar na
hOileáin a Chur chun Cinn**

JOINT SUB-COMMITTEE ON FISHERIES

**Report on Promoting Sustainable Rural Coastal and Island
Communities**

Contents

List of tables.....	i
List of Figures	ii
Acronyms	iii
Chairman’s Foreword	1
Membership of the Joint* sub-Committee on Fisheries	3
Introduction	5
Executive summary	8
Recommendations	10
Section 1: Reform of the Common Fisheries Policy (CFP)	15
1. Rural coastal and island communities: a socio-economic profile	16
1.1 Background	16
1.1.1. Ireland – overall quota situation.....	16
1.1.2 Ireland – inshore fisheries	17
1.1.3 The market for Seafood.....	17
1.2 A case in point - County Donegal	18
1.3 The challenges	21
1.3.1 The 2011 Pobal HP Deprivation Index for Small Areas – Overview.....	21
1.4 Socio-linguistic and Geographical boundaries of the communities.....	28
1.5 Data – difficulties	28
1.6 SEMRU data on rural v urban statistics	30

1.7 Summary.....	31
Section 2: Existing Policy and Licencing Regimes	34
2.1 Governance arrangements in the Marine sector	34
2.1.1 Ireland.....	34
2.1.2 Scotland.....	37
2.1.3 United Kingdom.....	37
2.2 Key policy documents.....	40
2.3 Policy and social impacts on communities	42
2.3.1 Education and training.....	43
2.4 Aquaculture	44
2.4.1 Government policy towards aquaculture in Ireland	44
2.4.2 Aquaculture in a global context	45
2.4.3 Aquaculture in an EU context.....	49
2.4.4 Status of Aquaculture in Ireland	51
2.4.5 Government policy towards Aquaculture development and licensing	54
2.4.6 Overview of the sector	61
2.4.7 Species diversification.....	66
2.4.8 The commercial success of Salmon farming in Scotland.....	67
2.4.9 Location of fish farms	67
2.4.10 Sustainability	69
2.5.1The Quota management system	70
2.5.2 Licensing and Compliance	83

2.5.3 Policy developments and recommendations since 1999	87
2.5.4 Salmon Fisheries management.....	97
2.5.5 Developments at EU level	103
2.5.6 Inshore fishery – overall management.....	114
2.6 Sea and Coastal Angling	125
2.6.1 Introduction	125
2.6.2 Current status.....	126
2.7 Tourism	133
2.7.1 Introduction	133
2.8 The Seaweed industry.....	135
2.8.1 The international scope of the industry	135
2.8.2 The current scope of the Irish industry	135
2.8.3 Techniques employed	139
2.8.4 Outcomes: farms developed to commercial scale	141
2.8.5 BIM's future plans	142
2.8.6 Regulation of supply.....	142
2.8.7 Policy in relation to the foreshore	143
Section 3: Developing Strategies for Rural and Island Communities	145
3.1 Aquaculture	145
3.1.1 Licensing.....	145
3.1.2 Regulation.....	150
3.1.3 Promotion of commercial aquaculture	151

3.1.4 Linguistic impact of large scale developments	152
3.2 Island and coastal (within the 12 mile zone) fisheries	154
3.2.1 Wild Salmon Fisheries management	155
3.2.2 Inshore fishery – overall management requirements	160
3.2.3 Marketing	165
3.2.4 Fish processing	167
3.3 Sea angling	169
3.3.1 Introduction	169
3.3.2 Legislative reform.....	171
3.3.3 <i>Sea Angling – an integrated product</i>	172
3.3.4 Facilitating diversification into Sea Angling.....	172
3.4 Tourism	173
3.4.1 Comhairle na Tuaithe.....	173
3.5 EU Funding and State Aid rules.....	175
3.5.1 The overall EU funding framework to 2020.....	175
3.5.2 The European Fisheries fund (EFF)	176
3.5.3 European Maritime and Fisheries Fund (EMFF)	179
3.5.4 The EU and State Aid rules for fisheries and aquaculture.....	183
3.6 The seaweed industry	185
Appendix 1- Orders of Reference	187
Appendix 2 - References: Links to Transcripts of Debates and relevant websites .	188
Appendix 3 – Food Harvest 2020 Milestones	189

Appendix 4 - Ireland at EU NUTS3 level.....	190
Appendix 5 – Paper on Sea Lice	191
Appendix 6 – Food Harvest 2020 recommendations	208
Appendix 7 – General overview of aquaculture in Scotland	209
Appendix 8 – Paper on Ban on fishing for mixed stock salmon using drift nets	213

List of tables

Table 1 – HP Deprivation Index - Distribution and Labels of Relative Index Scores (2011)

Table 2 – HP deprivation Index Relative Index Score 2011 map colour scheme

Table 3 - Social Assessment (Coastal economy)

Table 4 - Rural versus urban coastal communities statistics based on the 2011 small area population census figures (CSO)

Table 5 - Marine Co-ordination Group (MCG)

Table 6 – Length and capacity profile of the Irish Shellfish fleet (<13m length) 2006-2011 (excluding 4 vivier crabbers and a number of polyvalent scallop vessels >13m)

Table 7 – The value of strictly inshore, wild rather than cultured, landings in 2005

Table 8 – socio-economic performance indicators (2006 to 2009)

Table 9 – Economic Productivity and Performance indicators (2008 and 2009)

Table 10 – Regional Tourism Multipliers

Table 11 – Allocation of EFF aid: 2007 to 2013

List of Figures

- Figure 1 – Map of ICES areas (North-Western Europe)
- Figure 2 – County Donegal: Percentage change in no. of unemployed 2006-2011
- Figure 3 – County Donegal: Distribution of unemployed, 2006
- Figure 4 – Basic model of the Pobal HP deprivation index
- Figure 5 – HP Deprivation Index National Relative index score - 2011
- Figure 6 – The growing global importance of Aquaculture
- Figure 7 - Aquaculture techniques relevant to species farmed in Ireland
- Figure 8 – economic performance of three species 2008 -2010
- Figure 9 – Performance indicators for three species 2008 -2010
- Figure 10 – Offshore and Coastal fleets – Percentage of yearly earnings contributed to by species
- Figure 11 – Irish fleet composition
- Figure 12 – Graphical representation of the Irish fishing fleet register.
- Figure 13 – Evolution of (wild) Salmon fisheries management
- Figure 14 - FLAGS- Functions, Objectives and Composition
- Figure 15 – National map of Axis 4 Fisheries Local Area Groups (FLAGS)
- Figure 16 – Size distribution of companies in the fish processing industry
- Figure 17 – Fish processing operating costs (2009)
- Figure 18 – Current state of the national seafood industry
- Figure 19 - Sea bass stock areas.
- Figure 20 – The BIM Seaweed Hatchery project
- Figure 21 – Denmark's fisheries and the Marine Stewardship Council (The blue label) – an ambitious example of aiming to meet labelling standards
- Figure 22 – EMFF programme development (overview)

Acronyms

AA	:	Appropriate Assessment
BIM	:	Bord Iascaigh Mhara
CF	:	Cohesion Fund
Cion	:	The European Commisison
CFP	:	Common Fisheries Policy
CPR	:	Common Provisions Regulation
CSF	:	Common Strategic Framework of the EU
CSO	:	Central Statistics Office
DAFM	:	Department of Agriculture, Food and the Marine
DAHG	:	Department of Arts, Heritage and the Gaeltacht
DARD	:	Department of Agriculture and Rural Development [NI]
DCELG	:	Department of Community, Environment and Local Government
DCENR	:	Department of Communications, Energy and Natural Resources
DEFRA	:	Department of Environment, Food and Rural Affairs [UK]
DIF	:	Donegal Islands Fishermen
DPER	:	Department of Public Expenditure and Reform
EAFRD	:	European Agriculture Fund for Rural Development
EBIT	:	Earning Before Interest and Taxation
ECJ	:	European Court of Justice
ED	:	Electoral District
EFF	:	European Fisheries Fund
EIA	:	Environmental Impact Assessment
EMFF	:	European Maritime and Fisheries Fund

ERDF	:	European Regional Development Fund
ERS	:	Electronic logbook Recording System
ESF	:	European Social Fund
EU	:	European Union
FIF	:	Federation of Irish Fishermen
FLAG	:	Fisheries Local Action Group
FMN	:	Fisheries Management Notice
FQA	:	Fixed Quota Allocation
FTE	:	Full Time Employment
GDP	:	Gross Domestic Product
GVA	:	Gross Value Added
ICES	:	International Council for the Exploration of the Sea
ICZMS	:	Integrated Coastal Zone Management Strategy
IFCA	:	Inshore Fisheries and Conservation Authorities [UK]
IFG	:	Inshore Fisheries Groups [Scotland]
IFI	:	Irish Fishermen's Organisation
IFPO	:	Irish Fish Producers' Organisation
IWDG	:	Irish Whale and Dolphin Group
JSCF	:	The Oireachtas Joint Sub-Committee on Fisheries
JRC	:	Joint Research Centre
LOA	:	Length Overall
MCG	:	Inter-Departmental Marine Co-ordination Group
MMO	:	Marine Management Organisation [UK]

MS	:	Member State [of the EU]
MSF	:	Mixed Stock Fisheries
MSFD	:	Marine Strategy Framework Directive [EU]
NDPB	:	Non-Departmental Public Body [UK]
NGO	:	Non-Governmental Organisation
NIB	:	National Implementation Board [FLAGs oversight]
NIEA	:	Northern Ireland Environment Agency
NPWS	:	National Parks and Wildlife Service
NUFTA	:	New Under Ten Fishermen's Association [UK]
NUIG	:	National University of Ireland Galway
NUTS	:	Nomenclature of Territorial Units for Statistics
L&RS	:	Oireachtas Library & Research Service
PA	:	Partnership Agreements
PfG	:	Programme for Government
RIA	:	Regulatory Impact Analysis
SAC	:	Special Area of Conservation
SEMRU	:	Socio-Economic Marine Research Unit
SFPA	:	Sea Fisheries Protection Authority
SPA	:	Special Protection Area
TAC	:	Total Allowable Catch
TFC	:	Transferrable Fishing Concessions
TO	:	Thematic Objectives
UKAFPO	:	UK Association of Fish Producer Organisations
UNFAO	:	UN Food and Agriculture Organisation

USP : Unique Selling Point
VMS : Vessel Monitoring System

Chairman's Foreword



Following its establishment in June 2012, issues of common concern in relation to the fishing sector and the socio-economic challenge facing rural and island communities but especially for the fishing community were identified by the Joint Committee on Agriculture, Food and the Marine as meriting detailed consideration.

It was considered vital to establish a sub-Committee on Fisheries to focus solely on examining such matters. It was further considered that, given the policy breath of the proposed focus that it would be appropriate for the sub-Committee to be co-joined with similar sub-Committees established for the purpose by the

separate Joint Committees on Transport and Communications and Environment, Culture and the Gaeltacht.

Against this background, the Joint sub-Committee on Fisheries was established in December 2012. It commenced its detailed work throughout 2013 culminating in this Report entitled *"Promoting Sustainable Rural, Coastal and Island Communities"*.

During this period, the sub-Committee met in public on eight occasions and in private on nine occasions. Engagement with a wide selection of stakeholders and detailed consideration of issues arising from the oral and written submissions received as well as the research work undertaken by the Oireachtas Library and Research Service, all contributed significantly to the development and finalisation of the 29 recommendations contained in this Report.

It is now hoped this Report and its recommendations will be fully considered by the relevant Ministers and officials from the Departments of Agriculture, Food and the Marine, Transport and Communications and Environment, Culture and the Gaeltacht. In this regard, it is suggested that the relevant Departments might consider holding an inshore fishing conference to discuss this Report and any related matters.

The sub-Committee wishes to express its thanks to all those participated in this process and to record the fact that it valued the opportunity to engage with all stakeholders involved, many of whom travelled from different parts of the country and one from outside the country. I would also like to express my appreciation to the Members of the Joint sub-Committee for their commitment to this project throughout and for the ever helpful and efficient support of the Oireachtas Library and Research Services and the Committee Secretariat for their ongoing assistance.

I commend this Report to both Houses of the Oireachtas with a request that the Report be debated in both Houses at an early date.

A handwritten signature in blue ink, reading "Andrew Doyle".

Andrew Doyle T.D.
Chairman

Membership of the Joint* sub-Committee on Fisheries

Deputies: **Andrew Doyle (FG) [Chairman]**

Martin Ferris (SF)

Michael McNamara (Lab)

Thomas Pringle (IND)

Noel Harrington (FG)

Sean Kenny (LAB)

Senators: **Brian Ó Domhnaill (FF)**

Ned O’Sullivan (FF)

Denis Landy (LAB)

**Membership of the Joint sub-Committee is made up of Members from the Joint Committees on Agriculture, Food and the Marine, Transport and Communications and Environment, Culture and the Gaeltacht. This Membership and the work of the sub-Committee was considerably enhanced by the ongoing attendance and contribution of Deputy Éamon Ó Cuív.*

Introduction

Following the establishment of the Joint sub-Committee on Fisheries (hereinafter the “sub-Committee”) on 12 December 2012, its Members decided that its priority focus would be to examine the socio-economic challenges facing rural coastal and island communities.

The identification of this priority came, in part, from sections of the fishing community who had earned their livelihood from mixed stock salmon fishing (using drift nets) off the coast of *Árainn Mhór*¹ in the Donegal Gaeltacht who felt that no alternative had been provided for them following the ban on this form of fishing.²

However, as a result of the sub-Committee’s initial private discussions, it was judged appropriate to widen the scope of their examination of this policy area. The basis for that decision was the sub-Committee’s desire to examine all the industries which may have an impact on these rural coastal and island communities and their awareness of and appreciation of the importance of the targets and policy approaches set out in *Harnessing Our Ocean Wealth*.³ Accordingly, the sub-Committee invited a selection of stakeholders to discuss a broad but inter-related range of relevant issues with them.

The members of the sub-Committee commissioned the Oireachtas Library & Research Service (L&RS) to draft a discussion paper to assist it in its deliberations with stakeholders and in the formulation of their recommendations. Dr Stephen Hynes, who appeared before the sub-Committee and is Head of the Socio-Economic Marine Research Unit (SEMURU) at the National University of Ireland Galway (NUIG), also advised the L&RS in the drafting of the discussion paper. The sub-Committee wishes to thank the L&RS and in particular Mr Niall Ó Cleirigh, Dr.Hynes and the co-operation which the L&RS got from the research service (SPICe) of the Scottish Parliament | *Pàrlamaid na h-Alba*.

¹ The island of *Árainn Mhór* is situated in the Gaeltacht off the coast of county Donegal and is referred to colloquially, in the English language, as Arranmore. The position under Part 5 of the *Official Languages Act 2003* is that where an Order is made in respect of a Gaeltacht place name, the English version of that place name ceases to have any legal force and effect. Source: website of *An Coimisiún Teanga* available at:

<http://www.logainm.ie/Info.aspx?menuItem=commission&contentTitle=comm.stadas&uiLang=en>

Such an Order is in effect in respect of *Árainn Mhór*. Available online at:

http://www.coimisineir.ie/downloads/An_tOrdu_Logainmneacha_%28Ceantair_Ghaeltachta%29_2004.pdf

² For the background to this decision see the *Report of the Independent Salmon Group Established to Examine the Implications of Alignment with the Scientific Advice for the Commercial Salmon Fishing Sector in 2007 and Beyond: A Report to Minister for State at the Department of Communications, Marine and Natural Resources, John Browne T.D.* (Prof. Tom Collins, Mr John Malone, Mr Padraic White, October 2006) available online at:

<http://eprints.nuim.ie/1127/1/IndependentSalmonGroupreport.pdf>

³ The latest available report by the Department of Agriculture, Food and the Marine in relation to aquaculture and seafood ‘milestones’ is provided in Appendix 1.

The main focus of this Report is on the socio-economic situation of rural coastal and island communities and on the promotion of sustainable industries.

The main industries discussed by the sub-Committee with stakeholders were:

1. Inshore (within the 12 mile national limit) fisheries;
2. Sea angling;
3. Seaweed;
4. Aquaculture; and
5. Tourism (especially marine tourism).

The structure of the Report reflects:

- the submissions of the stakeholders who met with the sub-Committee; and
- the transcripts of the meetings held between the stakeholders and the sub-Committee.

However, it is informed by Government policy statements and by other relevant secondary research sources. The Report therefore addresses the following themes:

- Defining the rural coastal and island communities which the Report is focusing on and sourcing a socio-economic profile of them;
- Describing the existing policy and licensing regimes upon which the industries/services (listed at one to five above) are based;
- Providing key statistics relating to the industries/services (one to five above);
- Summarising other challenges and opportunities facing the relevant communities and stakeholders;
- Confirming which industries/services are the most important to these communities and stakeholders (while renewable energy is one such emerging industry, the sub-Committee felt that this particular industry would possibly merit a specialised examination at some point in the future or by another Committee of the Oireachtas⁴);
- Provide relevant background and comparative information from another EU Member State (the United Kingdom and more specifically Scotland);
- Examining the effectiveness of Government policy in relation to the industries these communities rely upon (particularly inshore fishing); and
- Identifying strategies that could help these communities address unemployment and deprivation.

⁴ Please see online article regarding island communities and the potential economic benefits of the renewable energy industry at: <http://www.cleantechinvestor.com/portal/islands/11018-islands-and-peripheral-communities-at-the-forefront-of-renewable-energy.html>

Effective strategies to ensure the sustainability of these communities are multi-faceted and include measures for creating an environment in which business can thrive.

It should be recognised that each of the industries and their impact upon these communities are complex, many from a scientific and all from a policy analysis viewpoint (incorporating, for example, the EU Maritime policy, the Atlantic strategy, Marine Knowledge 2020, Horizon 2020, the European Marine and Fisheries Fund, Natura 2000, etc.). The policy landscape was also shifting during 2013 (for example, the Common Fisheries Policy (CFP)) was being re-negotiated while the work of the sub-Committee was on-going. In addition, the institutional policy framework within Ireland itself is composed of many different actors including nine Government Departments and Agencies under their aegis.

The scientific background to some of the issues is also complex (mixed stock salmon fishing, for example) and often reflects conflicting standpoints (the potential impact of sea lice levels, as a result of aquaculture, on wild fish stocks in particular).

This Report is quite lengthy. This introduction is followed by a short executive summary which includes all the recommendations made in this Report. The Report thereafter addresses the issues identified by the sub-Committee on a thematic basis sub-sectioned into three as follows - each of which the sub-Committee has made specific recommendations:

- **Section 1 – Rural Coastal and Island Communities: a socio-economic profile** - gives a brief overview of the current reform of the CFP; examines the socio-economic profile of rural coastal and island communities and attempts to define the geographical extent of those communities [Recommendation 1];
- **Section 2 – Existing Policy and Licencing Regimes** - examines all those themes set out in the introduction to this Report but, in the main, gives the background policy and statistics [Recommendations 2-15]; and
- **Section 3 – Developing Strategies for Rural and Island Communities** - examines all the main themes but does so, generally, from a more analytical perspective and identifies what are the most relevant policy and operational questions that need to be addressed now [Recommendations 16-29].

Finally, two of the appendices to this Report include 'stand-alone' papers, which address 'Sea Lice' [**Appendix 5**] and 'Mixed Stock Salmon Fishing' [**Appendix 8**] were prepared by the L&RS to assist the sub-Committee in its general deliberations.

Executive summary

The sub-Committee adopted a holistic approach to the issue of determining how communities in rural coastal and island communities could be supported in a sustainable manner.

Most strategies and industries pertinent to the sustainable future of rural coastal and island communities were examined and a wide cross-section of stakeholders was invited to appear before and make presentations to the sub-Committee.

The potential of industries based on aquaculture, inshore fishing, angling, marine tourism and seaweed were, for example, examined. The sub-Committee wishes to acknowledge that there are other industries, particularly in relation to renewable energy technology, which were not examined that may hold potential in the medium to long term.

The sub-Committee reflected on the fact that the ocean and seas surrounding Ireland are a valuable resource but one which is fragile. There have clearly been instances of over-fishing of certain stocks in the past and the age of globalisation heralds one where fish products are in ever-greater demand. That demand presents great commercial opportunity but must be tempered by a long term-vision that may require prioritising those communities that have the least environmental and fishing impact. It also suggests that enabling communities to develop the aquaculture industry presents a sustainable option for providing fish to the European and global market, if properly managed.

The sub-Committee is of the opinion that in the short to medium term, the two industries which these rural communities are likely to continue to have the most reliance on are inshore fishing (up to 12 nautical miles from the coast) and aquaculture. These industries have areas of mutual interest and cross-over and the development of both has been influenced by the EU's Natura Directives and the State's response to the court judgment arising from those Directives.

The sub-Committee is concerned as to whether sufficient resources are being employed both to comply with the Natura Directives and to process existing aquaculture licence applications (especially those in areas outside of conservation areas). The sub-Committee wishes to see sufficient focus being placed on diversification of aquaculture and to encourage the Government and industry not to focus unduly on one or two species. This may also be

important in the context that aquaculture production is subject to the risks of disease and parasites which may significantly affect output for considerable periods of time.⁵

The sub-Committee also wishes to acknowledge that the priorities of the Department of Agriculture, Food and the Marine [DAFM] have, by necessity (i.e. the ECJ 2007 judgment against Ireland), been focused on the absolute need to achieve full compliance with EU and national legislation in relation to environmental protection. In this context, it is DAFM's position that the creation of long-term employment from aquaculture into the future can only take place if there is full compliance with all such legislation and that Ireland's reputation as a producer of top quality seafood is predicated on the implementation of a sound regulatory system, which has the confidence of the public in general and also of the European Commission (Cion).

The sub-Committee agrees that the development of marine tourism depends upon an integrated strategy providing tourists with comprehensive and accessible 'packages' but that it also depends on capital investment in developing infrastructure that will allow tourists to safely and conveniently access the ocean itself (i.e. sailing, kayaking, etc.). Similarly, with regard to the need for capital investment, the sub-Committee identified legislative impediments to the development of the seaweed industry which should be addressed.

With regard to inshore fisheries, the sub-Committee has some concerns. It would appear that plans advanced to develop the management of inshore fisheries now appear to be "in abeyance". It would also appear that there is a paucity of data, in particular to inshore fisheries in the context of the fishing and circumstances of the under 10 metre LOA category of vessel, the bulk of the fleet. It is clear that it is upon this category that many of the communities, which are the focus of this Report, depend to a significant degree economically, socially, demographically and even culturally on inshore fisheries. In this context, the sub-Committee asks the question as to what degree the Government is in a position to plan for the future of this industry and, by extension, these communities. It appears that there is a very fragmented governance of the maritime sector so the sub-Committee also queries whether other, simpler models should not be examined by the Government.

⁵ For a brief, accessible discussion of the processes involved in and impact of disease on farmed fish populations, for example, see the article entitled 'Long-Term Effects of Disease In Cultured Fish' available online at: <http://informedfarmers.com/long-term-effects-of-disease/>

Finally, with regard to the regulation of the fishing sector, it should be noted that rules and bans are only one way to sustain our fish stocks. If rules and bans are not twinned with innovative ideas/latest technologies, consideration of socio-economic impacts and the provision of accessible high-quality data on fish stocks, then all fishing management initiatives will be destined to fail. To achieve this, the scientific community must work alongside our fishermen to protect our seas and provide for a sustainable fishing community.

Recommendations

Having considered all of the stakeholders views expressed in detailed discussions at eight separate meetings, the sub-Committee has agreed the following recommendations under the following Sections.

Section 1: Rural Coastal and Island Communities: a socio-economic profile

Recommendation 1 (p.31): While the sub-Committee is aware of the importance of fish landings and their economic value, it recommends that Bord Iascaigh Mhara (BIM) and the Central Statistics Office (CSO) collaborate and work together to ensure that data at rural coastal Electoral District (ED) level (i.e. excluding the major urban coastal areas) relating to economic activity is collected and made available, and that the most up to-date sea fishery landing data, including all domestic, aquaculture and visiting fleets, broken down into categories is also made available.

Section 2: Existing Policy and Licencing Regimes

Recommendation 2 (p.37): Notwithstanding the statement in *Harnessing Our Ocean Wealth*, the sub-Committee considers that the current governance arrangements are not the “best working model” and that one Government Department or Agency should have more marine-related activities brought under its aegis – perhaps based on the Scottish model.

Recommendation 3 (p.41): The sub-Committee recommends that the existing Regulatory Impact Assessment (RIA) Guidelines be revised to make specific and detailed reference to the potential socio-economic impacts of developments on rural coastal and island communities and that the Guidelines be amended accordingly. In addition, an inshore coastal management policy should be developed.

Recommendation 4 (p.41): The sub-Committee recommends that BIM should establish certified courses, in conjunction with rural, social/SOLAS schemes and should prioritise enrolment on such courses to the fishing communities.

Recommendation 5 (p.47): The sub-Committee recommends that all aquaculture projects for fin-fish should be licensed on the basis of adhering to the world’s highest environmental

standards and furthermore recommends that structures be put in place to allow as much local ownership as possible in all aquaculture developments.

Recommendation 6 (p.47): The sub-Committee recommends that there is a need for clear statutory financial community gain with regard to any new major aquaculture and marine energy projects.

Recommendation 7 (p.70) The sub-Committee recommends that in the event of an extra mackerel quota being given to Ireland, a more equitable distribution of mackerel should be decided on and that the inshore fishing fleet should be accommodated.

Recommendation 8 (p.71): The sub-Committee recommends that a comprehensive fish counter system should be introduced into all Irish salmon rivers in order to fully enumerate and analyse the salmon stocks returning to Irish rivers.

Recommendation 9 (p.85): The sub-Committee supports initiatives in the small vessel fishing sector that support both compliance and useful data gathering and recommends that such initiatives must aim to impose minimal disruption and cost to fishermen and eliminate unnecessary bureaucracy for smaller vessels. In this respect the sub-Committee calls for increased resources for safety at sea measures.

Recommendation 10 (p.93): The sub-Committee recommends that the Government examines the feasibility of the issuance of 'heritage licences' to rural coastal and island communities. Such licences would, optimally facilitate traditional fishing practices in conjunction with the establishment of a producer organisation representing vessels under a certain LOA (Length Over All) in designated areas.

Recommendation 11 (p.94): The sub-Committee recommends that a more flexible legislative approach to minor fishing infractions be introduced to ensure that they are dealt with in a way that reflects the scale of the infractions i.e. based on the LOA and the potential impact of the vessel concerned on fish stocks.

Recommendation 12 (p.100): The sub-Committee recommends that if salmon stocks are increasing, innovative technologies should be used so that all fishermen including drift fishermen can harvest them in a controlled and managed way that will not endanger stocks. Pilot projects should be initiated and Ireland should lead the way in this area.

Recommendation 13 (p.104): The sub-Committee recommends that the progress of the six designated Fisheries Local Action Groups (FLAGs) should be evaluated on an on-going basis and that significantly increased funding be sought for this programme.

Recommendation 14 (p.111): In light of the recent revisions to the regulations of the Common Fisheries Policy (CFP), the sub-Committee recommends that consideration should be given to exclusive access to vessels under 10 metres LOA within the national 12 mile limit, with the expectation that such a LOA restriction would then apply to all EU vessels.

Recommendation 15 (p.111): The sub-Committee furthermore recommends that the issues of extending the national 12 mile limit considerably should be pursued by Ireland with its European maritime partners with the aim of ensuring the preservation of coastal communities across the European Union.

Section 3: Developing Strategies for Rural and Island Communities

Recommendation 16 (p.145): The sub-Committee has concerns that sufficient management resources are not being devoted to the processing of aquaculture licence applications and renewals. It recommends that applications in respect of non-natura areas and natura areas, where baseline data collection has been completed within the statutory timeframe set out by legislation, should be processed expeditiously.

Recommendation 17 (p.146): In light of the current sea lice control protocols and the necessity to meet the highest international standards, the sub-Committee recommends that the detailed results of the Marine Institute inspections already carried out should be published.

Recommendation 18 (p.148): The sub-Committee recommends that the Government examine whether grants can be provided by agencies to Co-operatives, producer groups and Small and Medium Enterprises (SMEs), operating in rural coastal and island communities based on standard evaluation process, on a multi-annual basis.

Recommendation 19 (p.154): The sub-Committee recommends that other threats to fish stocks (salmon stocks in particular) including municipal pollution, need to be addressed. It further recommends that where the scientific evidence exists that stocks are at a sustainable level (including salmon stocks) that restricted drift net fishing or other suitable method be allowed on a pilot basis. This pilot could be trialled over a period of two years initially on offshore Islands only.

Recommendation 20 (p.158): While recognising that there are a large number of representative fishing organisations based on geographical area, LOA and fishing type, the sub-Committee recommends that all of the fishing organisations should consider a restructuring which would lead to the formation of an inshore fishing organisation to provide a unified voice on a sectoral basis.

Recommendation 21 (p.161): The sub-Committee notes that at the time of writing this Report, there is an on-going consultation process taking place on lobster and shrimp fishery. In light of this, the sub-Committee asks the Department of Agriculture, Food and the Marine to re-examine the case for developing the policy proposals set out in the report *Managing Access to the Irish Lobster Fishery*.

Recommendation 22 (p.167): The sub-Committee recognises the need for island and coastal communities to have access to ocean and the seas in order to exploit the natural resources of the environment they live in and to develop their potential. It therefore recommends that local authorities with responsibility for such island and coastal

communities carry out an audit of essential rural coastal and island fishing access infrastructure suitable for vessels up to 10 metres LOA with a view to utilising all marine infrastructure and usage to its full potential. Based on the results of that audit, a targeted programme of infrastructure provision and / or upgrading should be planned and local authorities should be funded to carry out any necessary feasibility or environmental impact studies to facilitate development of the infrastructure.

Recommendation 23 (p.167) The sub-Committee asks that when the relevant Ministers consider any draft Statutory Instrument that would impact on coastal and rural communities, the sub-Committee should be consulted prior to publication.

Recommendation 24 (p.168): The sub-Committee calls upon Inland Fisheries Ireland (IFI) to work more closely with tourism agencies and to accord a high priority to the integration of sea angling, where relevant, into tourism packages and marketing campaigns.

Recommendation 25 (p.169): The sub-Committee asks the Department of Transport to review whether, following the introduction of further safety initiatives or other relevant measures, the licensing of dual use fishing vessels both for commercial fishing and tourism angling should be considered and their conversion grant-aided.

Recommendation 26 (p.171): Having considered the role of *Comhairle na Tuaithe*, the sub-Committee recommends that a similar ‘umbrella’ organisation in respect of the coastal/estuary/inshore/island environment and marine leisure be established (perhaps entitled *Comhairle na Mara*), and that this organisation would bring together the relevant Government Department, statutory voluntary agencies, non-Governmental Organisations (NGOs) and other interests, led by the relevant Minister, to explore how best they could co-ordinate their activities in order to make the greatest socio-economic impact on behalf of island and coastal communities.

Recommendation 27 (p.178): The sub-Committee recommends that the Government urgently address data gaps in relation to the small-scale fishing industry and the socio-economic status of rural coastal and island communities. These data gaps should be filled if a “thorough analysis of the needs of the geographical areas” (to be assisted under the European Maritime and Fisheries Fund (EMFF)) are to be identified and addressed.

Recommendation 28 (p.181): In light of the fact that under the existing social welfare laws, share fishermen are considered self-employed, and due to the low take-up of the voluntary Class P PRSI contributions, the sub-Committee recommends that a re-examination of access to job seekers benefit, illness benefit and other social welfare benefits for such fishermen should be undertaken.

Recommendation 29 (p.182): The sub-Committee recommends that the Departments of Agriculture, Food and the Marine (DAFM) and of Environment, Community and Local Government (DECLG) resolve the regulatory licensing issues that pose an impediment to the development of the seaweed industry and that the research being carried out should be utilised in the introduction of a sustainable management plan.

Section 1: Reform of the Common Fisheries Policy (CFP)

It is not intended that this Report would go into detail concerning the on-going negotiations to reform the CFP. However, while the focus of this Report includes smaller vessels which are generally outside the system of Total Allowable Catches (TACs) and quotas⁶ because they fish within the national 12 mile zone it is worth listing the headline Cion proposals for the reform of the CFP as many of them will impact on all communities involved in fishing and aquaculture (the two primary industries examined by the sub-Committee on Fisheries):

- Take action against over-fishing and in favour of the sustainable management of fish;
- Ensure productivity of fish stocks to maximise long-term yield;
- Multi-annual plans governed by ecosystem approach;
- Simplified rules and decentralised management;
- System of transferable fishing concessions (not applying to vessels under 12 metres in length);
- Measures beneficial to small-scale fisheries;
- Ban on discards;
- New marketing standards and clearer labelling;
- Better framework for aquaculture;
- EU financial assistance to support sustainability objectives;
- Up-to-date information on state of marine resources; and
- International responsibility.

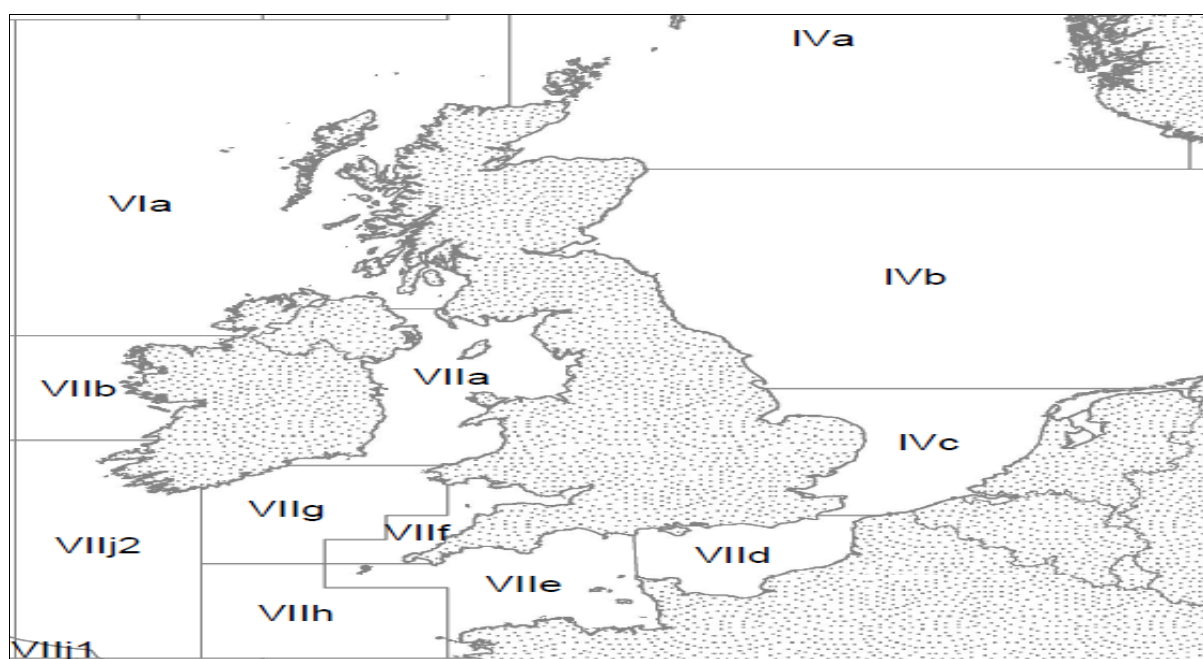
⁶ See European Commission website giving details of TACs and quotas available online at: http://ec.europa.eu/fisheries/cfp/fishing_rules/tacs/

1. Rural coastal and island communities: a socio-economic profile

1.1 Background⁷

The seas around Ireland (ICES sub-areas VII and VI)⁸ contain some of the most productive and biologically sensitive areas in EU waters. Most of the fisheries stocks within these areas come within the remit of the Common Fisheries Policy (CFP).

Figure 1 – Map of ICES areas (North-Western Europe)



1.1.1. Ireland – overall quota situation

The EU Fisheries Council agreed TACs and quotas for 2013 on 20 December 2012. The negotiations secured some 36,538 tonnes of whitefish and 180,000 of pelagic (mackerel,

⁷ The statistics in this section are based on the Annual Review & Outlook for Agriculture, Food and the Marine (2012/2013, pp.113-123). Available online at:

<http://www.agriculture.gov.ie/media/migration/publications/2013/ARODocumentFinalPDF2013050613.pdf>

⁸ Map available from the ICES spatial facility – available online at: <http://geo.ices.dk/>. The International Council for the Exploration of the Sea (ICES) is an intergovernmental organization whose main objective is to increase the scientific knowledge of the marine environment and its living resources and to use this knowledge to provide advice to competent authorities. The main ICES deliverables are scientific publications, and scientific information and management advice requested by member countries and also international organizations and commissions such as the North East Atlantic Fisheries Commission (NEAFC), the North Atlantic Salmon Conservation Organization (NASCO) and the European Commission (EC).

herring, etc.) quotas. The direct value of the total package for the Irish fishing fleet is €213 million for 2013.

The 2011 fishing opportunities (i.e. TACs) for the international fleets that operate in the waters around Ireland were 937,924 tonnes of fish, with an estimated landed value of €1.04 billion. Ireland's share of these fishing opportunities represented 21% by tonnage and 17% by value.⁹

1.1.2 Ireland – inshore fisheries

However, Ireland also possesses valuable inshore fisheries,¹⁰ particularly shellfish such as lobster, crab, whelk and scallop. These inshore fisheries represent a very important resource base for the coastal communities around Ireland and from the perspective of this Report it is these inshore fisheries which are of most interest. As *Bord Iascaigh Mhara* (BIM)¹¹ pointed out to the sub-Committee on Fisheries a positive factor is that many of the high value species are not species to which a TAC applies (for example, lobster and crayfish).

1.1.3 The market for Seafood

With regard to seafood and from a European Union (EU) perspective, the issue of supply is already described as acute. Current market demand in Europe is of the order of 12 million tonnes per annum, valued at approximately €60 billion. The amount of seafood produced within the EU, to meet local market demand, has declined substantially over the last two decades. In the 1990's, imports accounted for approximately 40% of demand, whereas today that figure is closer to 65% and shows no sign of falling.

The reform of the CFP, currently underway, is of critical importance to the future of the sector for the next decade, particularly with respect to access to resources for the Irish industry. Geographically, the fisheries industry is predominantly concentrated on the western seaboard and the harbour towns of the southern and eastern coastline. In terms of the fish catching sector, fish and shellfish are landed at six major fishery harbour centres (Killybegs, Castletownbere, Howth, *Ros a Mhíl*, Dunmore East and *Daingean Uí Chúis* | Dingle), at forty secondary ports and a further eighty piers and landing places where fish landings are recorded.

⁹ Annual Review & Outlook for Agriculture, Food and the Marine (2011/2012).

¹⁰ However, it should be noted that where a TAC applies to a species, the 'outtake' of that species whether it occurs inshore or offshore is irrelevant, i.e. all outtakes must be deducted from the national TAC.

¹¹ Mr Andrew Kineen of BIM speaking to the sub-Committee on 30th April 2013

The main industry stakeholders are the primary production sectors of fish catching and aquaculture, the primary and secondary processing sectors, the marketing sectors and ancillary industries such as net making, vessel repair, transport, and a number of other services.

BIM has identified a number of key challenges to be overcome if the potential inherent in the Irish seafood sector is to be realised. These include:

- Recessionary effects – reduced prices for seafood, difficulties in obtaining working capital, increasing interest rates;
- Access to the resource – a stronger emphasis on environmental protection and conservation;
- Lack of scale and inefficient logistics chain;
- The growth of low cost imports from countries operating from significantly lower cost bases and a lack of differentiation of Irish seafood; and
- Changing consumer preferences – a premium on convenience, versatility and price.

1.2 A case in point - County Donegal

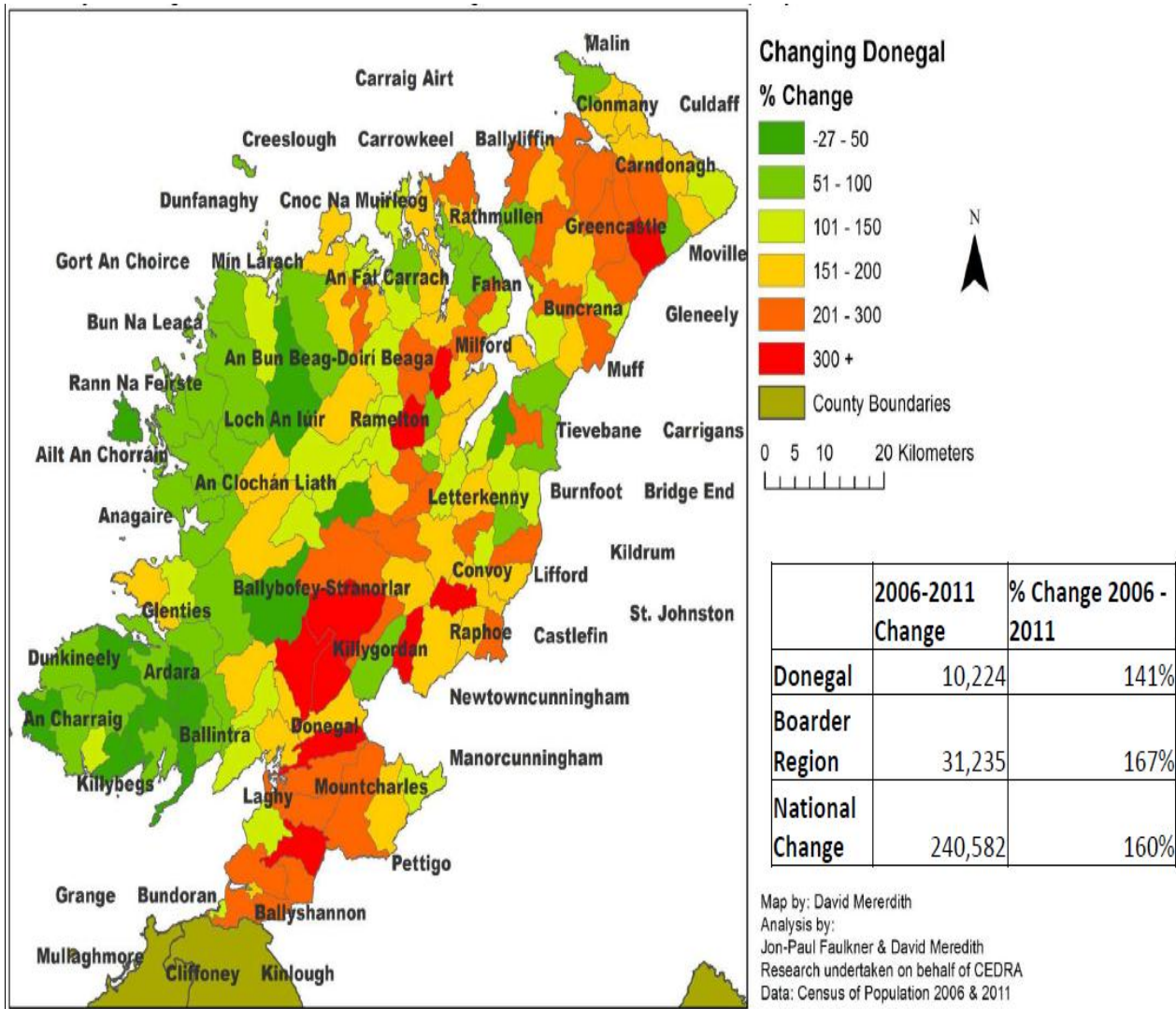
The scale of the socio-economic challenge facing many island and rural coastal communities was encapsulated by the Donegal islands Fishermen (DIF) in their presentation to the sub-Committee on Fisheries when they pointed out that:

“Arranmore [*Árainn Mhór*] island is classed by the CSO [Central Statistics Office] as extremely disadvantaged, being ranked one out of 483 on its relative deprivation score, with one being the most disadvantaged.”

The following maps illustrate the socio-economic situation in county Donegal.¹²

¹² This county has been detailed in this paper for three reasons; it is a largely rural county located on the north-western seaboard and therefore one which illustrates the challenges being addressed by the sub-Committee; statistics were to a substantial degree available and mapped for this county; community representatives from this county (the island of *Árainn Mhór*) appeared before the sub-Committee.

Figure 2 – County Donegal: Percentage change in no. of unemployed 2006-2011

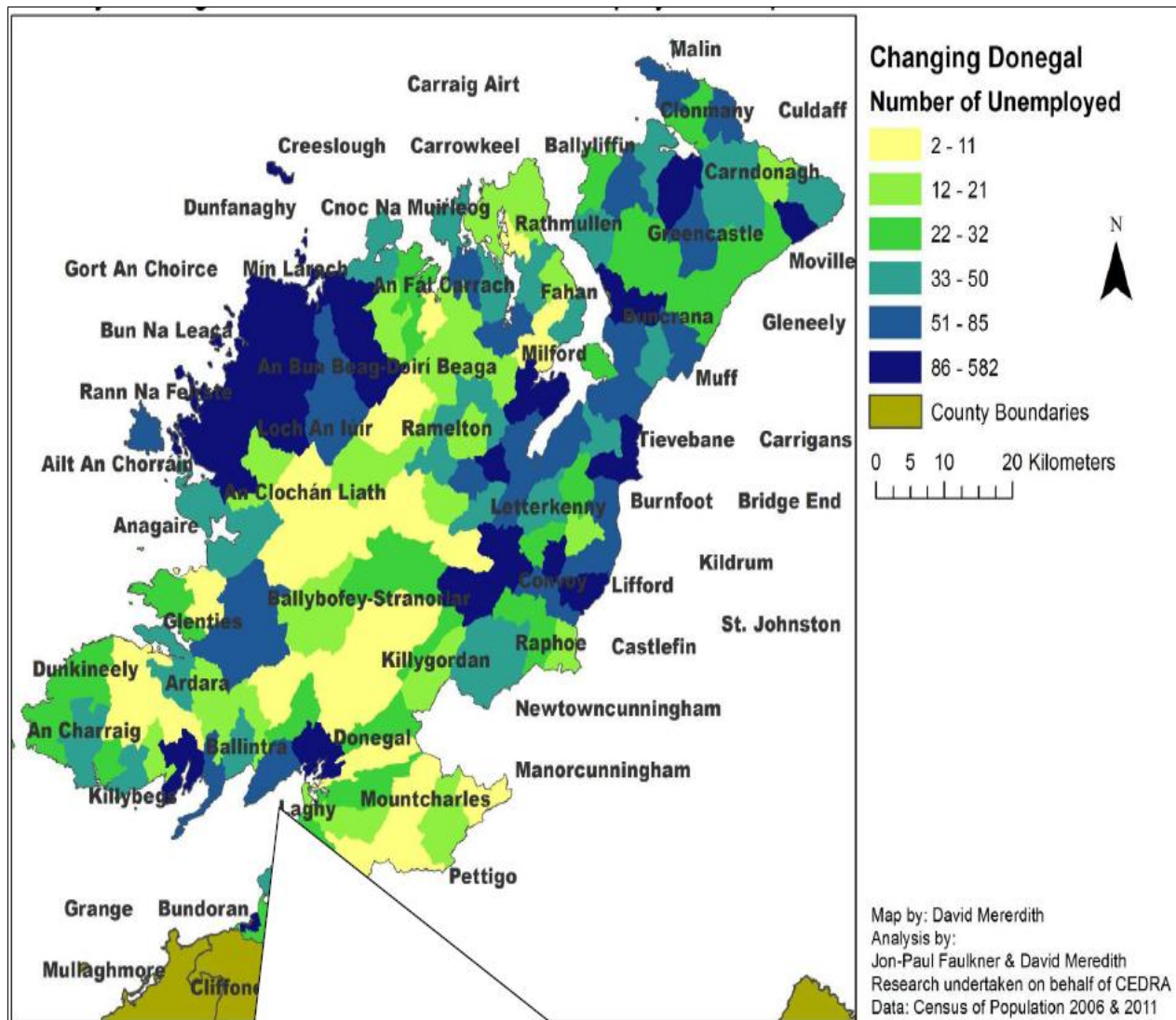


Source: *Impact of the Recession on Co. Donegal*, Commission for the Economic Development of Rural Areas (CEDRA) (n.d.)

Available online at: http://www.ruralireland.ie/images/Docs_Folder/CEDRA%20DonegalIIb.pdf

As the research for CEDRA (n.d.) also points out and, as illustrated by the following map, part of the explanation for the relatively lower percentage increase in unemployment between 2006 and 2011 may be that the number of unemployed persons was **already** high along the coast, especially in those areas coterminous with the Gaeltacht (including *Árainn Mhór*) and on the border with Northern Ireland.

Figure 3 – County Donegal: Distribution of unemployed, 2006



Source: See Figure 2

1.3 The challenges

1.3.1 The 2011 Pobal HP Deprivation Index for Small Areas – Overview¹³

The 2011 Pobal HP Deprivation Index (“the Index”) is the latest in a series of deprivation indices developed by Trutz Haase and Jonathan Pratschke and funded by Pobal.

Based on the data from the 2011 Census of Population, the index shows the level of overall affluence and deprivation at the level of 18,488 Small Areas in 2006 and 2011, using identical measurement scales.

In overall terms, the index reveals the decline in relative affluence and deprivation, represented in the fall of the mean index score from 0 in 2006 to -7.0 in 2011.

The HP Deprivation Index illustrates how the economic downturn has affected different parts of the country. In contrast to the 1991 to 2006 period, the previous growth areas, particularly those located at the outer periphery of the Greater Dublin Region have seen their fortunes most strongly reversed, whilst the five city areas have withstood the economic downturn comparatively well.

1.3.1.1 The usefulness of the HP Deprivation Index

A significant challenge for the sub-Committee on Fisheries in examining this area is to clarify the situation of the rural coastal and island communities they are focusing.

To that end the HP Deprivation Index is very useful as it maps the situation at a Small Area¹⁴ level and does so using a wide range of relevant variables.

The value of the Index was acknowledged recently by the Minister for Finance when describing the preparations for the introduction of the Property Tax.¹⁵

¹³ <https://www.pobal.ie/Publications/Documents/Small%20Area%20Overview.pdf>

¹⁴ Small Areas are areas of population comprising between 50 and 200 dwellings created by The National Institute of Regional and Spatial Analysis (NIRSA) on behalf of the Ordnance Survey Ireland (OSi) in consultation with CSO. Small Areas were designed as the lowest level of geography for the compilation of statistics in line with data protection and generally comprise either complete or part of townlands or neighbourhoods. There is a constraint on Small Areas that they must nest within Electoral Division boundaries. Source: CSO available online at: <http://www.cso.ie/en/census/census2011boundaryfiles/>

¹⁵ Dáil debate of the 16th of January 2013 available online at: <http://oireachtasdebates.oireachtas.ie/Debates%20Authoring/DebatesWebPack.nsf/takes/dail2013011600036?opendocument>

“A range of data sources is being analysed to assist in providing this valuation guidance... Revenue is also geographically linking its data with publicly available sources such as the CSO's 2011 census results at small area level and the 2011 Pobal HP Deprivation Index.”

The authors of the Index state that:¹⁶

“There is a growing body of work which uses the Pobal HP Deprivation Index in a statistical and econometric modelling environment. Without exception, these studies have produced encouraging results and confirm the superior predictive and explanatory power of the index.”

Most deprivation indices are based on a factor analytical approach which reduces a larger number of indicator variables to a smaller number of underlying dimensions or factors.

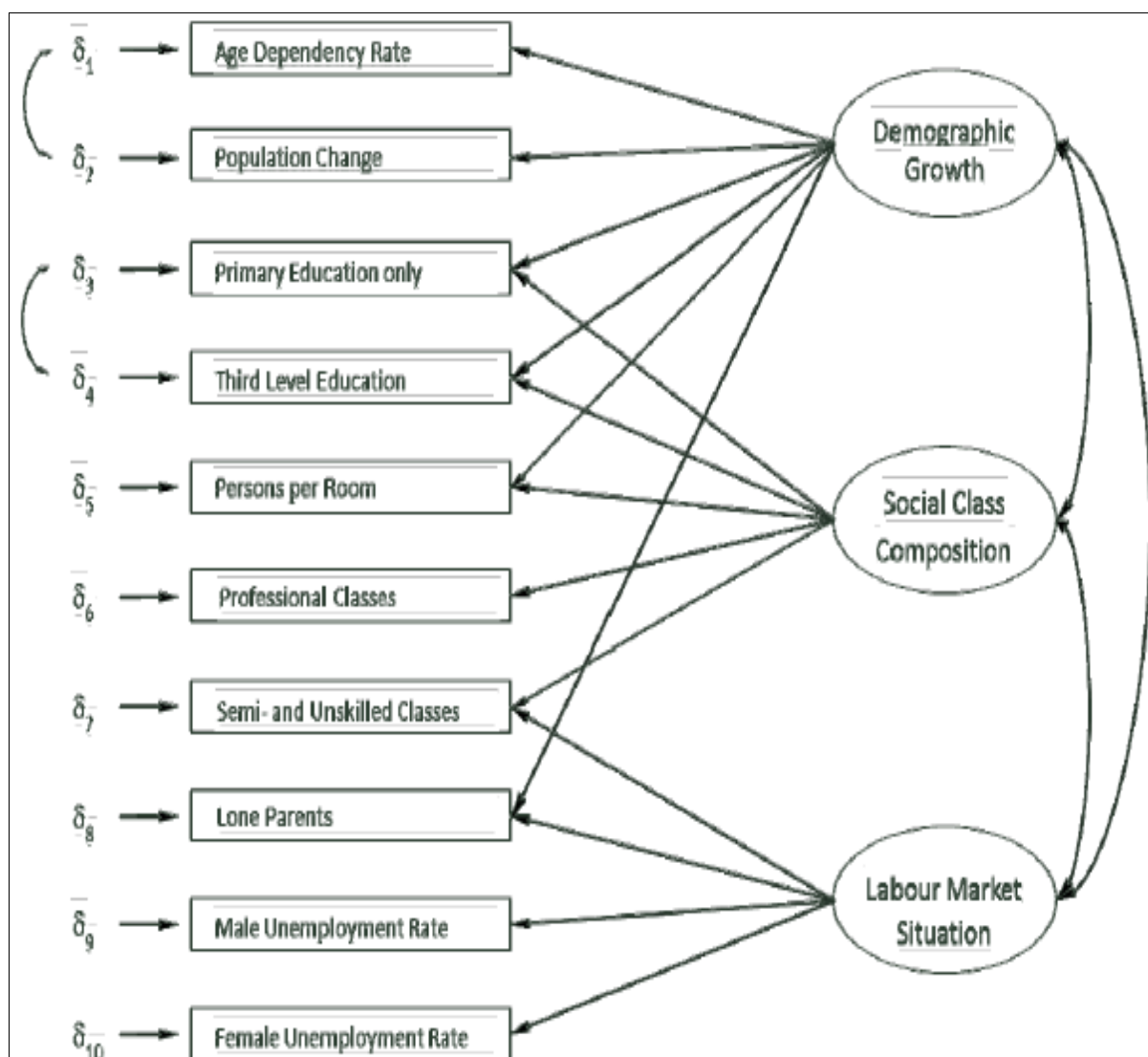
This approach is taken a step further in this Index. Rather than allowing the definition of the underlying dimensions of deprivation to be determined by data-driven techniques, the authors have developed a prior conceptualisation of these dimensions. Based on earlier deprivation indices for Ireland, as well as analyses from other countries, three dimensions of affluence/disadvantage are identified:

- Demographic Profile;
- Social Class Composition; and
- Labour Market Situation.

A diagrammatic representation of the model used in developing the Index is given in figure 4.

¹⁶ See website at: <http://trutzhaase.eu/deprivation-index/overview/>

Figure 4 – Basic model of the Pobal HP deprivation index



Source: The 2011 Pobal HP Deprivation Index for Small Areas (SA) - Introduction and Reference Tables (2012, p.3). Available online at: <https://www.pobal.ie/Publications/Documents/Introduction%20and%20Reference%20Tables.pdf>

1.3.1.2 What is the difference between the Absolute and Relative Index scores?

The **Absolute Index Scores** measure the actual affluence/deprivation of each area on a *single fixed scale* which, for 2006, has a mean of zero and standard deviation of ten. As the economy has entered into a prolonged and severe recession over the past five years, the Absolute Index Scores for most SAs have decreased significantly. Because affluence/deprivation is measured on a fixed scale, it is possible to use the Absolute Index Scores to quantify these changes across successive waves of data. However, if we are

interested in targeting resources towards disadvantaged areas, the relative position of each area at a specific point in time is of greater importance. This is represented by the **Relative Index Scores**, which have been rescaled so as to have a mean of zero and standard deviation of ten *at each census wave*. Thus, for the development of the latest round of social inclusion plans, the appropriate deprivation measure to use is the **2011 Relative Index Score**. It shows the position of any given Small Area *relative to all other Small Areas in 2011*.

1.3.1.3 How should the HP Index Scores be interpreted?¹⁷

Between 2006 and 2011, the curve of deprivation scores has shifted towards the negative end of the spectrum by 7 points, and reflects the dramatic downturn experienced by the Irish economy over this period. The distributions follow a bell-shaped curve, with most areas clustered around the mean and fewer areas exhibiting extreme levels of affluence or deprivation. It should be noted that the Absolute Index Score for a Small Area may change over time even where its position relative to other areas remains unchanged.

When making comparisons over time, the appropriate scores to use are the Absolute Index Scores.

When making a statement about a particular Small Area or a Small Area at a particular point in time (e.g. in 2011) the appropriate score to use is the Relative Index Score.

The Relative Index Scores are rescaled to have a mean of zero and a standard deviation of ten at each census wave. The labels used for each range of standard deviations are as shown in the following table:

¹⁷ Source: The 2011 Pobal HP Deprivation Index for Small Areas (SA) Introduction and Reference Tables (August 2012) available online at:
<https://www.pobal.ie/Publications/Documents/Introduction%20and%20Reference%20Tables.pdf>

Table 1 – HP Deprivation Index - Distribution and Labels of Relative Index Scores (2011)

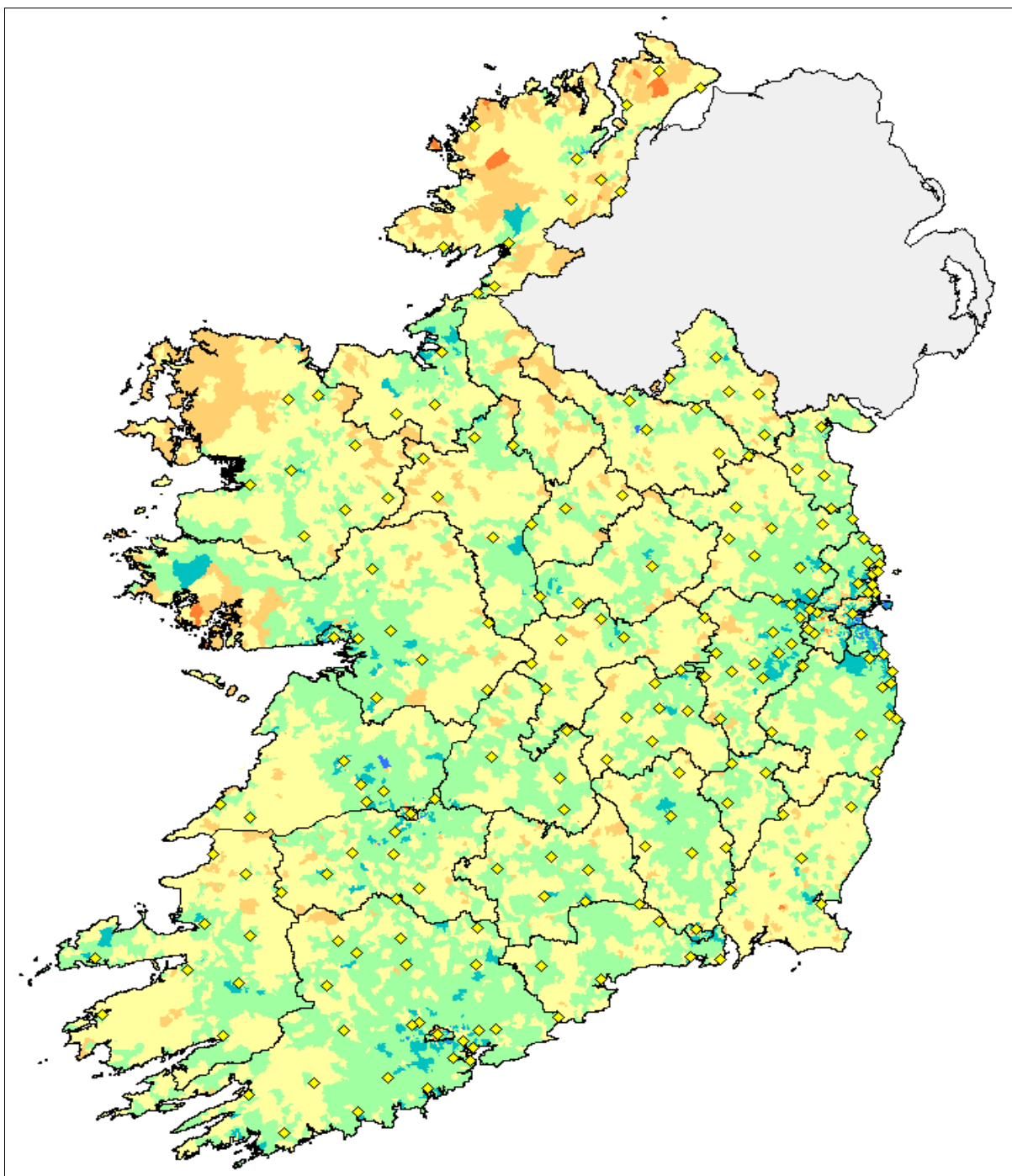
Relative Index Score	Standard Deviation	Label	Colour Scheme in Maps	Number of SAs in 2011	Percentage of SAs in 2011
over 30	> 3	extremely affluent	dark blue	30	0.2
20 to 30	2 to 3	very affluent	medium blue	472	2.6
10 to 20	1 to 2	affluent	medium green	2,411	13.0
0 to 10	0 to 1	marginally above average	light green	6,234	33.7
0 to -10	0 to -1	marginally below average	light yellow	6,483	35.1
-10 to -20	-1 to -2	disadvantaged	medium yellow	2408	13.0
-20 to -30	-2 to -3	very disadvantaged	orange	448	2.4
below -30	< -3	extremely disadvantaged	red	2	0.0
Total				18,488	100.0

The results of the Relative Index Scores have been mapped nationally and can be easily referred to using the colour scheme set out in the following figure:

Table 2 – HP deprivation Index Relative Index Score 2011 map colour scheme



Figure 5 – HP Deprivation Index National Relative index score - 2011



1.4 Socio-linguistic and Geographical boundaries of the communities

To define these communities requires noting that they are constituted of various socio-linguistic and geographical components:

1. The inhabited Islands:

- which are within the Gaeltacht such as *Inis Mór, Inis Meáin, Inis Oírr, Tóraigh, Árann Mhór, and Oileán Chléire*; and
- which are outside the Gaeltacht (i.e. within the Gaeltacht¹⁸) such as Bere island, Inishturk, Inish Bigil and Inisbofin.

The population of all of the inhabited islands within both the Gaeltacht and the Gaeltacht is approximately 3,000.¹⁹ However, about three quarters of that population lives on Gaeltacht islands.

2. Rural and coastal:

- Most of the coastline which lies within the Gaeltacht –with the exception of *Daingean Uí Chúis* | Dingle and suburbs of Galway city such as *Bearna*. This coastline amounts to approximately 2,500 km being approximately 25% of the total coastline of Ireland.
- The coastline which lies outside of the Gaeltacht excluding the cities, and towns such as Killybegs.

1.5 Data – difficulties

One of the academic experts who appeared before the sub-Committee on Fisheries was Dr Stephen Hynes of the Socio-Economic Marine Research Unit (SEMRU) which is based in the National University of Ireland Galway (NUIG). SEMRU has carried out a considerable amount of research on the socio-economic profiling of coastal communities.²⁰

¹⁸ 'Gaeltacht' meaning English-speaking districts.

¹⁹ Foinse: Comhdháil Oileáin na hÉireann ar fáil ag: <http://www.oileain.ie/coe/ga/TheIslands/AboutIslands>

Source: Irish Islands Federation available at: <http://www.oileain.ie/coe/en.php/TheIslands/AboutIslands>

²⁰ See the SEMRU website at <http://www.nuigalway.ie/semru/>

Dr Hynes provided the sub-Committee on Fisheries with a useful table giving an overview of what data is available and at which spatial level.

Table 3 - Social Assessment (Coastal economy)

Data Type	Data Source	Shoreline ED	Coastal County	EU Coast (NUT3)
Population/Ages/Marital Status/Gender	Census of Population	✓	✓	✓
Education / Housing Statistics	Census of Population	✓	✓	✓
Affluence Index Score	Haase & Pratschke (2008)	✓	✓	✓
Economic Status/ Occupations	Census of Population	✓	✓	✓
(Un)employment Rates/Industries	Census of Population	✓	✓	✓
GDP/GVA by sector	CSO Data			✓
HH Income/Wages and Salaries	CSO Data		✓	✓
Sea Fish Landings by Port	CSO Data	✓	✓	✓
Farm Holdings/Livestock Density	Census of Agriculture	✓	✓	✓
Farm size/Farm Type/Crops	Census of Agriculture	✓	✓	✓
Family Farm Income/Gross Margin	NFS/SMILE Model	✓	✓	✓
Maritime Transport of Goods and Passengers	Eurostat			✓
Hotels, Guest Houses and B&B (Statistics on Rooms and Bed numbers)	Faillte Ireland		✓	✓
Accommodation Figures	An Post Geo Directory	✓	✓	✓

For the purposes of the sub-Committee on Fisheries examination of policy, data at Electoral district (ED)²¹ level is clearly the appropriate one if distinctions are to be made within counties between urban and rural areas, islands etc. However, while considerable information is available from the Census with regard to levels of unemployment and population-related statistics and can be ‘drilled down’ to county or ED level the same is not true with regard to economic activity data.

Dr.Hynes gave an overview of the data context and difficulties in examining the profile of these communities:

²¹ There are 3,440 Electoral Divisions (EDs) which are the smallest legally defined administrative areas in the State.

- The coastal definition used by Eurostat is at NUTS3 level and the spatial units are too large to be of use . However, it is at NUTS3 level that GDP data is available (see Appendix 3).
- Indicative income per capita is available at coastal county level;
- SEMRU have made rough estimates of the economic activity at coastal county and shoreline ED level based on the share of the population in these areas as a percentage of the county or at the NUTS3 level.

1.6 SEMRU data on rural v urban statistics

Subsequent to his appearance before the sub-Committee on Fisheries Dr.Hynes was in a position to provide some new data to the L&RS which captures the differences between different categories of shoreline electoral districts.

Table 4 - Rural versus urban coastal communities statistics based on the 2011 small area population census figures (CSO)	Shoreline ED	Shoreline ED	Shoreline	National
		Rural	Urban	Average
Male Unemployment Rate (%)	22.47	23.47	19.90	21.71
Females Unemployment Rate (%)	14.28	14.44	13.89	13.86
Male Unemployment Rate (% change 2006 to 2011)	119.12	125.37	103.51	130.00
Females Unemployment Rate (% change 2006 to 2011)	200.12	225.95	133.79	266.67
% Primary Education Only	114.75	121.72	97.35	125.95
% 3rd Level Education	18.73	20.84	13.31	18.84
% Higher & Lower Professionals	29.77	26.22	38.87	25.88
Semi and unskilled Manual Workers	17.94	19.07	15.04	18.26
Population Change (% change 2006 to 2011)	6.29	6.99	4.49	7.79
Age Depending Ratio	35.05	36.13	32.28	34.94
Lone Parent Ratio	17.73	15.47	23.52	16.28
Affluence index score	-0.59	-2.21	3.57	-1.46
Affluence index score (% change 2006 to 2011)	0.75	0.45	1.54	-0.11
Number of EDs	638	459	179	3406

Source: Provided by SEMRU to the L&RS on the 17th of July 2013

1.7 Summary

This section has provided data based on different sources. It has attempted to illustrate the situation of rural coastal and island communities by way of available maps and tables.

However, Dr Hynes of SEMRU answering a question from one of the Members of the sub-Committee on Fisheries also summed up the general situation as follows:²²

“From what we have seen of the census at electoral district, ED, level along the shoreline, the decline in rural coastal populations has been no more dramatic than the average nationally. However, they have a higher rate of male unemployment than the national average or even urban coastal areas. They also have a higher age dependency ratio.”

Dr.Hynes’ point was that decline between the 2006 and 2011 censuses has not been particularly marked but that, of course, these communities have experienced high levels of deprivation and emigration over a long period of time and that one ‘snapshot’ between the most recent censuses does not convey that point.

However, the HP Index does clearly show that communities on the islands and in rural coastal areas score highly for deprivation. The concentration of high-scoring areas in counties Galway, Mayo and Donegal and of Gaeltacht areas within those counties is also noticeable. Parts of counties Kerry, Clare, Cork, Waterford and Wexford also score relatively high for deprivation.

Finally, it is worth noting that, while this Report and the work of the sub-Committee on Fisheries focuses specifically on the more isolated and rural coastal communities and island communities, the regional ports may also play a role in providing employment to some of those communities. As BIM pointed out to the sub-Committee on Fisheries during their appearance on 30th April, 81% of the employment in Castletownbere²³ is related to fishing as is 69% of employment in Killybegs.

In the specific geographic context of Castletownbere, the introduction to the economic survey of the town also notes that the town is a hub and a gateway to the Beara peninsula as a whole:²⁴

“Castletownbere is the primary urban, economic and social centre on the remote Beara Peninsula in South West Ireland. It remains the largest whitefish port in Ireland...Pelagic landings...are also important for the local Irish fleet. The town is also a tourist hub for visitors to the Beara Peninsula, which is a rugged and relatively undeveloped stretch of coastline and hinterland that is popular with walkers.”

²² Appearance before the sub-Committee on 25th April 2013

²³ See BIM publication entitled *Castletownbere: An Economic Survey to Determine the Level of Seafood Activity and Establish its Economic Importance for the Region* available online at:
http://www.bim.ie/media/bim/content/publications/Economic%20Survey%20to%20Determine%20the%20Importance%20of%20Seafood%20Activity%20for%20Castletownbere%20Region_April2012.pdf

²⁴ Ibid (n.d., p.vii)

The BIM (2010, p.11) economic survey of Killybegs makes a similar point and sets the port in the context of several of the surrounding EDs:²⁵

“Killybegs occupies the entrance to the scenic area of Glencolmcille [*Gleann Cholm Cille*], Kilcar [*Cill Chárthaigh*] and Carrick [*An Charraig*], which includes the spectacular Slieve League/*Sliabh Liag* Sea Cliffs which rise 600 m above the Atlantic Ocean. The Killybegs District Electoral Division (DED) has a population of around 2,250, while the surrounding four DEDs, from which much fisheries-sector employment is also drawn, accounts for an additional 1,700 people. These five DEDs cover an area of around 30 km².”

Recommendation 1: While the sub-Committee is aware of the importance of fish landings and their economic value, it recommends that the BIM and Central Statistics Office (CSO) collaborate and work together to ensure that data at rural coastal Electoral District (ED) level (i.e. excluding the major urban coastal areas) relating to economic activity is collected and made available, excluding the major urban coastal areas and that the most up to-date sea fishery landing data, including all domestic, aquaculture and visiting fleets, broken down into categories is also made available.

²⁵ *Killybegs: Assessment of the status, development and diversification of fisheries-dependent communities.*
Publication available online at: http://www.bim.ie/media/bim/BIM_Killybegs_Case_Study_Report_July_2010.pdf

Section 2: Existing Policy and Licencing Regimes

This section will also provide key statistics relating to industries/services.

2.1 Governance arrangements in the Marine sector

2.1.1 Ireland

Responsibility for marine matters is spread across a number of Government Departments and Agencies. The broad scope of the marine sector and the need for better co-ordination was previously acknowledged by Government and the selected mechanism for greater co-ordination and integration has been the Inter-Departmental Marine Coordination Group (MCG). This Group, established in 2009, is chaired by the Minister for Agriculture, Food and the Marine and convened by the Department of the Taoiseach. The Group meets monthly, bringing together representatives of Departments with an involvement in maritime/marine issues to discuss/coordinate issues that require inter-departmental action (see Table 5).

Table 5 - Marine Co-ordination Group (MCG)

The Inter-Departmental Marine Coordination Group, established in 2009, is chaired by the Minister for Agriculture Food and the Marine and convened by the Department of the Taoiseach. The Group meets monthly, bringing together representatives of departments with an involvement in maritime/marine issues to discuss/coordinate issues that require inter-departmental action.	
Members of the Group are at Assistant Secretary level with the following Departments represented:	
<i>Agriculture, Food and the Marine</i>	<i>Taoiseach</i>
<i>Defence</i>	<i>Communications, Energy and Natural Resources</i>
<i>Arts, Heritage and the Gaeltacht</i>	<i>Environment, Community and Local Government</i>
<i>Jobs, Enterprise and Innovation</i>	<i>Public Expenditure and Reform</i>
<i>Transport, Tourism and Sport</i>	
The Attorney General's Office and Marine Institute also participate.	

Source: Harnessing Our Ocean Wealth – An Integrated Marine Plan for Ireland (2012, p.4) available online at:
<http://www.ouroceanwealth.ie/SiteCollectionDocuments/Harnessing%20Our%20Ocean%20Wealth%20Report.pdf>

However, the above list does not reflect all the bodies with a remit in this policy area. Others include the Department of Foreign Affairs and Trade (DFAT), the Sea Fisheries Protection Authority (SFPA), *Bord Iascaigh Mhara* (BIM) and *Údarás na Gaeltachta*.

In addition, it was announced in July 2012 that two task forces were to be established to strengthen the role of the MCG; one to focus on enabling actions; and one to focus on development actions. The task forces are to be drawn from the relevant Departments and Agencies as well as external participants. Implementation of the plan will be a dynamic process delivered within the medium-term fiscal framework and budgetary targets adopted by the Government. It will evolve over the period to 2020 in light of evolving circumstances nationally and internationally.²⁶

Whether the current structure is the most conducive to managing marine affairs has been questioned, particularly by some in the small vessel inshore fishing sector:²⁷

“There is no overall cohesive approach to the fishing industry in Ireland. Its management and administration is spread across many civil service Departments. There seems to be a complete resistance to any kind of change or new approach on their behalf [part]. The interpretation by successive governments and these civil servants of many EU directives is driving the fishing industry into complete decline and this needs immediate urgent attention. They seem intent only in listening to the wants and needs of the large fishing boat owners and their policies and have left the majority of the fleet without a voice.”

2.1.1.1 *Bord Iascaigh Mhara (BIM)*

It was recommended by the Report of the Special Group on Public Service Numbers and Expenditure Programmes that BIM's functions be transferred to Enterprise Ireland and to DAFM:

²⁶ DAFM press release entitled ‘Taoiseach launches plan to double Ireland's Ocean Wealth’ available online at: <http://www.agriculture.gov.ie/press/pressreleases/2012/july/title.66026.en.html>

²⁷ *Fishery Management Plan for Fish Resources of the Atlantic Management Area for Inshore Vessels Under 10 Meters (Iascairí Intíre Cois Cladach na hÉireann*, May 2013) submitted to the sub-Committee

	Annual savings
A.1 Transfer export promotion function for indigenous industry to <i>Enterprise Ireland</i> , including those of <i>An Bord Bia</i> and BIM. Transfer BIM's functions and consider transferring <i>An Bord Bia</i> 's functions to D/AF&F and close BIM ice plants	€7.3m ^a
A.2 Reduce <i>Teagasc</i> staff numbers and rationalise offices	€30.0m
A.3 Transfer agriculture research funding to new single funding stream for all research	€14.0m
Total Current Savings	€51.3m
Associated staffing reductions	450

^a Figure of €6.8m is based on a 20% saving on the €34m financial support to the fishing industry in 2007 under the remit of BIM, €0.5m from closure of BIM ice plants.

A.1 Transfer export promotion function for indigenous industry to *Enterprise Ireland* including those of *An Bord Bia* and BIM. Transfer BIM's remaining functions and consider transferring *An Bord Bia*'s remaining functions to D/AF&F and close BIM ice plants

BIM currently operates a small number of ice plants. This network should now be closed in favour of a more market based approach. The timeframe of 2010 is suggested to enable an orderly withdrawal by BIM from ice manufacture, to minimise disruption and allow the seafood industry to gear up.

The Group recommends, in Detailed Paper No. 7, that enterprise support and export promotion for indigenous industry should be transferred into *Enterprise Ireland*. BIM's remaining functions should be carried out in D/AF&F in a dedicated section rather than maintaining a separate organisation with accompanying overheads and BIM should be formally abolished.

Source: Table 1.4 (p.5) of Volume 2 of the Report of the Special Group on Public Service Numbers and Expenditure Programmes

In November 2011, in response to the recommendations made by the Special Group (also known as *An Bord Snip Nua*), the Government announced its plans for reforming the Irish public service in the document *Public Service Reform*. This reform provided for certain Agencies to be critically reviewed by June 2012. In the context of BIM, the purpose of the review was to assess if the BIM functions should be transferred to the DAFM.

A Critical Review Group was established to undertake the review and advise the Minister as to whether or not the BIM functions should be transferred to the DAFM. The Critical Review

Group published a report²⁸ which essentially recommended (p.22) that BIM continue as a separate agency under the aegis of DAFM.

2.1.2 Scotland

Marine Scotland is a directorate of the Scottish Government | *Riaghaltas na h-Alba*, and was established executively in 2009/10. The Directorate is a combination of the former Marine Laboratory (which also had some regulatory functions), the Scottish Fisheries Protection Agency, and policy staff from the former Scottish Department of Environment and Rural Affairs.²⁹ This should be placed in the context that the overall government structure has changed and now consists of directorates rather than departments.

Scotland also created Inshore Fisheries Groups (IFGs) which include members drawn from Fishermen's Associations alongside those from Marine Scotland, Scottish Natural Heritage and other marine stakeholders. Initially it was outlined that there would be 12 IFGs which would follow the boundaries of the planning regions. However, this was changed to 6 IFGs with IFG's being responsible for bigger areas. The main responsibility of these IFGs is the management of inshore fisheries. The IFGs will develop local objectives for their region out to 6 miles, as well as setting up the management plans needed to deliver those objectives. It has been proposed that the first of the IFG's will become operational in 2013.

Policy challenges facing Scotland involve:

- the recreational salmonid fisheries and aquaculture; and
- for inshore fisheries - the static and mobile gear sectors.³⁰

2.1.3 United Kingdom

At the UK level of government the Marine Management Organisation (MMO) has been established with the stated aim of making a significant contribution to sustainable development in the marine area and to promote the UK government's vision for clean, healthy, safe, productive and biologically diverse oceans and seas. The MMO is an executive non-

²⁸ Review of Bord Iascaigh Mhara (BIM) - Completed as part of the Public Service Reform Plan (June 2012) available online at: <http://www.agriculture.gov.ie/media/migration/publications/2012/FinalBIMCRGReport271112.pdf>

²⁹ A description of the remit of the Directorate is available online at: <http://www.scotland.gov.uk/About/People/Directorates/marinescotland>

³⁰ A description of the different types of gear and their effects can be accessed online at: <http://www.safmc.net/portals/0/library/barnettegear.pdf>

departmental public body (NDPB) established and given powers under the *Marine and Coastal Access Act 2009*.³¹ This brings together, for the first time, key marine decision-making powers and delivery mechanisms. The MMO began operating in April 2010, incorporating the work of the Marine and Fisheries Agency and acquiring new roles, powers and functions previously associated with the UK Department of Energy and Climate Change and the UK Department for Transport. Establishing the MMO was aimed at achieving a fundamental shift in how activities in the UK's marine area are planned, regulated and licensed, with an emphasis on sustainable development.

Alongside the establishment of the MMO, the *Marine and Coastal Access Act* dissolved the powers of the Sea Fisheries Committees and replaced them with ten Inshore Fisheries and Conservation Authorities (IFCA's). The IFCA's, which are arranged by district are tasked with the sustainable management of the inshore sector and are funded by local councils and the Department of Environment, Food and Rural Affairs (DEFRA). The principle behind the IFCA's is to lead, champion and manage a sustainable marine environment and inshore fisheries by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry.

Features of both the 2009 UK Act and the *Marine (Scotland) Act 2010*³² were the streamlining of the processes for licensing developments in the marine environment.³³

While the provisions of the 2009 UK Act extend to Scotland the vast majority of what the MMO does as a State Agency is carried out in Scotland by Marine Scotland, i.e. marine nature conservation, licensing of renewables, marine planning, regulation of fisheries (both inshore and offshore); aquaculture (these are all responsibilities of Marine Scotland and of the Scottish Government | *Riaghaltas na h-Alba* in Scotland).

The main reserved (to the UK parliament) matters which affect the marine environment – shipping and regulation of the oil and gas industry – are responsibilities of UK Government departments such as the Department for Transport and the Department of Energy and Climate Change.

³¹ <http://www.legislation.gov.uk/ukpga/2009/23/contents>

³² <http://www.scotland.gov.uk/Topics/marine/seamanagement/marineact>

³³ Specifically on Inshore fisheries, there are different arrangements in Scotland as opposed to England and Wales. There is some information on how the Inshore Fisheries Groups work in Scotland here: <http://www.scotland.gov.uk/Topics/marine/Sea-Fisheries/InshoreFisheries/IFGsMap>

England

In England, the New Under Ten Fishermen's Association (NUTFA) are in discussion with DEFRA for the establishment of an Inshore Producers Organisation. It is believed an inshore producers' organisation will give the inshore sector the balance it needs to sit alongside larger scale fishermen in decision and policy making. The producers' organisation will also manage all quotas over the entire inshore fleet rather than through individual fixed quota allocations.

Northern Ireland

In Northern Ireland, the inshore sector is governed by the Department of Agriculture and Rural Development (DARD) whose Fisheries and Environment Division has the responsibility of preparing and enforcing all fisheries regulations, both for the offshore and inshore sectors. Whilst previously this did not include the foreshore, the *Fisheries (Amendment) Act (Northern Ireland) 2001*³⁴ gave DARD powers to regulate fisheries up to the high water mark.

The Marine Division has been recently established as part of the Department of Environment. The Division works alongside the Environmental Protection Directorate of the Northern Ireland Environment Agency (NIEA) to implement water quality regulations including the Shellfish Water Directive. The Marine Division has control over the designation of marine protected areas, whilst the Natural Heritage Directorate has control over the designation of land-based protected areas in Northern Ireland. Marine Division also has control over marine spatial planning under the Northern Ireland Marine Bill (as currently drafted).³⁵

Recommendation 2: Notwithstanding the statement in *Harnessing Our Ocean Wealth* (p.32), the sub-Committee recommends that the current governance arrangements are not the "best working model" and one Government Department or Agency should have more marine-related activities brought under its aegis – perhaps based on the Scottish model.

³⁴ <http://www.legislation.gov.uk/nia/2001/4/enacted>

³⁵ http://www.doeni.gov.uk/index/protect_the_environment/natural_environment/marine_and_coast/marine_policy/northern_ireland_marine_bill.htm

2.2 Key policy documents

Harnessing Our Ocean Wealth (July 2012), Ireland's integrated marine plan, was published with the intention of setting the policy context for ensuring that the right conditions exist to drive the potential of the marine economy, in a way that contributes both to environmental protection and to sustainable growth and development. However, the sub-Committee on Fisheries noted that it is difficult to link any of the targets set out in that key document specifically with the communities being examined in this Report.

It is within this wider context that work is also being progressed by the Department of Environment, Community and Local Government (DECLG) to contribute to economic growth and to enhance protection of the marine environment through the development of a more modern consent process for offshore activity and the implementation of the EU Marine Strategy Framework Directive (MSFD).

The MSFD requires EU Member States to prepare marine strategies for their marine waters. A Marine Strategy must comprise an initial assessment, a determination of good environmental status, a set of environmental targets and indicators, a monitoring programme (to allow on-going assessment) and a programme of measures designed to achieve or maintain good environmental status. The requirements of the directive apply to (i) coastal waters³⁶ and (ii) waters, the seabed and subsoil extending to the outermost reach of the area, where a Member State has jurisdictional rights.

The preliminary work on Ireland's initial assessment under the MSFD is underway and as part of the initial assessment, an Atlas of the Irish Marine Environment will be developed, which will include the collation of all relevant information into a central Geographical Data and Information System of activities, pressures and characteristics that operate in Ireland's marine environment. The Atlas will:

- be a web based tool, with a supporting structured data store and associated metadata and documentation portal;

³⁶ Under international and national law, legal status is given to different parts of the offshore marine environment. The Territorial Sea extends to 12 nautical miles (referred to as the foreshore in Irish legislation); beyond that are the Exclusive Economic Zone (12nm to 200nm) and the Continental Shelf (from 200nm to a maximum of 350nm, or the end of the topographical continental shelf, whichever is shorter).

- provide a national marine data infrastructure, complementing other existing data infrastructures, and will be capable of long term maintenance, enhancement, and active use;
- be a valuable tool and provide a good foundation for future Marine Spatial Planning; and
- have a public facing component via the web.

The development of the Marine Atlas includes the sourcing and collation of relevant marine environment datasets on:

- Marine Habitats;
- Biological species and biodiversity mapping;
- Seabed Geology;
- Contaminant Mapping;
- Hydrographic Data;
- Shipping and fishing intensity data;
- Infrastructure Data (oil, gas, cables);
- Heritage Data;
- Outfalls/abstractions;
- Shellfish and Bathing Water Designations;
- Aquaculture; and
- Developments holding licences /leases on the foreshore.

Following on from that, the Government intend to ensure that the appropriate legislation is in place to underpin the measures that will be needed to ensure that each of the sectors identified; fisheries, aquaculture, offshore renewable energy, shipping, etc., can grow and develop in an environmentally sustainable way.

The compilation of this Atlas should facilitate attaining the targets for 2020 set out in *Harnessing our Ocean Wealth*.

2.3 Policy and social impacts on communities

One witness, Dr Alyne Delaney,³⁷ appearing before the sub-Committee on Fisheries stressed that the MSFD, the integrated maritime policy and the CFP attempt to integrate the conservation of fish stocks with making provision for sustainable communities and that it is a priority of the maritime policy to integrate economic and social well-being in a sustainable way.

To that end, she recommended the use of social impact assessments to achieve sustainability goals on the basis that the principles of these assessments assist policy makers in avoiding making decisions that may unintentionally create inequities among different groups. Dr. Delaney defined a social impact assessment and explained how it compared with other related types of impact assessment:³⁸

“a systematic appraisal of the quality of life of the persons and the communities whose environment might be affected by the policy changes it is planned to make...A socio-economic impact assessment is pretty much an economic impact assessment although they are not the same...economic impact analyses address how efficiently investments of capital and resources are returned in present and future benefits to society. They focus on resource supply and demand, prices and jobs. When I conduct a social impact assessment I am also interested in employment and jobs, so there is some overlap, but there is a considerable difference in the focus and sometimes the approaches and methods...I look at the demographics, ethnic character, family structure and community organisation and try to figure out how vulnerable or resilient these communities and people are.”

Dr Delaney explained further how there are five critical issues that should be focused on:

1. Vulnerability, including economic vulnerability;
2. The existence of alternative means of earning a livelihood within their existing industry, for example fishing for different species;
3. Innovation – branching out into different industries;
4. Resilience; and
5. Adaptability.

The issue of cumulative impacts where a community may be able to withstand a number of negative policy decisions but eventually reaches a tipping point also arises therefore any

³⁷ Dr. Delaney is a lecturer/senior researcher at the Innovative Fisheries Management research centre at Aalborg University, Denmark.

³⁸ Appearance before the sub-Committee on 25th April 2013

assessment must have a broad view of what policies are in effect, relevant, and how they interact. The concept of a tipping point is also relevant in relation to another point Dr Delaney made, i.e. that a healthy society makes provision for different ways of life such as those found on islands and in rural coastal areas but that once lost these will never be recovered.

The lack of data in relation to social impact is something which Dr Delaney noted as being, from her experience, problematic especially when asked by the Cion to assist in advising on proposals and derogations.

Recommendation 3: The sub-Committee recommends that the existing Regulatory Impact Assessment (RIA) Guidelines be revised to make specific and detailed reference to the potential social economic impacts of developments on rural coastal and island communities and that Guidelines should be amended accordingly. In addition, an inshore coastal management policy should be developed.

2.3.1 Education and training

BIM maintains the National Fisheries College which has a campus in Greencastle and a school in Castletownbere in addition to two active mobile training units which allow them to visit areas well away from urban centres of population.

In addition to providing training for fishermen they also provide it for aquaculturalists and work boat handlers. They are also involved in passenger boat licensing for recreational fisherman and with the sea angling industry. They are embarking on a new programme of extending that training deeper into the fishing industry at the deckhand level and on the day boat level.

BIM foresees that, should the aquaculture sector develop, there would be a need for more trained skilled persons to operate within that sector, whether to operate small boats, work in aquaculture facilities etc.

BIM also noted that the need for education and training is underpinned by the return of in excess of 500 people to the fishing industry in the past two to three years.

Recommendation 4: The sub-Committee recommends that BIM should run certified courses, in conjunction with rural, social/SOLAS schemes and prioritise enrolment on such courses to the fishing communities.

2.4 Aquaculture

2.4.1 Government policy towards aquaculture in Ireland

Government policy in relation to the national development of aquaculture is set out in and has been influenced by reports including:

- *Food Harvest 2020*;
- *Our Ocean Wealth*;
- *Steering a New Course – Strategy for a Restructured, Sustainable and Profitable Irish Seafood Industry 2007-2013* ('the Cawley Report');
- *Seafood Development Programme 2007-2013*;
- *BIM Strategy 2013 – 2017: Capturing Ireland's share of the Global Seafood Opportunity*;
- *Irish Seafood National Programme 2007-2013*;
- *The Rising Tide – A Review of the Bottom Grown Mussel Sector on the Island of Ireland*; and
- *Sea Change – A Marine Knowledge, Research and Innovation Strategy for Ireland 2007-2013*.

These policy documents set out objectives aimed at the development of aquaculture. They also.³⁹

"identify various opportunities for achieving those ambitions and propose measures to avail of those opportunities. Both BIM and Foras na Mara would be guided by these public policy documents in developing their own statements of strategy and in their work programmes."

Food Harvest 2020 makes two recommendations in relation to aquaculture. Firstly, it recommends that DAFM should work with other relevant Departments and State Agencies to resolve difficulties related to aquaculture licensing.⁴⁰ Secondly, it recommends that *An Foras*

³⁹Reply to a Parliamentary Question by the Minister for Agriculture, Food and the Marine on 26th March 2013 available online at:

<http://oireachtasdebates.oireachtas.ie/debates%20authoring/debateswebpack.nsf/takes/dail2013032600060>

⁴⁰ Details of the current aquaculture licensing arrangements are available online at:

<http://www.agriculture.gov.ie/fisheries/aquacultureforeshoremanagement/aquaculturelicensing/>. Aquaculture licensing is administered through the Aquaculture and Foreshore Management Division of the Department of Agriculture, Food and the Marine. The Division also processes companion foreshore licences required for coastal aquaculture operations. The Appeals procedure for aquaculture licensing is handled by the independent aquaculture Licences Appeals Board whose members are engaged on a part-time basis.

Mara | the Marine Institute and BIM should work with industry to research and develop inshore and offshore aquaculture and alternative species on a commercial and profitable scale. The Government has stated that it is committed to implementing the recommendations of *Food Harvest 2020* and recognises that that commitment involves a very significant expansion of aquaculture output in this country.

The Minister for Agriculture, Food and the Marine has also stated that BIM has been instructed to prepare a National Strategic Plan for Aquaculture (involving a formal consultation with stakeholders).⁴¹ Such a Plan is required to be produced by every Member State of the European Union, in association with its Operational Programme for the period 2014 to 2020 under the proposed European Maritime and Fisheries Fund Regulation, which is being negotiated⁴² by the EU institutions.⁴³

2.4.2 Aquaculture in a global context

Demand for seafood is linked to the size of the global population which is continuing to increase.⁴⁴ Taken in conjunction with changes in dietary habits and increased demand from Asia, this has led to a rapid rate of increase in demand for seafood.

DAFM, in its presentation to the sub-Committee on Fisheries, stated that it is generally estimated that global capture fisheries have reached the maximum sustainable output of approximately 80 million tonnes per year. The Department assumes, therefore, that demand for seafood at a global level will, therefore, increasingly be met through aquaculture production and pointed out that aquaculture already comprises almost half of the world's seafood.

The Food and Agriculture Organisation (FAO) of the United Nations (UN) estimates that an additional 42 million tonnes of farmed seafood will be required annually by 2030.⁴⁵

⁴¹ Ibid.

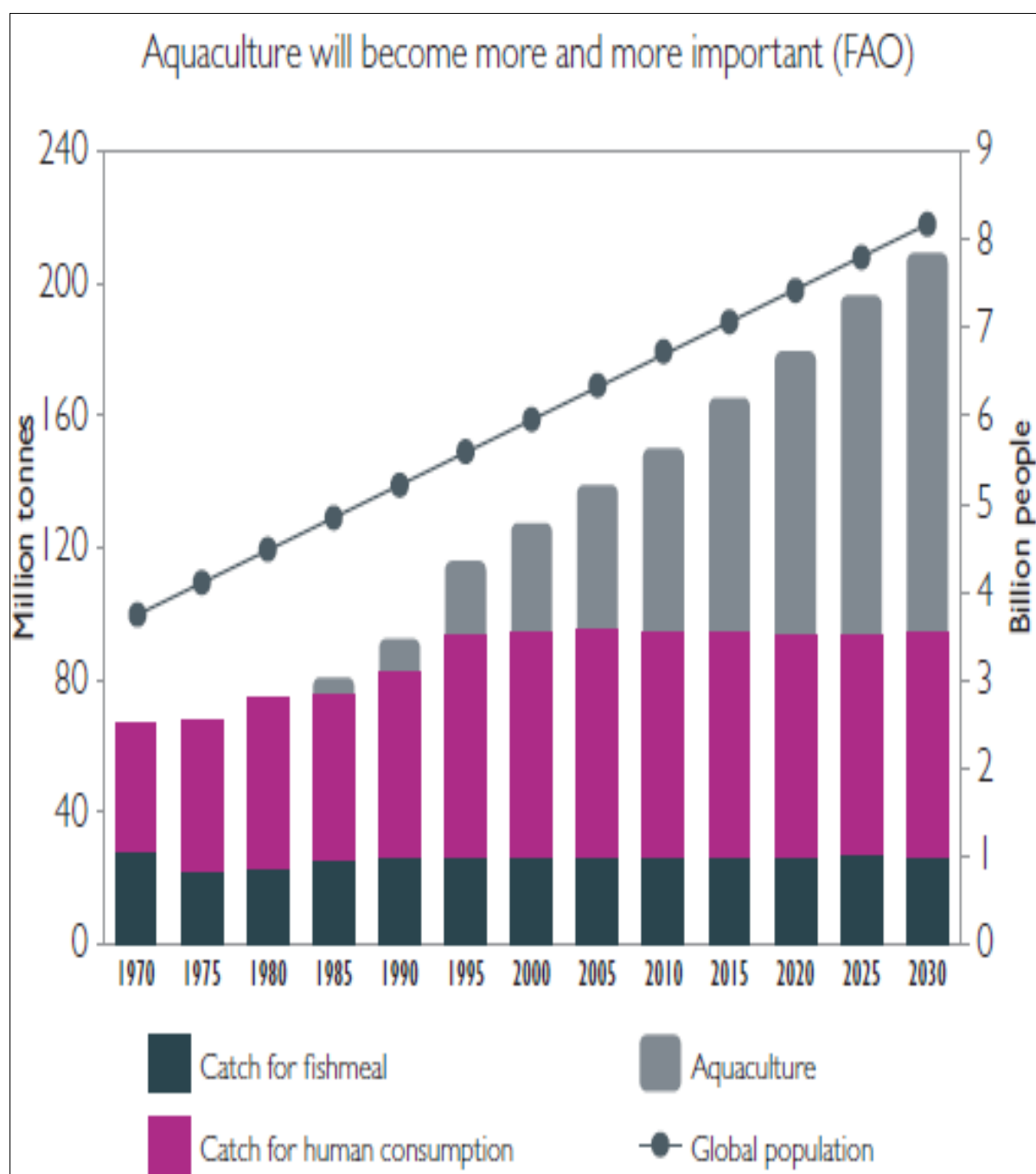
⁴² <http://ec.europa.eu/fisheries/reform/proposals/>

⁴³ The present plan, spanning the period from 2007 to 2013 can be accessed online at: http://ec.europa.eu/fisheries/cfp/eff/national_plans/list_of_national_strategic_plans/ireland_en.pdf

⁴⁴ A global population of approximately 7 Billion is projected to rise to 8 Billion by 2025. Source: <http://esa.un.org/wpp/Other-Information/faq.htm#q1>

⁴⁵ *Harnessing Our Ocean Wealth An Integrated Marine Plan for Ireland* (2012, p.10)

Figure 6 – The growing global importance of Aquaculture



Source: *Harnessing Our Ocean Wealth* (2012, p.10)

The FAO *State of World Fisheries and Aquaculture 2012* (2012, p.9)⁴⁶ estimates that the total ‘farmgate’ value of food fish production from aquaculture was US\$119.4 billion for 2010 and gives a historical overview of the rate of growth of the industry:⁴⁷

“In the last three decades (1980–2010), world food fish production of aquaculture has expanded by almost 12 times, at an average annual rate of 8.8 percent. Global aquaculture production has continued to grow, albeit more slowly than in the 1980s and 1990s.”

The same review points out that aquaculture production is vulnerable to adverse impacts of disease and environmental conditions. Disease outbreaks in recent years have affected farmed Atlantic salmon in Chile, oysters in Europe, and marine shrimp farming in several countries in Asia, South America and Africa, resulting in partial or sometimes total loss of production. The presence of sea lice, the infestation risk they pose to aquaculture and, potentially, to wild stocks (especially of Salmon) is relevant in the Irish context.

This relevance may not necessarily relate to the impact of sea lice on wild stocks, however, though this is discussed in more detail in other parts of this Report. Dr. Ciarán Byrne, CEO of IFI speaking to the sub-Committee on Fisheries did not believe that an aquaculture facility should have a negative impact on sea-angling provided it is well managed. However, he did believe that there was a ‘perception risk’ in relation to tourism, i.e. that the presence of an aquaculture facility could have a somewhat negative effect on the tourist’s perception of the quality of the sea-angling on offer.

Overview of the Sea lice threat and how it is addressed in Ireland

Sea lice are a naturally occurring marine parasite of fish. There are over 500 species and they are found on most fish species worldwide. Two main species affect salmonids in Ireland, *Lepeophtheirus salmonis* (the salmon louse) and *Caligus elongatus*. They are small copepods ranging in size from 0.5-2cm and graze on the mucus, skin and blood of the fish. They have a [complex life cycle](#) with numerous moults from egg to adult stage. Current Marine Institute research on the west coast of Ireland has found average levels of sea lice on returning [wild salmon](#) to be 10.9 *L. salmonis* per fish.

Sea lice are a concern in salmon aquaculture where the health and quality of the fish can be affected. Effective control depends on all sites in a bay having a co-ordinated sea lice management approach. This approach is facilitated by the [Single Bay Management](#) process. An extension of this approach to all aquaculture species within a bay has led to the development of a Co-ordinated Local Aquaculture Management Systems ([CLAMS](#)).

⁴⁶ Available online at: <http://www.fao.org/docrep/016/i2727e/i2727e01.pdf>

⁴⁷ Same ref. (p.8)

There has been a long standing debate about the potential effects of sea lice on wild salmonid stocks. Sea lice infestations as a source of marine mortality of outwardly migrating ranched Atlantic salmon has been investigated in long term studies in Ireland ([Jackson et al, 2013](#)) and Norway ([Skilbrei et al, 2013](#)) with both studies generating similar results. The Marine Institute [study](#) comprising 28 releases of 352,142 salmon smolts at 8 locations along Ireland's coast from Donegal to Cork, over a 9 year period showed that sea lice were 'a minor and irregular component of marine mortality in the stocks studied and is unlikely to be a significant factor influencing conservation status of salmon stocks'. 'The level of sea lice-induced mortality is small as a proportion of the overall marine mortality rate, which is in the region of 90%, and in absolute terms represents 1% (10 fish in a thousand)'.

The Marine Institute carries out regular inspection of sea lice levels on all fish farms in Ireland in accordance with the DAFM's sea lice [Monitoring Protocol \(2000\)](#) and [Strategy \(2008\)](#). All stocks of fish are inspected by Marine Institute Inspectors on 14 occasions throughout the year. Results from the programme are reported each month to interested parties and all the data is published on an annual basis. This monitoring programme has been in operation since 1991 and is widely regarded as international best practice – on the basis that the inspection regime is totally independent of the industry; data obtained as a result of inspections is published; and treatment trigger levels are set at a low level.

Source: Website of the Marine Institute – summary of page accessed (on 11 April 2013) at: <http://www.marine.ie/home/services/operational/sealice/>

"It may be noted that in the specific context of sea-angling, sea lice are not a major issue."

Source: IFI appearing before the sub-Committee on Fisheries on 21st March 2013.

Note: The L&RS prepared a stand-alone briefing paper regarding Sea Lice for the sub-Committee on Fisheries on the 24th of June 2013 and this is appended to this report as Appendix 4. Please note that neither this text box nor Appendix 4 addresses the latest report published by BIM entitled *Evaluation of the impacts of aquaculture and freshwater habitat on the status of Atlantic salmon stocks in Ireland* (June 2013) which is available online at: <http://oar.marine.ie/bitstream/10793/877/1/Agri%20Science%20Vol%204%20no6A%2062-67%20%282013%29.pdf>

That report concludes that

"This study found no correlation between the presence of aquaculture and the performance of adjacent wild salmon stocks. This finding supports previous research on farm escapees and sea lice which found little influence of escaped farmed salmon on spawning stocks, and sea lice were a minor and irregular component in marine mortality. Freshwater habitat quality was found to have a highly significant correlation with stock status."

However, pressure to develop aquaculture does not relate solely to purely economic concerns. There is continued concern over the environmental consequences of unsustainable exploitation of wild-fish stocks. In the context of Ireland's 2013 Presidency of the EU, up to two hundred Irish and international wildlife and environmental groups called on the Minister for

Agriculture, Food and the Marine to support an end to what they regard as overfishing in EU waters by 2015.

The groups claim 30 years of fisheries mismanagement under the CFP has left 47% of target fish stocks in the Atlantic and 80% of those in the Mediterranean overfished. The NGOs say action must be taken to allow fish stocks to return to sustainable levels and to secure the future of the fishing industry in Irish and EU waters.⁴⁸

Recommendation 5: The sub-Committee recommends that all aquaculture projects for fin-fish should be licensed on the basis of adhering to the world's highest environmental standards and furthermore recommends that structures be put in place to allow as much local ownership as possible in all aquaculture developments.

Recommendation 6: The sub-Committee recommends that there is a need for clear statutory financial community gain with regard to any new major aquaculture and marine energy projects.

2.4.3 Aquaculture in an EU context

The DAFM provided the sub-Committee on Fisheries with some useful statistics which are summarised here:

- **European aquaculture production** now stands at approximately 2.5 million tonnes per annum. This accounts for around 4.2% of world aquaculture production. Countries within the European Union produce approximately 1.2 million tonnes of aquaculture product.
- In the European aquaculture context, **salmon** has been the main species to be developed. Demand for salmon has been growing very well. The current size of the farmed salmon market is approximately 2 million tonnes. Demand in this regard is still developing. In Europe, which is considered to be a mature market, demand for salmon has been growing by around 7% per annum for the past ten years. The Russian market for salmon is growing at 27% per annum. Close to 60% of world salmon production involves farmed salmon. Much of this comes from Norway, Chile, the UK and North America. It is estimated that the Atlantic salmon market will continue to grow by 4% per year in the period 2013 to 2020.
- **Norway** is now the world's largest producer of farmed Atlantic salmon, generating more than 1.2 million tonnes in 2011. More than 838,000 tonnes of that, with a value of 29

⁴⁸ <http://www.rte.ie/news/2013/0411/380792-over-fishing/>

billion krone, was exported. Norway has been developing its industry since the early 1970s. It was targeted as a means of restoring the livelihoods of rural fishing communities whose economies have become depressed on foot of a decline in wild fisheries. Norway's initial production was less than 500 tonnes. This was largely generated by small family businesses and sold to local markets. In recent decades the industry has developed very rapidly and some very large multinational companies are now operating in it. Farmed fish has become Norway's fourth largest export commodity after oil, gas and metals.

- Within the EU, **the United Kingdom** produces farmed Atlantic salmon in significant quantities. The vast bulk of this is generated in **Scotland**, which is the largest farmed Atlantic salmon producer in the EU and the third largest globally. In 2011 Scotland produced 158,000 tonnes of farmed salmon, worth £584 million. Scotland did not begin farming salmon until the 1970s. In 1971 it produced 14 tonnes of farmed salmon. This had increased to 40,000 tonnes by 1991. By 2001 it had increased again to 138,000 tonnes. Farmed salmon is now Scotland's largest food export product.

Scotland – 2020 Aquaculture production targets

The main types of Scottish aquaculture are: Finfish in cages, pens, raceways or tanks Shellfish on the seabed, on trestles, or suspended on ropes or nets The Scottish Government supports the aquaculture industry's target for sustainable growth. Using a 2011 baseline to update industry growth targets (referenced in the draft National Marine Plan) to 2020 provides: a 32% increase for marine fin fish, and at least 80% for shellfish especially mussels.

Source: Website of the Scottish Government | *Riaghaltas na h-Alba* available online at: <http://www.scotland.gov.uk/Topics/marine/Fish-Shellfish>

- **Ireland** commenced salmon farming in 1974 and in 2012 produced just 14,500 tonnes of farmed salmon. The fact that Irish aquaculture production has not grown but has a substantial opportunity for growth was recognised in *Food Harvest 2020*, which the Government has adopted as its food strategy document. Food Harvest 2020 identifies ways in which the seafood sector can increase turnover to €1 billion and employment to 14,000 full-time equivalent jobs by 2020. Food Harvest 2020 also calls on the aquaculture industry to play its part by expanding the volume of its production by 78%. It seeks that the relevant State agencies, *Bord Iascaigh Mhara* and *An Foras Mara* | the Marine Institute, should continue research and development work in the areas of offshore aquaculture and alternative species aquaculture.

2.4.3.1 Importation to the EU⁴⁹

An area that spans aquaculture and inshore fishing is that of the import of seafood into the EU from non-EU countries. The extent of such imports in the context of the high quality standards pertaining within the Union was raised at a meeting of the sub-Committee on Fisheries.⁵⁰

“If we impose all sorts of high standards on our fishermen, in terms of catch, mesh size and various other standards to ensure sustainability of the seas - the seas and fish around the world do not recognise national boundaries - it would seem reasonable that Europe should insist on the same standards for imports. This should apply to all food products for consumers, whether with regard to food safety standards, environmental standards, standards on the use of chemicals or any others. The standards should be the same for all and Europe should set out clearly that with regard to the exploitation of the planet, it does not make any difference whether it happens within or without the European Union. As far as Europe is concerned, citizens should not eat food that is not produced sustainably.”

2.4.4 Status of Aquaculture in Ireland⁵¹

The primary aquaculture species in Ireland were Bottom Mussels (37%), Salmon, predominately organic salmon (26%), Rope Mussels (19%) and Gigas Oysters (14%). The most valuable of these species was Salmon which accounted for 61% of the overall aquaculture production in Ireland.

Aquaculture sites are located in the coastal communities with the largest number of enterprises in counties Donegal (66), Cork (64) and Galway (52) followed by Kerry (37), Mayo (35), Waterford (20) and Clare (18). Salmon is produced on sites on the west coast of Ireland from counties Donegal to Cork.

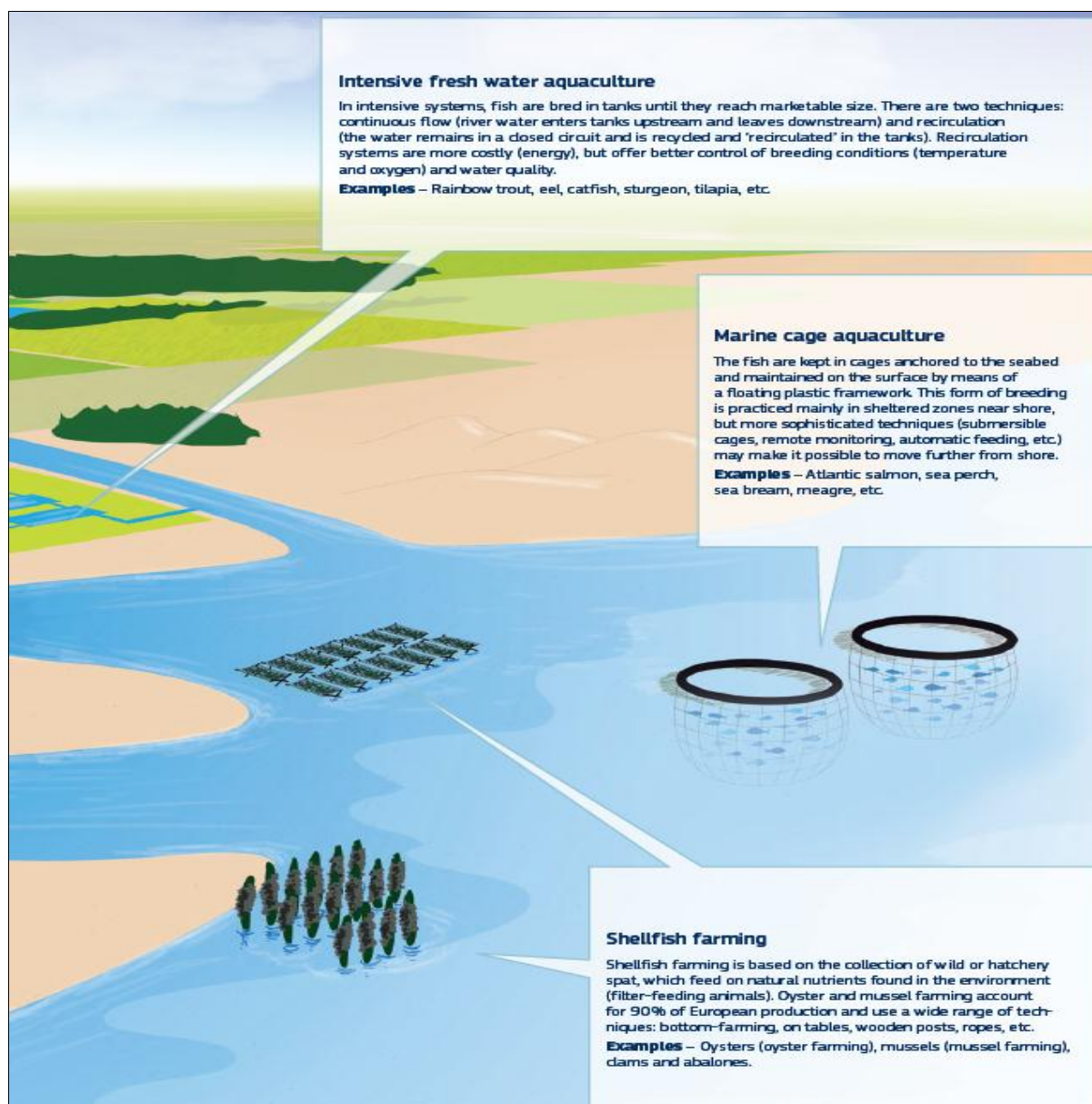
There are different aquaculture techniques depending on the species being farmed and the local conditions. A pictorial overview is provided in the following figure.

⁴⁹ The rules regarding such imports are summarised at:
http://ec.europa.eu/food/international/trade/im_cond_fish_en.pdf

⁵⁰ Deputy Éamon Ó Cuív speaking at the sub-Committee meeting of 25th June 2013

⁵¹ Statistics from Scientific, Technical and Economic Committee for Fisheries (STECF) *Economic Performance of the EU Fish Processing Industry Sector* (STECF-OWP-12-01) (2012, pp 89-90)

Figure 7 - Aquaculture techniques relevant to species farmed in Ireland



Source: European Commission available online at:
http://ec.europa.eu/fisheries/documentation/publications/2012-aquaculture-techniques_en.pdf

2.4.4.1 The shellfish aquaculture sector

The SFPA noted that the shellfish aquaculture sector is an important feature of Ireland's inshore coastal waters, with approximately 70 production areas classified and monitored

As mentioned in section 2.1.3 bottom-grown mussels, rope-grown mussels and trestle-grown oysters are key production systems. Ireland's industry is primarily export-oriented, with particular reliance on European Union continental markets.

However, the production of these live bivalve molluscs is subject to a prescriptive regulatory regimen in EU legislation, designed to manage health risks associated with both algal toxins and micro-organisms. The SFPA pointed out the significant resource implications (20% to 25% of the agency's resources) involved in the production and sale of these seafood products which must be underpinned by robust official control and monitoring systems which classify production areas according to the bacterial conditions present and manage the weekly opening and closing according to changing algal blooms. In addition, it identified upcoming regulatory challenges for the sector at EU level.⁵²

"We work with the shellfish aquaculture sector...to try to achieve the best balance in protecting consumers and Ireland's market reputation while facilitating the practicalities of harvesting and trade in these food products. We have been particularly active at an EU level in working to influence the legislative standards being developed with these objectives in mind. At this time some of the regulatory changes being proposed are likely to prove challenging for the sector, especially in the area of standards for toxins and viruses of public health significance."

The Shellfish Waters Directive

The aim of the Shellfish Waters Directive is to protect or improve shellfish waters in order to support shellfish life and growth. It is designed to protect the aquatic habitat of bivalve and gastropod molluscs, which include oysters, mussels, cockles, scallops and clams. The Directive requires Member States to designate waters that need protection in order to support shellfish life and growth.

The Directive sets physical, chemical and microbiological requirements that designated shellfish waters must either comply with or endeavour to improve

The Directive also provides for the establishment of pollution reduction programmes for the designated waters.

Responsibility for the Shellfish Waters Directive in Ireland transferred from the Department of Agriculture, Fisheries and Food to the Department of the Environment, Heritage and Local Government on 5 November 2008.

The Directive is implemented in Ireland by the European Communities (Quality of Shellfish Waters) Regulations 2006 (SI No 268 of 2006). Pollution reduction programmes (PRP's) were established for 14 sites already designated under the these Regulations

In August 2008, DAFF invited submissions from interested parties on the proposal to designate an additional 49 water bodies for protection or improvement under the above Directive.

⁵² Appearance before the sub-Committee on 30th April 2013.

On foot of this consultation process, the Minister for the Environment, Heritage and Local Government, on 10th February 2009, signed the European Communities (Quality of Shellfish Waters) (Amendment) Regulation 2009, SI 55 of 2009. This SI amends the 2006 Statutory Instrument by providing for designation of an additional number of important shellfish growing areas. The 49 additional areas, which have been designated, were identified as appropriate for selection because they are aquaculture sites or wild shellfish harvesting sites that have been active in the preceding 3 years and the waters are in need of protection or improvement.

Source: Website of the Department of Environment, Community and Local Government available online at: <http://www.environ.ie/en/Environment/Water/WaterQuality/ShellfishWaterDirective/>

2.4.4.2 The finfish aquaculture sector

Food safety obligations are also important in this sector and the SFPA has been responsible since 2007 for developing a programme of official controls to verify compliance with the EU food safety, animal remedy and animal by-product regulations at these sites. The SFPA previously received strong feedback from the sector concerning regulatory burdens arising from the involvement of various State Agencies. It therefore collaborated with its counterparts to streamline their official controls into part of a single wide-ranging inspection, verifying a variety of matters, performed by a single official on a single visit. The SFPA commended this “joined-up approach” to discharging the State’s obligations to the sub-Committee on Fisheries.⁵³

2.4.5 Government policy towards Aquaculture development and licensing

The current Programme for Government (PfG)⁵⁴ sets out the following high-level strategy for the aquaculture industry:

- support for the development of sustainable aquaculture and fish farms by streamlining the licensing process and reducing associated bureaucracy;
- Marine responsibilities will be merged under one Department, for better co-ordination in policy delivery. We will develop an integrated marine and coastal planning process in order to maximise the potential of Ireland’s coastline in fishing, aquaculture, ocean energy and tourism.

As outlined in the Sub-Committee debate with officials of the DAFM and in the context of the *Food Harvest 2020*⁵⁵ recommendations (see Appendix 3) to this Report, BIM has begun to consider new fish farming production areas in deeper waters.

⁵³ Appearance before the sub-Committee on 30th April 2013.

⁵⁴ The current Programme for Government (2011) is available online at: <http://per.gov.ie/wp-content/uploads/ProgrammeForGovernmentFinal.pdf>

Food Harvest 2020 - background

Food Harvest 2020, is a report which was launched in 2010 which proposes growth targets for the whole sector up to the year 2020.

Food Harvest was described at its launch⁵⁶ as a strategic vision designed to place the agri-food, fishing and forestry sector at the centre of the export led economic recovery and assure its full contribution to the smart economy.

The report's 209 recommendations are intended to provide a cohesive roadmap for the industry to build capacity and adapt to challenge. It was also to set the scene for the sector to actively capitalise on the opportunities available to it from significant global population growth and greater access to international markets.

In September 2012 the Minister for Agriculture, Food and the Marine launched *Milestones for Success 2012*,⁵⁷ a report on the progress achieved in the two years since Food Harvest 2020 was published. The Minister also revealed that a new report estimates that achieving the Food Harvest targets could deliver 25,000 new jobs.

On the same occasion the Minister emphasised that the agri-food and fishing sector continued to be one of the cornerstones of national export recovery. He pointed out that, in 2011, agri-food exports were valued at €8.84 billion, a 12% increase on the previous year.

It was confirmed to the sub-Committee on Fisheries that a strategic environmental assessment of *Food Harvest 2020* is underway that will meet EU and national requirements.⁵⁸

BIM's new approach to fish farming production in deeper waters is in response to the fact that the Irish aquaculture industry has previously been constrained, in part because more than 80% of its operations are located in inshore areas governed by EU environmental directives, primarily the Natura (i.e. the EU birds and habitats directives) directives.⁵⁹

⁵⁵ Report available online at: <http://www.agriculture.gov.ie/media/migration/agri-foodindustry/foodharvest2020/2020FoodHarvestEng240810.pdf>

⁵⁶ Press release on the occasion of its launch by the then Taoiseach available online at: <http://archive.merrionstreet.ie/index.php/2010/07/press-release-for-food-harvest-2020-taoiseach-launches-a-strategy-for-irish-agriculturefood-and-fisheries/>

⁵⁷ Press release available at: <http://www.merrionstreet.ie/index.php/2012/09/food-harvest-2020-report-shows-sector-is-confident-and-ambitious-coveney/?cat=>

⁵⁸ Dr Ciarán O'Keefe, Chief Scientific Officer, National Parks and Wildlife Service (NPWS), Department of Arts, Heritage and the Gaeltacht responding to questions from the sub-Committee on the 21st of March 2013.

⁵⁹ For a detailed description of these directives see the EU Commission's website at: <http://ec.europa.eu/environment/nature/legislation/habitatsdirective/>

The concept is to situate the larger aquaculture operations in deeper waters outside of Natura areas. The DAFM put forward the following advantages to this approach to the sub-Committee on Fisheries:

- minimising environmental impacts; and
- simplifying licensing requirements.

The DAFM explained that this has therefore led to an examination of potential sites by BIM and *Foras na Mara* | the Marine Institute and also to a consideration of oceanographic and other data which indicate what sites might be most suitable for allowing Irish aquaculture to expand.

BIM estimates that one deep-sea salmon farm could potentially produce:

- 15,000 tonnes of organic salmon;
- generate more than €100 million in exports; and
- create 500 direct and indirect jobs.

In addition the DAFM was of the view that there is a growing international demand for salmon, which should lead to interest from potential operators and leave scope for future private sector production expansion.

However, one Member questioned this approach and suggested that insufficient emphasis was being placed on promoting the development of sustainable rural communities “on a small scale” which would “grow as their knowledge and capacity grows with the ownership staying local.”⁶⁰

The same Member identified what he saw as the risks to placing too much policy emphasis on a “big multinational” approach:

- possible lack of long-term commitment to the industry / area;
- high risk as any failure becomes, by the very scale of the development, a major failure;
- ownership of the business is not local; and
- possible environmental risks.

60

<http://oireachtasdebates.oireachtas.ie/Debates%20Authoring/DebatesWebPack.nsf/committeetakes/AG3201303200008?opendocument>

Background to changes in the aquaculture licensing regime off the coast of Ireland

Most aquaculture in Ireland is currently carried out within either Special Areas of Conservation (SAC) or Specially Protected Areas (SPAs).

In 2007, the European Court of Justice (ECJ) declared that by failing to take all measures necessary to comply with the EU Habitats and Birds directives in respect of the authorisation of aquaculture programmes, Ireland had failed to fulfil its obligations under that directive.⁶¹ The DAFM acknowledged to the JSC that this judgment had led to a significant re-thinking of policy.

In negotiations with the Commission to address the judgment, a process was agreed by DAFM with the European Commission on how to progress the implementation of a licensing system in SAC/SPAs which would be in compliance with the Natura and birds directive.

That process includes a major data collection exercise encompassing 91 bays and estuaries around the coast. The data collection has covered both the seabed, the water column and migratory species, whether fish, sea mammals or birds.

It required the development of a time series of data to allow for judgments to be made, the analysis of that raw data and the setting of conservation objectives for area by the National Parks and Wildlife Service (NPWS). Appropriate assessments had to be carried out on each licence application or fishery plan against the detailed conservation objectives which were then set on the basis of the data available to the NPWS. The completion of the appropriate assessments can then lead to determinations on the licences and on the management of the fisheries.

The DAFM, has been working with *Foras na Mara* | the Marine Institute, BIM and the NPWS, to achieve compliance through a multi-annual work programme to build up that profile of data. That work is ongoing and is a significant resource investment by the State which thereby intends to facilitate the continuation and, where appropriate, the development, of the aquaculture industry in those locations.

The low number of licences issued since 2007 is therefore, at least to some extent, a result of the ECJ judgment. In 2012, a total of 115 licence determinations were made by the Minister for licence applications in non-Natura areas. In 2013, the expectation is that this will be exceeded and that for the first time it will include determinations in Natura areas.

DAFM informed the Sub-Committee that during the period when were not issued (i.e. during the data collection in bays encompassed by the Natura directive) that the licence instruments were upgraded in preparation for the commencement of a new system. The new licences are to provide a more comprehensive set of obligations and rights for licence holders to ensure

⁶¹ The judgment is available on the website of the ECJ at <http://curia.europa.eu/juris/liste.jsf?language=en&num=C-418/04>

compliance with legislative requirements. For example, the new licence templates are specific to particular sites so are a more targeted instrument.⁶²

The process of designating SACs continued on December 3rd, 2010, when the Minister for Arts, Heritage and the Gaeltacht proposed six new marine sites for designation as SACs.⁶³ However, the sub-Committee on Fisheries were told on 21st March 2013 by Dr Ciarán O’Keefe (DAHG) that there is a final formal process of legal designation and a notification process for the land-based SACs but that there is no new legal protection and no new sites. Dr. O’Keefe also noted that while, in theory, SACs could be removed in practice this was highly unlikely to occur.

In regard to the SPAs, DAHG confirmed to the sub-Committee on Fisheries that they had not yet examined the marine territory and the offshore areas to ascertain if there are any areas which are of such importance as to warrant designation. Therefore, some work will continue in the coming years as resources permit and as pressure is applied by the EU to finalise that process.

In its meeting with the DAHG, the sub-Committee on Fisheries established that there were two main reasons as to why such a major and lengthy data collection exercise was necessary:

→ Ireland had very little baseline data in comparison with other EU MS (such as the UK) which had substantial research institutions already providing basic information when the Habitats Directive was introduced. Ireland had some data but only to the extent of being sufficient for designation purposes and not for spatial management of activities within sites.

→ having had a judgment registered against Ireland (ECJ c-418/04) the expectations and demands upon this State were more onerous in terms of the quality of the work required.

Source: This text box is mainly adapted from the sub-Committee on Fisheries committee meeting with DAFM on the 20th of March 2013.

The situation as set out in the above text box goes to the core of many of the difficulties currently faced by the aquaculture sector as described in the IFA Aquaculture presentation to the sub-Committee on Fisheries:

- That 600 licences await a decision from the DAFM (some for 7 years or more);
- Salmon production has halved in 10 years from 25,000 to 11,000 tonnes;
- Oyster production remains static;
- Mussel producers finding it hard to compete against large scale operators;

⁶² The JSC also established with the DAFM that the data collected for the new licencing system does not relate only to fisheries and aquaculture but can assist with wider decision making, i.e. any other proposed development in a Natura site, and is therefore a valuable national database.

⁶³ Press release entitled ‘Designation of New Marine Special Areas of Conservation’, 3 December 2012. Available online at: <http://www.merrionstreet.ie/index.php/2012/12/designation-of-new-marine-special-areas-of-conservation/>

- Demographic challenges; and
- Lack of inward investment, innovation and training.

However, in the context of the delay in making decisions in respect of licence applications the sub-Committee on Fisheries also heard from IFA Aquaculture that there were cases where applications in respect of non-designated areas were also experiencing significant and costly delays.⁶⁴

“One multi-award-winning company in the trout business contacted me in the past 48 hours to say that it contacted the Department to find what had happened to its licence application because it needed the licence in order to get 48% grant aid. The company had an engineer on-site and had ordered equipment. The application, which is for a non-SAC area, was submitted last August, but it turned out that the envelope had not even been opened.”

The position of the DAFM⁶⁵ in relation to what it accepts are the low number of licences issued since 2007 (with the exception of 2012 which it characterises as a year when a high number (115) of Ministerial determinations in relation to licence applications in non-Natura areas was made) is that this largely arises from the need for full compliance with the terms of the ECJ Judgment with particular reference to the EU Birds and Habitats Directives. DAFM points out that the majority of areas for which aquaculture licences are sought are designated SACs and/or SPAs under the EU Birds Directive (i.e. Natura 2000 sites).

In accordance with these EU Directives, DAFM points out that they are constrained by law from issuing or renewing aquaculture licences for sites located within Natura 2000 areas, until such time as an Appropriate Assessment (AA) has been conducted to assess the potential of the proposed aquaculture and fishery activities within that area to impact negatively on the conservation objectives for that Natura site. The licensing process must take full account of the outcome of that assessment in reaching a determination on any particular licence application.

An additional factor which the DAFM points to as impacting upon the licence application process is that under the Environmental Impact Assessment Directive⁶⁶ all aquaculture

⁶⁴ IFA Aquaculture appearance before the sub-Committee on 28th March 2013

⁶⁵ DAFM's position was outlined to the L&RS in a written communication received by e-mail on the 26th of July 2013.

⁶⁶ See Cion website for more information on the EIA Directive. Available online at: <http://ec.europa.eu/environment/eia/eia-legalcontext.htm>

applications now undergo an Environmental Impact pre-screening assessment which requires what they describe as “significant input” from DAFM’s scientific and technical advisors.

DAFM insists that addressing the issue of aquaculture licensing in Natura 2000 areas is a key priority for the Department and that every effort is being made to expedite the completion of the overall process having regard to all the complexities involved.

The State’s ‘roadmap’ for implementation of the ECJ Natura Judgment

DAFM and DAHG (which has responsibility for the NPWS), together with the relevant State Agencies put in place structures, procedures and arrangements to address the Natura Licensing challenge.

These are intended to enable progressive delivery by Ireland, in a multi- year plan, of its obligations for compliance in respect to sea fisheries and aquaculture under the EU Habitats and Birds Directives.

The arrangements or roadmap drawn up through this co-ordination and approved by Ministers was laid before the Cion in the context of the ECJ Judgment against Ireland. Arrangements were put in place for the progressive collection of necessary benthic, ornithological and other data in relevant marine Natura sites, the progressive development of conservation objectives in those sites, the progressive completion of Appropriate Assessments (AAs) and the establishment of fisheries Natura plans and other arrangements so as to enable a progressive roll-out of consent determination in line with the Natura obligations once all the requested pre-conditions are met.

The programmes and arrangements put in place are now being implemented by the relevant Departments and Agencies. DAFM (together with the NPWS and *An Foras Mara* | the Marine Institute) is maintaining close contact with the Cion (which has indicated to the DAFM that it is broadly satisfied with the details) regarding the progress of the agreed roadmap.

The first integrated aquaculture and inshore fisheries Appropriate Assessment (AA) was carried out in Castlemaine, Co. Kerry, in full conformity with the Birds and Habitats Directives (Natura 2000). The first licence determinations in respect of this Natura site have been made with over 40 licence determinations being made in respect of Castlemaine Harbour.

Source: Adapted from DAFM briefing note supplied to the L&RS on request on the 26th of July 2013

Some of the overall opportunities and challenges⁶⁷ facing the aquaculture industry were flagged by the Cion in a previous report examining the outlook to the period up to 2012:⁶⁸

- Unit value for the organic salmon sector holding steady and expected to continue due to undersupply;

⁶⁷ Challenges were foreseen in particular for the shellfish sector

⁶⁸ Scientific, Technical and Economic Committee for Fisheries (STECF) Economic Performance of the EU Aquaculture Sector (STECF-OWP-12- 03), (2012, p.122)

- Perch and Turbot production, both relatively new aquaculture sectors in Ireland, set to increase from a small base;
- Trout production over the period to remain steady;
- Shellfish production is limited to the inshore zone and as such is competing with an ever increasing number of other interests for use of a finite supply of foreshore sites and water bodies;
- Mussel seed supply, though found within state inshore waters, undergoes natural fluctuations in quantity and quality annually with the result that production in both the bottom and suspended sectors is expected to fluctuate accordingly within an overall licensed production area that is unlikely to expand significantly in the near future;
- Other shellfish sectors such as Flat Oyster, Scallop, Clam, Abalone and Urchin production are expected to remain at similar levels of production to 2012.

Regardless of these challenges it seems clear that the potential and advantages of successfully addressing aquaculture may form an important part of providing a sustainable future for rural coastal and island communities.⁶⁹

“The example of how oyster fishing in Tralee Bay is managed, as mentioned by Deputy Ferris, is an excellent one. The operation is professionally managed and there is a good working relationship among the individual fishermen. It also has an onshore facility, from a hatchery perspective. It is a good example of what can be done in terms of inshore fishermen moving from what is traditionally seen as wild fisheries to managed fisheries. Similarly, the mussel farming operation in Roaring Water Bay mentioned by Deputy Ó Cuív is an excellent example of inshore fishermen, side by side with in-shore fishing, successfully growing mussels and supplementing their incomes. There are other examples of this around the coast.”

However, the CEO of BIM concluded his appearance before the sub-Committee on Fisheries by stressing that fishermen hoping to diversify or transition in this manner must navigate the “onerous” licensing system.

2.4.6 Overview of the sector ⁷⁰

Irish aquaculture production volume over the 2008 to 2010 period marginally increased overall from 45,000 tonnes to 46,600 tonnes. Overall turnover (and total income) has increased steadily over the period, from € 94.3 million in 2008, to € 122.5 million in 2010. Increased production volume and unit value per tonne of the salmon and Gigas oyster sectors of the industry have been the chief contributors of this value trend.

An increasing proportion of Irish Salmon is organically produced and marketed (approximately 75%). Demand in the more lucrative organic salmon market is outstripping supply. Irish oyster

⁶⁹ Mr Jason Whooley, CEO of BIM, speaking to the sub-Committee on 30th April 2013.

⁷⁰ *The Economic Performance of the EU Aquaculture Sector – 2012 exercise* (STECF-13-03) (2013, pp.116-122)

production is benefiting from recent marketing and branding campaigns among other, perhaps exceptional, factors. In contrast, mussel production over the period dropped from 27,000 tonnes to 22,000 tonnes due to both seed supply and market demand decreases for bottom mussels and market demand slump and quality issues in the rope mussel sector.

Employment in Irish aquaculture over the 2008 to 2010 period declined steadily overall from a total of 1,964 to 1,719 persons. Full Time Employment (FTE) declined for the period from 1,287 to 959 persons.

Shellfish production decline, principally due to the mussel sector, was reflected by employment decreases in the two mussel segments. Employment in other sectors either remained steady, on average, over the 3 year period, as for gigas oysters or showed only a modest increase.

The following descriptions of how products fared in recent years should be read in conjunction with the graphs in Figure 8.

2.4.6.1 Atlantic Salmon ('Salmon Cages')

Salmon production increased from just over 9,000 tonnes in 2008 to over 15,000 tonnes in 2010. The proportion of organic to premium (conventionally produced) product increased over the period, increasing average product unit value and therefore contributing to the increase in overall turnover for the sector. There had been a significant capital investment in the sector in 2008 and 2009 as well as a drive to exploit the organic niche market. The data indicates that the sector was profitable in 2010, during which no farther net investment was indicated. The sector added positively to the economy over the period, as indicated by the increase in GVA and income. Operating costs however continued to rise with the cost of feed being the single biggest cost factor to the industry.

2.4.6.2 Gigas Oyster ('Oyster Other')

Oyster production over the period recovered from a production slump in 2007. Both volume and unit value increased steadily from 6,188 tonnes at 2,000 Euros per tonne in 2008 to 7,051 tonnes at 2,919 Euros per tonne in 2010. Greater specialisation in culturing a particular phase of the production cycle for a given site for optimum return occurred. This, in addition to other changes in husbandry and marketing strategy and a relatively disease free status all contributed to growth in the sector.

The data indicated that, as expected from the above, that income and GVA grew and that the industry had returned to profitability by 2010, contributing positively to the economy. Overall costs had decreased over the period but these such as seed supply and distribution were still considerable.

It can be seen from the data, that 'wages and salaries' and 'raw material costs; stock input and 'other operational costs' were very large components of the overall costs. The Irish industry is very labour intensive and most operations are small with FTE per tonnage produced being relatively high compared to the ratio for the few large operations in Ireland.

Currently the Irish industry is an ever growing one and almost entirely depends on importation of raw material (seed) supply from France and Great Britain and the level of seed supply there. The Irish industry is a captive market regarding seed supply and costs therefore are proportionately higher. 'Other operational costs' include distribution to market. Distribution costs will always be proportionately higher for Ireland due to its location and that of its markets.

2.4.6.3 Rope Mussel ('Mussel Longline')

Production over the period gradually declined in volume and unit value owing to a declining market demand. Despite this, the data indicated a decrease in operating costs and an increase in GVA and profitability. This was due to increased mechanisation and a decrease in employment and attendant costs (FTE down from 213 in 2008 to 216 in 2010).

The sector was indicated as contributing positively to the economy.

The industry continued to be very labour intensive as seen from the proportion of costs attributed to wages and salaries. Depreciation costs were very high in the industry and may be attributable in part to the high rate of wear and tear on farm structures and equipment on relatively exposed sites. Other operational costs were proportionally lower than for the oyster industry, due in part because the rope mussel industry members sell to local processors, thereby avoiding large distribution costs associated with exporting abroad.

Ultimately, most product is exported but the costs are borne to a far larger degree by mussel processors.

Figure 8 – economic performance of three species 2008 -2010

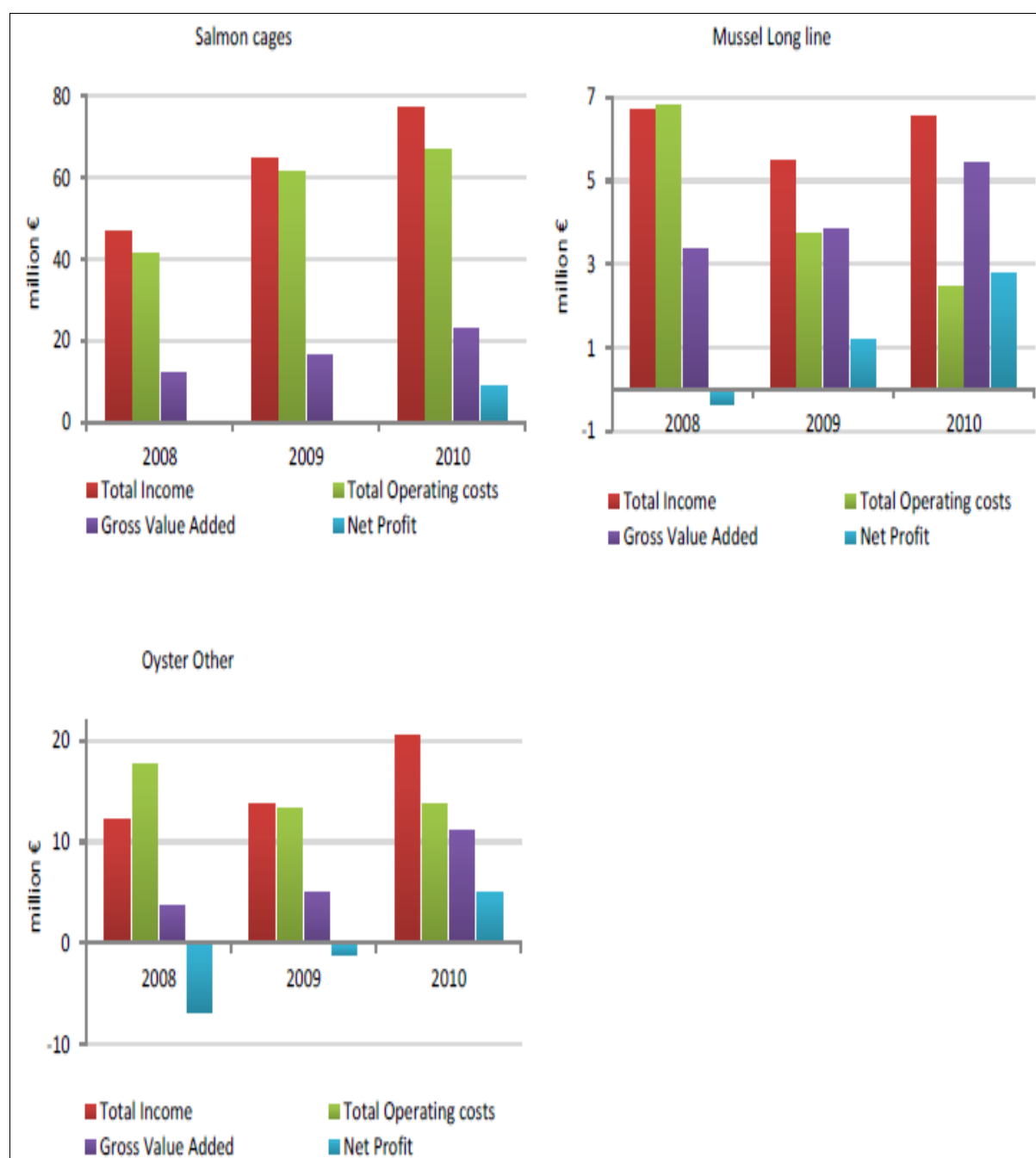
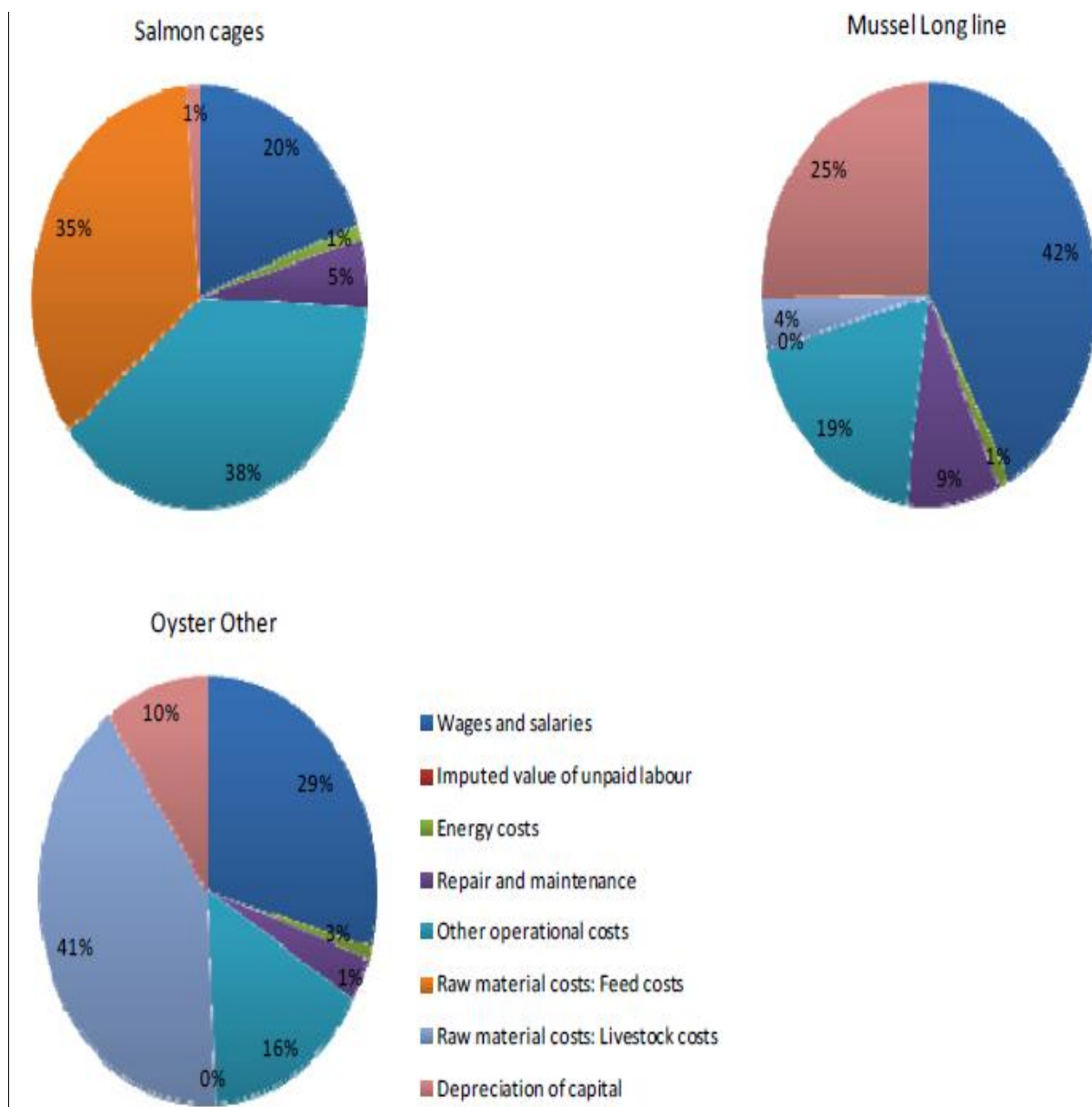


Figure 9 – Performance indicators for three species 2008 -2010



2.4.6.4 Forecast for 2011 to 2013

The Cion's Joint Research Centre (JRC) scientific and policy report also forecasts that aquaculture production volume value and employment for Ireland over the period 2011 to 2013 is not likely to grow overall and that volume may actually decline for the period. This is due to the occurrence of disease and parasitic infestation in two principal sectors and to continuing market demand depression and seed supply in another two.

Amoebic gill disease appeared within the salmon and salmon smolt stock in 2012, seriously affecting supply to the salmon on-growing sector for 2012 and 2013. *Karenia Mikimotoi* has appeared in the oyster stock of one major oyster production bay that previously had been free of this destructive organism. Stock volumes are expected to be seriously affected by this development. Seed availability remains very scarce for the mussel bottom sector, while market demand and prices for both bottom and longline mussel sectors are expected to remain static at best.

2.4.7 Species diversification

There is a risk that the debate on the future of fish farming could become overly focused on one species – Salmon. However, as the debate between Members of the sub-Committee on Fisheries and the DAFM illustrated it may be that in future aquaculture for other species may become dominant. Indeed, the European Commission noted that in 2009 Ireland had a:⁷¹

“relatively diverse aquaculture sector operating across a number of different sub sectors. The main species produced in Ireland are blue mussel (*Mytilus edulis*), native oyster (*Ostrea edulis*), Pacific (gigas) oyster (*Crassostrea gigas*), Atlantic salmon (*Salmo salar*) and rainbow trout (*Oncorhynchus mykiss*).”

The DAFM officials pointed out that the largest part of feed production in the Mediterranean is sea bream and three or four related species that have developed there over the past 20 years and that there is on-going research into other species.

Research into farming cod in Connemara⁷² was also mentioned which DAFM felt showed that Ireland could produce very fast-growing farmed cod. However, while it has been proved biologically feasible to farm cod the current problem is that there has been a rapid expansion of Norwegian cod stocks (it has been posited that this is related to a warming of the ocean) which has depressed the market price to the extent that it may be uneconomic to develop farmed cod.

Looking to the future, Mr Dónal Maguire of BIM told the sub-Committee on Fisheries on 30th April that in ten to twenty years time there would be no single-species fish farms and that aquaculture would be multi-trophic. An example of a model aquaculture enterprise would then be:

⁷¹ p.116

⁷² InshoreIreland article available online at: http://www.inshore-ireland.com/index.php?option=com_content&task=view&id=773&Itemid=178

- a fed farm, which is a fin fish type farm (perhaps salmon);
- a seaweed farm in the stream of the salmon farm to make the best use of any enrichment coming from it; and
- seaweed could be used in turn to feed valuable shellfish or become an ingredient in animal feeds of one kind or another, including fin fish feeds.

Such a model would then involve farming up and down through the trophic levels of the sea, starting with seaweed and then moving through shellfish and up to fin fish and integrating these into unified systems.

Members of the sub-Committee on Fisheries noted the Norwegian and Scottish experience of aquaculture and welcomed the potential for growth in the sector but one cautioned that:⁷³

“When one is balancing books and saying that a provision will create X jobs [in aquaculture], one must subtract the jobs that will be displaced, such as those in sea fisheries. We should avoid that at all costs.”

2.4.8 The commercial success of Salmon farming in Scotland

BIM gave the sub-Committee on Fisheries a very useful summary of the advantages Scotland enjoyed in developing their salmon farming industry:

- Ownership of the foreshore is vested in the Crown Estate Commissioners⁷⁴ which have a strong commercial imperative and which backed the development of the industry;
- Land ownership – a small number of very large estates; and
- A rapid licensing system was in place.

2.4.9 Location of fish farms

A topic of considerable interest to the Members of the sub-Committee on Fisheries was the location of fish farms particularly in light of environmental concerns.

That the relationship between stakeholders in the aquaculture and wild fishing industries in other countries can be a challenging one is illustrated by the following excerpt from the

⁷³

<http://oireachtasdebates.oireachtas.ie/Debates%20Authoring/DebatesWebPack.nsf/committeetakes/AG32013032000005?opendocument>

⁷⁴ <http://www.thecrownestate.co.uk/about-us/scotland/>

summary of a Scottish Parliament | *Pàrlamaid na h-Alba* committee report concerning the Aquaculture and Fisheries Bill (now an Act):⁷⁵

“the Committee’s work was hindered by some of the more adversarial, —tit-for-tat engagement of sections of both the aquaculture and wild fisheries sectors, which resulted in the Committee receiving an excessive number of communications from both sectors making claims and counter-claims. This made it difficult at times for the Committee to assess the best way forward. As important as this legislation is, perhaps of equal significance for Scotland in the long-term, is improving the current relationship between the wild and farmed fishing sectors, with a view to establishing closer, productive, cooperative working relationships for the overall benefit of the people of Scotland and the environment.”

The following text box summarises the situation with regard to one of the more high profile licence applications for a major new fish farm (submitted by BIM).

A major new licence application – *Inis Oírr* fish farm

BIM has submitted an application to the DAFM for an aquaculture licence for the cultivation of fin fish near *Inis Oírr* in *Cuan na Gaillimhe* | Galway bay.

That application and its accompanying environmental impact assessment statement is being considered under the provisions of the 1997 Fisheries (Amendment) Act and the 1933 Foreshore Act. These Acts provide for extensive consultation with stakeholders and also for a general period of public consultation.

The public consultation stage of the assessment process in respect of the application is now closed. A total of 410 valid submissions were received by the DAFM. The application is under active consideration by the Department in conjunction with its scientific, engineering, technical and legal advisers as part of a statutory process.

The legislation provides for possible appeal of any ministerial decision to the Aquaculture Licence Appeals Board, an independent authority for the determination of appeals against decisions of the Minister.

Note: The source of this text box summary is the appearance by officials of the DAFM before the JSC on the 20th of March 2013 available online at:
[http://oireachtasdebates.oireachtas.ie/Debates%20Authoring/WebAttachments.nsf/%28\\$VLookupByConstructedKey%29/committees~20130320~AG3/\\$File/Daily%20Book%20Unrevised.pdf?openelement](http://oireachtasdebates.oireachtas.ie/Debates%20Authoring/WebAttachments.nsf/%28$VLookupByConstructedKey%29/committees~20130320~AG3/$File/Daily%20Book%20Unrevised.pdf?openelement)

However, other issues raised by Members of the sub-Committee on Fisheries included the possibility of siting fish farms on land to provide for the collection of waste and the isolation of

⁷⁵ Rural Affairs, Climate Change and Environment Committee 1st Report, 2013 (Session 4) Stage 1 Report on the Aquaculture and Fisheries (Scotland) Bill available online at:
http://www.scottish.parliament.uk/S4_RuralAffairsClimateChangeandEnvironmentCommittee/Reports/rur-13-01w.pdf

the captive stock from the marine environment. The DAFM responded by pointing out that, to date, commercial fish farming has been carried out at sea. The CEO of BIM, Mr Jason Whooley, provided more detailed information to the sub-Committee on Fisheries:

- That BIM have successfully grown onshore species such as turbot; and that
- Onshore species also grown include perch in counties Tipperary and Monaghan.

The problem, he explained, with growing salmon is that the world production of this species is 2 million tonnes per annum. Of that 2 million tonnes, approximately 10,000 tonnes to 15,000 tonnes is produced on land. The reason for this is that while it is technically feasible it is financially challenging. Added difficulties in Ireland include identifying large sites proximate to the coast in which cages could be situated and the high cost of the electricity used for farm pumping machines. While he also acknowledged that this idea did have potential he also stated that, in his opinion, it would be at least five to ten years, before such a project would be financially viable.

2.4.10 Sustainability

IFA Aquaculture brought their concerns with regard to national strategy to the sub-Committee on Fisheries, i.e. that it was impractical to consider competing with the economic scaling achieved by Norway and that the best approach for Ireland was to be “ahead of the market curve” in anticipating issues related to sustainability such as organic farming and labelling:⁷⁶

“ we developed niche marketing on the organic side, particularly with salmon and trout. The shellfish industry is now getting involved. ‘Sustainability’ is the buzzword, which we have recognised. We are getting very good prices for our products. Bord Bia has introduced the new ‘origin green’⁷⁷ initiative...I am personally drafting a Europe-wide sustainability charter for the aquaculture sector which will be launched in Dublin in May. It consists of a five-point plan to hand the aquaculture industry to the next generation on a sustainable basis...Labelling is vital, particularly country-of-origin labelling...The Food Safety Authority of Ireland and the HSE must be involved as must the SFPA...The question of protected geographical indicators, PGIs, is very relevant. PGIs are available for fish and the first PGI granted in Ireland was for Clare Island salmon, which is now a protected name. There is great potential around the coast, particularly in respect of shellfish, to designate PGIs. The UK, which has a relatively small oyster industry,

⁷⁶ Mr Richie Flynn speaking to the sub-Committee on 28th March 2013

⁷⁷ Origin Green is a development programme developed by Bord Bia to internationally demonstrate the commitment of Irish food and drink producers to operating sustainably - in terms of greenhouse gas emission, energy conservation, water management, biodiversity, community initiatives and health and nutrition.

highlights the qualities of oysters from particular bays. There is a lot to be said for marketing and branding on that basis.

2.5 Island and coastal (within the 12 mile zone) fisheries

It may be useful to preface this section of the Report with an extract from the presentation given by the SFPA to the sub-Committee on Fisheries. It illustrates that the development of aquaculture and inshore fishing are intertwined:

“A key challenge facing some traditional inshore fisheries has been the implementation of EU directives designed to ensure protection of environmental habitats. Following Ministerial direction in 2009, SFPA has been an active part of demonstrating Ireland’s compliance with these obligations. The SFPA-devised control plans have provided assurance that inshore fishing vessels can operate within areas under special protection without damaging the habitat being protected. **The accurate recording of catches and the precise tracking of fishing operations are key features of these control plans which are necessary for Ireland’s opening of fisheries and aquaculture in inshore Natura-designated special areas of conservation.**” [L&RS emphasis]

On a technical (but important, nonetheless) note it should be pointed out that the definition of what constitutes the inshore fishing fleet may vary:⁷⁸

“Note: there are varying opinions of what is considered inshore, coastal etc. The Cawley Report for example defines inshore fleet as vessels less than 12 metres, the coastal fleet as vessels of between 12–18 metres and the near-water and offshore fleet as vessels of >18 metres. For the purposes of this report we refer to coastal and offshore fleet of as vessels greater than 10m.”

2.5.1 The Quota management system

Ireland

Ireland’s inshore fisheries are regarded as valuable, particularly shellfish such as lobster, crab, whelk and scallop.

Rural coastal and island communities are typically associated with fishing vessels which are less than 10 metres LOA, vessels which are appropriate for fishing within the 12 mile zone.

⁷⁸ Economic Survey of the Irish Coastal and Off-Shore Fishing Fleet (SEMUR report series, Patrick Gillespie and Stephen Hynes, n.d., p.3) available online at:
http://www.nuigalway.ie/semru/documents/semru_sfpa_report_8_3_11.pdf

However, species specific quota restrictions apply to all vessels including vessels less than 10 metres LOA. Current details of quota restrictions are published by the Department of Agriculture Fisheries and Food in regular Fisheries Management Notices (FMN's). These FMN's are available on the Department's and SFPA's websites.

How quotas are allocated within the overall Irish fishing fleet

In Ireland, quotas are a public resource and are managed by the Minister for Agriculture, Food and the Marine ('The Minister'). The Minister decides on the management of fish quotas following consultation with industry representatives.

Whitefish quotas - Whitefish and deep sea quotas are generally managed on a monthly basis.

Consultation is carried out each month at the Whitefish Quota Management Advisory Committee meeting involving representatives of the industry, DAFM and the SFPA.

The whitefish quotas are generally managed on the basis of catch limits set for each month. Some 28 whitefish stocks are currently managed in this way.

For some stocks at certain times of the year, the catch limits may be set for a two or three month period.

The catch limit set generally involves a quantity for smaller vessels and double that quantity for larger vessels (vessels under and at or over 55ft /16.76m). vessels using seine fishing gear may receive increased catch limits for certain stocks.

Following a proposal from industry, a special scheme for the management of the monkfish quotas has been in place over recent years. This scheme, open to all polyvalent (multi-purpose) vessels, allows vessel owners who wish to concentrate on the monkfish fishery to be subject to specific conditions. Such vessels receive higher monkfish catch limits in return for lower catch limits of other stocks and must cease whitefish fishing for 4 weeks each year.

Pelagic Management - There are 8 principal managed pelagic stocks (Mackerel, Celtic Sea Herring, North West Herring, Atlanto-Scandian Herring, Horse Mackerel, Blue Whiting, Boarfish and Albacore tuna) and the particular management of each is further subdivided between various sectors of the fleet.

1. Mackerel - The mackerel quota is divided between the large dedicated Pelagic fleet, known as the Refrigerated Seawater Tank (RSW) vessels and the Polyvalent (multi-purpose) vessels on the basis of 87% : 13% share. The allocation arrangements for the RSW Pelagic segment, which were based on vessel length, have been in place for many years. The allocation to the polyvalent vessels is now set based on track record of fishing over the 2007/2009 period which qualified them for an allocation and determines the level of that allocation. The vessels from both fleets receive an allocation for the first 11 months of the year, any uncaught fish for each fleet may be re-allocated to that fleet near the end of the year. **Vessels in the polyvalent segment under 18m in overall length without a track record have access to a periodic boat catch limit and 2.5% of the polyvalent segment allocation is available for these vessels.**

2. Horse Mackerel - The allocation of the horse mackerel quota is established based on track record of fishing vessels in the period prior to 2009. These vessels are given an annual allocation. Vessels without the annual allocation in the polyvalent segment of the fleet may apply for a periodic allocation which is available from a modest proportion of the quota set aside each year, which varies from year to year.

3. Herring Fisheries - Celtic Sea herring fishery: The access arrangements for vessels to the main fishery was established in 2012 based on track record in 2010 and earlier years. The Minister is advised on the management arrangements for this fishery by the Celtic Sea Herring Management Advisory Committee comprising of industry representatives.

The fishery takes place in the autumn and is managed for qualified vessels with a weekly catch limit established for the fishing season. A sentinel fishery around the Dunmore East area is separately managed with 11% of the quota set aside for this fishery. **This sentinel fishery is restricted to smaller vessels (under 17m in overall length) and is not restricted to vessels with track record.** It is usually an autumn fishery with weekly catch limits set for vessels which book into the fishery. **Up to 5% of the quota is also made available for vessels under 20m without a track record on the basis of modest monthly catch limits.** The fishery is closely monitored and reviewed by the Celtic Sea herring Management Advisory Committee who may from time to time recommend amended arrangements for the fishery.

4. North West Herring: The access arrangements for vessels to the main fishery was established in 2012 based on track record in 2010 and earlier years. This is an autumn fishery and vessels qualified for this fishery are allocated an annual allocation. **Up to 5% of the quota is also made available for vessels under 20m without a track record on the basis of modest monthly catch limits.**

5. Atlanto-Scandian herring fishery: This is a fishery in Norwegian waters and allocations are made each year to an agreed small number of selected vessels. The fishery takes place in the early part of the year.

6. Blue Whiting fishery: This fishery is managed on the basis of 94% of the quota set aside for vessels in the RSW Pelagic segment and **6% for vessels in the polyvalent segment.** The vessels given an allocation in the RSW segment are nominated by industry each year. The Minister is currently reviewed the arrangements for the polyvalent segment.

7. Boarfish fishery: This fishery is managed on the basis of 85% of the quota set aside for vessels with the determined track record and 15% for vessels without track record. A small amount to the set aside for by – catch.

8. Albacore Tuna fishery: Under EU Regulation, this fishery is restricted to 50 Irish vessels each year. In recent years, all interested vessels have been accommodated within the fishery. A per trip limit on the quantity landed is set for all vessels.

Source: Adapted from DAFM briefing note dated June 2013 and provided, on request, to the L&RS on the 23rd of July 2013.

Recommendation 7: The sub-Committee recommends that in the event of an extra mackerel quota being given to Ireland, a more equitable distribution of mackerel should be decided on and that the inshore fishing fleet should be accommodated.

2.5.1.1 Monitoring of fish stocks

Responsibility for monitoring fish stocks in Irish waters rests with *An Foras Mara* | the Marine Institute and is published annually in their 'MI Stock Book' which is prepared by the Institute's Fisheries Ecosystems Advisory Services and presented annually to the DAFM in October.

The 'MI Stock Book' also contains important up to date scientific advice on the state of fisheries resources which informs fishing opportunities for the following year.⁷⁹

The SFPA confirmed, in its presentation to the sub-Committee on Fisheries, that inshore fishing vessels operating on a day-trip basis high-value target species such as Prawns, Turbot, Pollock, Brill and Mackerel.

The CSO used to supply a series in their database on fish landings by weight and value and species⁸⁰ but this stopped with 2004 being the last year of data being used. Responsibility was then handed over to BIM to collect and disseminate that information instead.

Recommendation 8: The sub-Committee recommends that a comprehensive fish counter system should be introduced into all Irish salmon rivers in order to fully understand the existing numbers of salmon returning to Irish rivers.

With regard to the proportion of the inshore fleet that is licenced and engaged in fishing for such non-shellfish species the Seafood Industry Strategy Review Group estimated in 2007 that 500 vessels of the then 1,360 strong inshore fleet were restricted to pot-fishing for non-quota species leaving 860 that may have been eligible at that point.

⁷⁹ The Stock Book is available to download electronically on the Marine Institute's web site at www.marine.ie.

⁸⁰ See for example <http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=ATA01&PLanguage=0>

This lack of data with regard to the inshore fleet has consequences for our knowledge base and therefore the State's ability to plan for the future of the inshore fleet and the communities that rely upon it.

For example, a SEMRU report series was able to fill a gap in the use of the log sheet and sales note data of the offshore and coastal fleets and to present, for the first time, a micro-level analysis of the earnings and effort of the different fishing segments in the Irish fishing fleet.

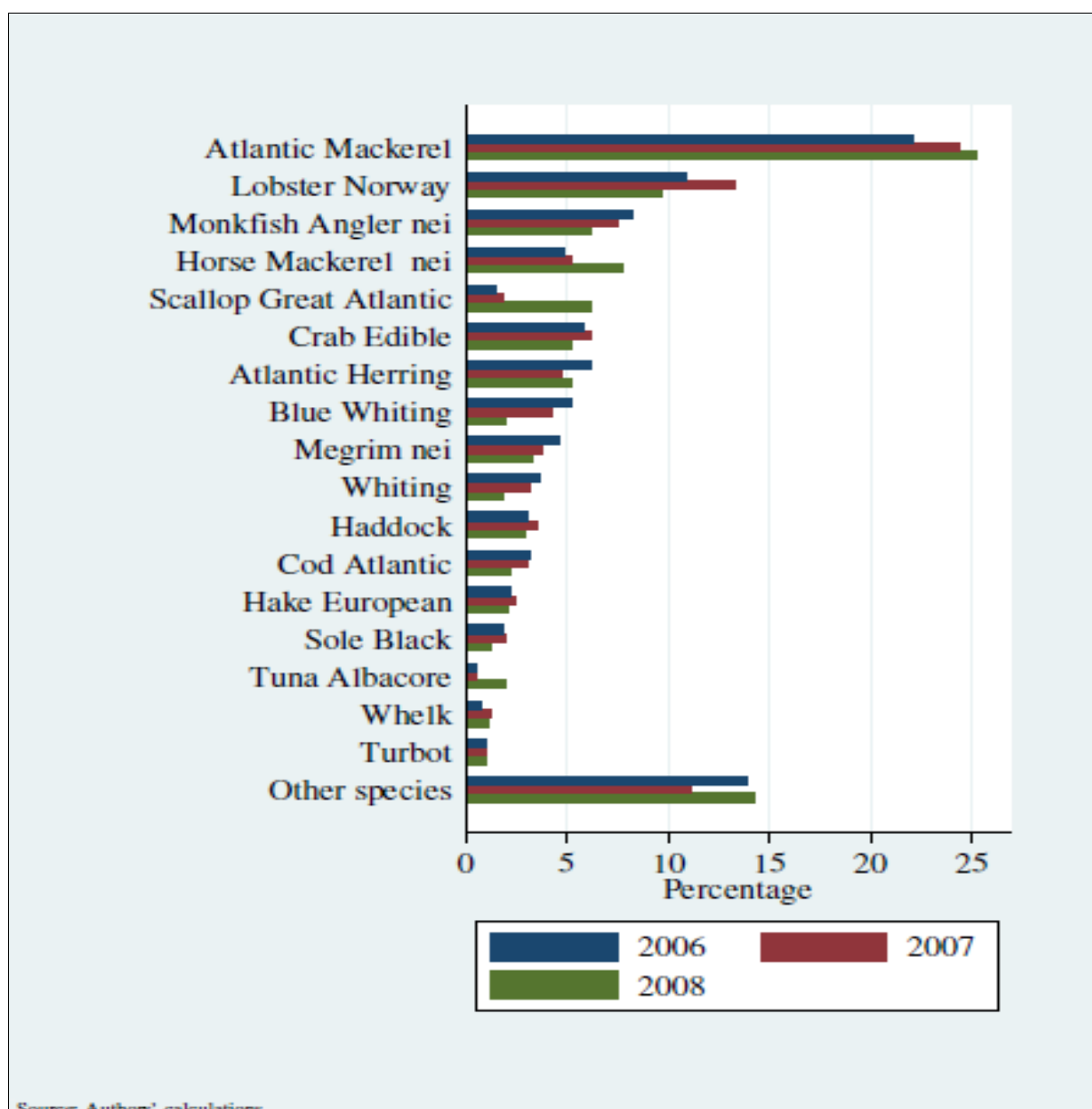
An example of the type of data that can then be readily accessed is shown in Figure 10 (over).

However, the report notes that:⁸¹

“Due to data available this report only analyses what is referred to as the coastal and off-shore Irish fleet. The coastal fleet we define as vessels between 10 and 18 metres while the off-shore fleet is defined as all vessels greater than 18 metres”

⁸¹ Economic Survey of the Irish Coastal and Off-Shore Fishing Fleet (SEMUR Report Series, Patrick Gillespie and Stephen Hynes (n.d., p.3) available online at:
http://www.nuigalway.ie/semru/documents/semru_sfpa_report_8_3_11.pdf

Figure 10 – Offshore and Coastal fleets – Percentage of yearly earnings contributed to by species



Source: Economic Survey of the Irish Coastal and Off-Shore Fishing Fleet (SEMRU Report Series, Patrick Gillespie and Stephen Hynes (SEMRU, n.d., p.10)

Ireland manages and enforces its fishing quotas in accordance with the specifications of the EU Common Fisheries Policy. The Minister for Agriculture, Fisheries and the Marine has

recently described the existing Irish quota management system as one that involves regular consultation with fishing industry interests and being designed to ensure the:⁸²

“rational management of the available quotas, having regard to fishing patterns and market conditions, the best possible spread both between fishermen and also in terms of take up of quota during the year.”

However, inshore fish stocks (e.g. whelk, cockle) are managed nationally and *Foras na Mara* | the Marine Institute works with BIM in relation to inshore management.⁸³ The Inshore Fisheries Atlas⁸⁴ provides details of fishing activity in the inshore waters (up to 10 miles from the Irish coast).

The Shellfish Stocks and Fisheries Review focus specifically on the inshore sector; it gives an overview of Shellfisheries legislation, management and economic value in Ireland and assessment of selected stocks.

The introduction to the latest edition of *Shellfish Stocks and Fisheries Review* (December 2011, BIM / *An Foras Mara* | the Marine Institute) explains that:

“The advice presented here for shellfish is complementary to that presented in the MI Stock Book on demersal and pelagic fisheries. Separate treatment of shellfish is warranted as their biology and distribution, the assessment methods that can be applied to them and the system under which they are managed, all differ substantially to demersal and pelagic stocks. Shellfish stocks are not generally assessed by The International Council for the Exploration of the Sea (ICES) and although they come under the competency of the Common Fisheries Policy they are generally not regulated by TAC and in the main, are distributed inside the national 12nm territorial limit. Management of these fisheries, by the Department of Agriculture, Food and Marine (DAFM), is based mainly on minimum landing sizes and generally, but with exception, there are no input or output controls.

A co-operative management framework introduced by the Governing Department and BIM in 2005 (Anon 2005) is now in abeyance and management proposals developed by the various advisory groups during the period 2005-2008 have not been implemented. [L&RS emphasis]

Management of oyster fisheries is the responsibility of The Department of Communications, Energy and Natural Resources (DCENR) implemented through Inland Fisheries Ireland (IFI). In many cases, however, management responsibility for

⁸² Written answers to Parliamentary Questions on the 8th of May 2013 available online at:

<http://oireachtasdebates.oireachtas.ie/debates%20authoring/debateswebpack.nsf/takes/dail2013050800070>

⁸³ However, while managed nationally inshore fisheries do come within the remit of the CFP but are not managed using the internationally agreed TACs (source: *Annual 2012 Review of Fish Stocks with management Advice for 2013*, p.6)

⁸⁴ Atlas available online at: <http://www.maps.marine.ie/inshore/default.aspx>

oysters is devolved through Fishery Orders or 10 year Aquaculture licences to local cooperatives. The main customers for this review are DAFM, DCENR, IFI and fishing cooperatives with responsibility for management of shellfisheries in inshore waters.”

2.5.1.2 Fleet composition

The most readily available statistics are those which relate to the fleet as a whole and in the interest of giving the context within which these communities exist it is worthwhile to give an overview of the sector (see figure 11 over).

Another source of useful but granular information is the fleet register where you can identify the vessels operating out of the different ports around the country. The following is a link to that European fleet register. It can be search by country and narrowed down to port and gear type:

<http://ec.europa.eu/fisheries/fleet/index.cfm?method=Search.SearchSimple&country=IRL>

Figure 11 – Irish fleet composition

In 2012 the Irish fishing fleet consisted of 2188 registered vessels, with a combined gross tonnage of 63 thousand GT and total power of 191.85 thousand kW and an average age of 26 years (Table 5.10.1). The size of the Irish fishing fleet increased between 2008 and 2012. The number of vessels increased by 12% (or 44 vessels), however the total GT and kW of the fleet declined by 11% and 7% respectively during the same period (fig. 5.10.1). National fleet data is taken from the EU Fleet Register on the 1st January for the reference year. This is inclusive of all vessels registered and does not make compensations for inactive vessels.

Table 5.10.1 Irish national fishing fleet key indicators: 2008-2012

	2008	2009	2010	2011	2012	% change
Capacity						
Number of vessels	1955	2026	2109	2144	2188	11.9
Average vessel age	25	24	25	25	26	4.7
Gross Tonnage (GT, thousand)	70.7	69.9	68.7	69.4	63.0	-10.9
Power (kW, thousand)	206.9	193.6	193.9	195.3	191.9	-7.3
Effort						
Days at sea (thousand)	48.9	48.6	53.2	n/a		8.8
Fishing days (thousand)	40.1	40.1	44.0	n/a		9.8
Energy consumption (Million litres)	129.1	108.5	79.7			-38.3
Employment						
Total Employed	5841	4723	4805			-17.7
FTE	4445	3069	3119			-29.8
Landings						
Weight (thousand tonnes)	198.0	262.6	314.2	n/a		58.7
Value (Million)	196.5	185.9	202.1	n/a		2.9

(Source: EU Member States DCF data submissions)

The total number of fishing enterprises in the IRISH fleet was 1846 in 2012. The vast majority of fishing enterprises, 88%, owned a single vessel and 12% of enterprises owned two to five fishing vessels. Only 0.1% fishing enterprises owned six or more fishing vessels. However, it is possible that vessel owners may own multiple vessels, which are registered under different company names and thus the actual number of fishing enterprises owning more than one vessel may be more.

Total employment was around 4805 jobs and 3119 FTEs in the Irish fleet in 2010. The level of employment increased between 2009 and 2010, with the total number employed increasing by 2% and the number of FTEs increasing by 1.6% over the time period (Table 5.10.1; fig. 5.10.1). Overall the level of employment decreased between 2008 and 2010, with the total number decreasing by 18%. The figures for 2010 may not be indicative due to the small sample size and may explain the high decrease between 2008 and 2010.

Source: The 2012 Annual Economic Report on the EU Fishing Fleet (STECF-12-10), Scientific, Technical and Economic Committee for Fisheries (STECF), European Commission Joint Research Centre, Institute for the Protection and Security of the Citizen (2012, p.173)

While the above report provides some very useful statistics for the fleet as a whole and for larger vessels, it does not encompass vessels under 10 metres LOA. To some extent this relates to the fact that while the SFPa has the task of collating statistics about out-take and landings to facilitate quota allocations to Irish boats including under-10 metre LOA vessels, such vessels don't have a logbook obligation. A sampling exercise is conducted but this was

not considered sufficiently authoritative to be included in the Scientific, Technical and Economic Committee for Fisheries (STECF)⁸⁵ annual reports.

However, Ireland is obligated by EU law to model/extrapolate what under 10 metre LOA vessels may be catching:⁸⁶

“Estimates of total days at sea for vessels under 10m LOA are 104,416 and 152,082 for 2009 and 2010, respectively. Although the operation of the economic aspect of the data collection framework has been much improved relative to previous years, the MS sampling targets were not fully achieved in 2011 (for 2010 data). Lacking a mandatory European legislative framework to ensure compliance with DCF data requests, the MS continues to be forced to rely on the goodwill of the seafood industry to provide data on a voluntary basis.

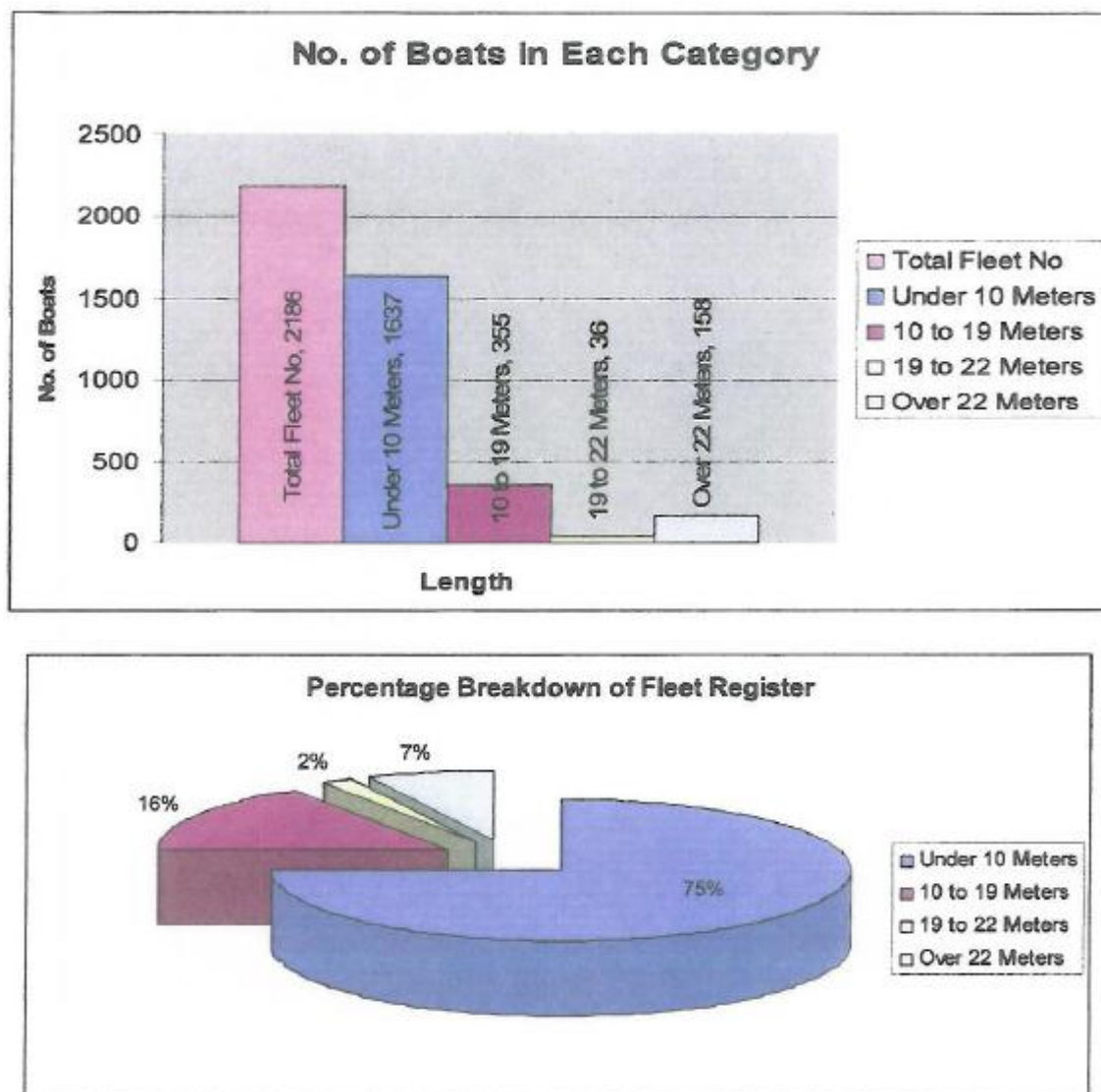
This situation is far from ideal and as a result, survey response rates are highly variable and unpredictable. Survey target rates vary between fleet segments with a high achievement of sampling targets in a number of segments and an under- achievement of targets in other segments. There was a reduction in the response to the 2010 economic survey in comparison to 2009 and this has resulted in less accurate estimations for the 2010 variables.”

One organisation which appeared before the sub-Committee on Fisheries provided a useful graphical overview of the composition of the Irish fishing fleet (see Figure 12 over).

⁸⁵ <http://stecf.jrc.ec.europa.eu/index.html>

⁸⁶ Ibid. p.182

Figure 12 – Graphical representation of the Irish fishing fleet



Source: *Iascairí Intíre Cois Cladach na hÉireann* submission to the sub-Committee on Fisheries (May 2013, p.20)

In addition to the graphical representation provided in Figure 12 it may be worth examining the length and capacity profile of the Irish Shellfish fleet under 13 metres LOA. It may be noted, especially, that:

- The number of vessels within the shellfish (inshore) fleet has increased significantly in all segments; and
- The average LOA of vessels in the aquaculture segment has reduced sharply in the period from 2006 to 2011. The length of vessels in the other segments has also decreased.

Table 6 – Length and capacity profile of the Irish Shellfish fleet (<13m length) 2006-2011 (excluding 4 vivier crabbers and a number of polyvalent scallop vessels >13m)

Segment	2006	2007	2008	2009	2010	2011
Aquaculture	16	21	39	73	86	96
Polyvalent General	953	950	994	1131	1198	1257
Polyvalent Potting	80	492	490	481	467	461
Specific	157	117	128	154	150	145
Grand Total	1206	1580	1651	1839	1901	1959
Average length of vessels						
Aquaculture	31.62	30.00	21.51	14.75	13.33	12.78
Polyvalent General	7.95	7.89	7.82	7.67	7.57	7.63
Polyvalent Potting	7.32	6.74	6.76	6.71	6.67	6.64
Specific	14.70	13.40	13.22	12.09	12.06	11.71
Average Gross Tonnage of vessels						
Aquaculture	212.05	197.86	117.30	64.18	54.12	48.87
Polyvalent General	4.68	4.61	4.38	4.14	3.96	4.30
Polyvalent Potting	2.96	2.28	2.30	2.22	2.16	2.12
Specific	38.62	27.34	25.93	20.54	20.29	18.55
Average kilowattage of vessels						
Aquaculture	468.55	433.79	284.45	166.11	142.51	132.04
Polyvalent General	35.49	36.46	34.05	31.77	30.43	31.73
Polyvalent Potting	44.50	29.60	30.29	29.70	28.93	28.28
Specific	162.81	124.53	113.26	96.36	94.26	90.32
Kilowatts per GT						
Aquaculture	2.21	2.19	2.42	2.59	2.63	2.70
Polyvalent General	7.58	7.91	7.77	7.68	7.69	7.38
Polyvalent Potting	15.03	12.99	13.20	13.39	13.41	13.32
Specific	4.22	4.56	4.37	4.69	4.65	4.87

Source: Shellfish Stocks and Fisheries Review (December 2011, p.6)

The issue of aquaculture within SACs / SPAs is described in this Report but it is worth noting that the existence of these areas also impacts on inshore fishing.

The SFPA states⁸⁷ that fishing operations that have the potential to damage these areas cannot proceed until such time as an AA of the activities has taken place. The Minister for Agriculture Fisheries and the Marine has the power to issue required Natura Permits and may do so when he has published a Natura plan and designation – the Natura declaration provides for the regulation of activities in a SAC / SPA subject to the plan.

⁸⁷ Ibid

The United Kingdom⁸⁸

The UK's quota is shared out among 23 producer organisations (the sector), the inshore fleet (under 10 metre LOA vessels) and vessels not in membership of a producer organisation (the non-sector) based on the fixed quota allocation units (FQA) held by the individual vessels in membership of each group, or by a group collectively.

However, it is important to note that members of the UK Association of Fish Producer Organisations (UKAFPO), mainly large-scale fishermen, currently control more than 90% of the overall fishing quota for England and Wales. Jerry Percy of the New Under Ten Fishermen's Association Ltd (NUTFA) is quoted by a recent BBC article as stating that:

“While we are three-quarters of the commercial fleet in the UK, we have access to only 4% of the quota”.

The same article reported on the 10th of July 2013 that the UK High Court has ruled in favour of redistributing some unused fishing rights from big producers to small-scale fishermen.⁸⁹

Of the 23 producer organisations:

- Eleven are administered by the UK Marine Management Organisation (MMO);
- Ten by Marine Scotland (a Directorate of the Scottish Government | *Riaghaltas na hAlba*); and
- Two are administered jointly by the MMO and the Department for Agriculture and Rural Development (DARD - Northern Ireland).

The producer organisations manage their quotas as they see fit, and take responsibility for ensuring that they do not overfish their allocations. They also can arrange quota swaps either domestically with other producer organisations, the 10 metre and under fleet or the non-sector, or internationally with other member states.

These Fixed Quota Allocation (FQA) units were themselves based on vessels' historic landings during a fixed reference period (1994 to 1996 for most stocks). Each group's share of the total UK quota for a particular stock is based principally on that group's share of the total FQA units for that stock which are held by the UK fleet as a whole.

⁸⁸ http://www.marinemanagement.org.uk/fisheries/management/quotas_how.htm

⁸⁹ 'Fishing quota: Big producers lose reallocation battle' available online at: <http://www.bbc.co.uk/news/uk-23251821>

2.5.2 Licensing and Compliance

2.5.2.1 Registration

All fishing vessels must be registered and have a valid sea fishing licence. It is an offence to sell fish from an unlicensed/unregistered vessel. The Certificate of Registry and Sea Fishing Licence must be carried on board.

However, some vessels may have restricted licences. For example, 'P' Licensed Vessels are restricted to fishing with Pots only. Vessels in the Aquaculture sector have restrictions particular to the sector. In all cases vessels must comply with the conditions set down in their licence. All vessels of 10 metres LOA or more are required to have on board, and to complete, an EU fishing logbook.

In general all vessels of 10 metres LOA or more are required to seek authorisation when fishing for certain species, in certain sea areas or when using specific types of gear / nets.⁹⁰

2.5.2.2 Compliance

The SFPA reported to the sub-Committee on Fisheries that there is generally a culture of compliance in inshore fisheries in Ireland (for example, the v-notch and berried lobster schemes have, they claim, been successful initiatives in protecting and improving inshore lobster stocks). Indeed, the SFPA described a "laudably strong sense of ownership and responsibility" among inshore fishers in the conduct of their business.⁹¹ However, the SFPA also acknowledged that they continued to detect unlicensed and unregistered fishing vessels, a small number of restaurants seeking undersized lobsters from fishermen in an effort to maximise profits and illegal commercial fishing for bass.

Collated 2011 figures of inspections of Irish vessels by the SFPA at port, or the Irish Naval Service at sea, indicate an average of 0.3 inspections per under-10 metre LOA Irish vessel per year. The analogous figure for over-24 metre LOA Irish vessels is 6.8 inspections per vessel per year.

⁹⁰ Requirements for Authorisations are subject to change and the current 'Determination of the Need for an Authorisation for Certain Fish Stocks' is issued by the DAFM and is available on both their website and that of the SFPA. Source: The SFPA's *Guide to Compliance for the Irish Inshore Fleet* (2010). This Guide summarises the principle requirements that apply to Irish Registered Fishing vessels in the under 15 metre fleet operating in Irish Inshore waters.

⁹¹ SFPA appearance before the sub-Committee on the 30th of April 2013

2.5.2.3 Regulation

The SFPA acknowledged how intricate the regulations facing small scale fishermen are. Other barriers to compliance include:

- the frequency with which the regulations change;
- the part-time seasonal nature of the industry; and
- the absence of a representative organisation with whom the SPCA can discuss these issues.

It was, the SFPA informed the sub-Committee on Fisheries, for these reasons that they engaged with representatives of the inshore sector in the South East to develop a comprehensive, user-friendly guidance document for use by the sector. The outcome is a tear-resistant and moisture-resistant *Guide to Compliance*⁹² available in both official languages (but not available online in the Irish language) for the inshore sector which is available free of charge through their regional port offices. The Guide outlines in one document the key legal requirements for these fishers.

The SFPA assured the sub-Committee on Fisheries that it places much store in the utilisation of remote sensing data to enable verification of compliance from a distance. The SFPA also explained that Ireland has chosen to implement a derogation available to fishing vessels over 12 metres LOA for approximately 50% of the Irish 12 metre to 15 metre LOA sector, exempting them from using electronic logbooks when their fishing patterns allows.⁹³ The derogation is provided for under article 15(4) of Council regulation (EC) No. 1224/2009:

“A Member State may exempt masters of Community fishing vessels of less than 15 metres’ length overall flying its flag from paragraph 1 if they:

⁹² *Guide to Compliance for the Irish Inshore Fleet: A concise guide to the legal requirements which apply to under-15 metre Fishing Vessels operating in Irish Inshore Waters* (SFPA, July 2010). English language version available online at: http://sfpa-ie.access.secure-ssl-servers.biz/modules/tinymce/tinymce/jscripts/tiny_mce/plugins/filemanager/files/Inshore%20Guide%20from%20Printers.pdf

Ní raibh nasc leis an leagan Gaeilge ar fáil | No link to the Irish-language version could be found.

⁹³ Council Regulation (EC) No. 1224/2009 requires all vessels between 12 metres and 15 metres to have fully functioning electronic logbooks and satellite-based position monitoring on board fishing vessels. *Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006* available online at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009R1224:en:NOT>

- (a) operate exclusively within the territorial seas of the flag Member State; or
- (b) never spend more than 24 hours at sea from the time of departure to the return to port.”

This approach is in contrast to that taken by the UK in not seeking a derogation as explained in this excerpt from a letter from the Scottish Government | *Riaghaltas na h-Alba* to the Mallaig and North West Fishermen’s Association:⁹⁴

During the negotiations on the Control Regulation the UK took the position that it would not apply the derogation. To apply the derogation would create a two tier system among 12-15 metre vessels as Masters of vessels falling in to Article 15 (4) (b) would be completing paper logbooks. The medium to long term aim of electronic logbooks is to reduce the administrative burden for both the over 12 metre fleet and the Fisheries Administrations. While we accept that there have been challenges to overcome whilst implementing electronic logbooks we

Further clarification as to the compliance requirements of vessels with regard to data capture was sought by the L&RS from the SFPA following its appearance before the sub-Committee on Fisheries. The SFPA clarified that:⁹⁵

- EU Regulations requires every vessel over 10 metres to have a logbook;
- In respect of very vessel over 12 metres the logbook should be Electronic logbook Recording Systems (ERS) and they should have a Vessel Monitoring System (VMS);
- However for vessels of 12-15 metres there is a potential exemption for ERS and/or VMS (see above), and Ireland has chosen to exempt some 12-15 metre vessels from ERS provided they operate in accordance with the exemption criteria set down in the EU regulation;
- In respect of under 10 metre vessels there is a requirement in EU fishery regulations for other systems to monitor catch (for example, by sampling and mathematical modelling, or calculations based upon sales notes); and
- In addition to this there are obligations on the State to monitor what smaller vessels are catching in designated environmentally sensitive areas.

The sub-Committee on Fisheries acknowledged, in its report, that the SFPA are addressing the need to gather more data from smaller fishing vessels in a way that seeks to minimise the regulatory burden:⁹⁶

⁹⁴ Letter dated 20th March 2012 from Marine Scotland (the Scottish Government) to the Scottish Fishermen’s Federation available online at: <http://www.mnwfa.co.uk/wp-content/uploads/2012/03/E-Logs-MS-Mike-Palmer-2003121.pdf>

⁹⁵ e-mail correspondence dated the 20th of May from Micheál O’Mahony SFPA to the L&RS

⁹⁶ Appearance by the SFPA before the sub-Committee on the 30th of April 2013

“Recently, we made a submission to the Department of Public Expenditure and Reform (DPER) [from the SFPA 2013 Capital allocation] proposing that we fund from our budget a pilot scheme to trial the use of small-scale, user-friendly data logging devices for use in smaller vessels. They would facilitate demonstration of compliance with both fishery and environmental legislation.”

The SFPA has clarified to the L&RS that such a pilot scheme would probably be aimed at the under 10 metre LOA segment of the fleet but that this technology may also have applicability in the 10 metre to 12 metre LOA segment (where a paper logbook system is currently in place).

However, the SFPA has pointed out that as their primary role is as a regulator and in the context of the resource constraints they face that this pilot project should not be construed as a commitment by them to resource, in future, a project fitting data-loggers on up to 1,600 vessels.

The SFPA also clarified to the L&RS that, to date, the State has borne the entire cost arising from installing both VMS and ERS on Irish vessels over 15 metres LOA.

In the case of ERS, that initial purchase/commissioning of the system also involved development of the software programme on the devices.

In the case of 12 metre to 15 metre LOA vessels Ireland requires all such vessels to have VMS and approximately 50% of them to also have ERS.

However, this model has consumed a:

- large proportion of the SFPA capital budget;
- significant amount of DAFM ICT development time;
- significant amount of SFPA human resources (SFPA notes that such an ICT infrastructural project is an area for which they were ill-equipped); and
- analogous indirect SFPA costs e.g. salary, travel, overtime etc.

Finally, the SFPA notes that it has also devoted considerable resources to fishermen by way of technical coaching service for the ERS.

Not all costs, however, are borne by the State. Fishermen have borne the running costs of such systems. To date the business model has seen the fishermen bearing the costs of the regulatory-obligated transmission to/from satellites (the SFPA did negotiate a rate per

MegaByte for the first three years). Additionally, following an initial three-year period in the purchase contract the maintenance overhead passes from the State to be borne by the fishermen.

Recommendation 9: The sub-Committee supports initiatives in the small vessel fishing sector that support both compliance and useful data gathering and recommends that such initiatives must aim to impose minimal disruption and cost to fishermen and eliminate unnecessary bureaucracy for smaller vessels. In this respect the sub-Committee calls for increased resources for initiatives such as safety at sea measures.

2.5.2.4 The continuing impact of historically inadequate island infrastructure on licences

One member of the sub-Committee on Fisheries raised the continuing impact of the lack of infrastructure, specifically piers, on the number of licences which island fishermen now have,⁹⁷

“with the exception of Inishmore [*Inis Mór*], there are few significant fishing licences in the islands. That is for the simple reason that piers were not built on the various islands in time for them to acquire the licences in the first instance. When I was Minister, we were trying to build a pier on Arranmore [*Árainn Mhór*] and got as far as the design stage. I think the project has run into the sand. Tory Island [*Tóraigh*] had no significant pier until approximately ten years ago. Inishmaan [*Inis Meán*] had nothing that one could reasonably call a pier - it had a slipway. Inisheer [*Inis Oírr*] had a very poor pier at which boats could not be left during the winter. Despite the fact that these islands are sitting in the middle of the Atlantic, many of their communities do not have the wherewithal to fish. They lack either the necessary quotas or licences.”

2.5.3 Policy developments and recommendations since 1999

The L&RS has reviewed the literature relating to major studies / reports which have either developed policy or attempted to influence that development.

However, only two of the reports deal specifically with the communities which the sub-Committee on Fisheries is examining and these two reports examine socially / economically similar (although culturally / linguistically distinct) communities (Gaeltacht islands and Gaeltacht islands).

⁹⁷ Deputy Éamon Ó Cuív speaking at the sub-Committee on the 30th of April 2013.

Four such reports were identified.

The main points to be drawn from them are now examined (in chronological order, beginning with the earliest report):

Irish Inshore Fisheries Sector – Review & Recommendations (Bord Iascaigh Mhara, Irish Sea Fisheries Board, May 1999)⁹⁸

The review was requested as part of the Government's overall policy for the fisheries sector in general. The report notes that the sector's development had been hindered by a number of factors including the lack of reliable quantitative data and acknowledges that, up to that point, policies and strategies had concentrated on other sub-sectors such as sea-fisheries, aquaculture and inland fisheries. The study was carried out in 1998 to provide the relevant data and to enable a strategic review of the sector to be carried out – it made seventeen recommendations some of which dealt with issues that are outstanding or ongoing, for example:

- that consideration should be given to the zonation of inshore waters for management purposes;
- undertaking a review of marketing strategies and transport and other arrangements for inshore species with a view to maximising price potential for Irish fishermen; and
- encouraging the inshore fisheries sector, where feasible, to avail of opportunities in sea angling in addition to traditional fishing activities.

The list of recommendations can be supplemented with some of the challenges for inshore fisheries also identified by the report (p.46):

- improving catch quality;
- the modernisation of the inshore fleet;
- Attracting younger skippers to the sector;
- Establishing a single body to represent the sector as a whole;
- Improving regulations covering access to and allocation of non-quota species; and
- Limiting the exploitation of inshore resources by larger vessels.

⁹⁸ No online version of this report could be sourced.

It should be noted that this study defined inshore fishing vessels as those of 15 metres or less in length overall (LOA).

The report claimed that specific policy goals had not been established for the inshore fisheries sector due to overlaps between sectors and difficulties in defining the sector. It claimed, however, that a number of key objectives established for the sea fishing and inland sectors applied equally to the inshore sector:

- the maximisation of sustainable fishing opportunities;
- conservation of fish stocks and management / control of fishing activity;
- improvement of the structure and efficiency of the fishing fleet;
- improvement of the handling and processing sectors with a view to increased value added, employment and exports; and
- the effective management of the commercial salmon fishing effort.

Managing Ireland's Inshore Fisheries: the Management Framework for Shellfisheries – Committee structures, functions and process (Bord Iascaigh Mhara, Department of Communications, Marine and Natural resources, February 2005)

The foreword by the then Minister for the Marine stated that the 1999 report (above) had contained a series of recommendations with the most important relating to:

- Development;
- Fleet licensing and Registration;
- Enhanced Stock assessment and research; and
- Policy.

The then Minister claimed that major advances had been made on the first three of these and that “With the adoption of this Framework, I am initiating the forth [fourth] pillar that will see final delivery on all of the 1999 recommendations”.

The ‘Framework’ focused on the fishing of crustaceans and molluscs and identified the committee structures under which issues relevant to the management of shellfisheries were to

be discussed. It characterised this overall approach as one of voluntary and co-operative partnership between the State and industry in order to deliver management plans.

However, the fate of the Framework has been described thus by ‘Inshore Ireland’^{99,100}:

“...the beginning of a formal management structure for the inshore sector began to emerge and in 2005 after two years of discussion, BIM published the Shellfish Management Framework. Sadly by that stage, many who had once again enthusiastically embraced the management and conservation agenda had fallen by the wayside.

Despite this, BIM’s inshore section set about keeping the co-management approach alive, and with the backing of the then Minister, established four, national, Species Advisory Groups (SAGs) for Lobster, Crab, Shrimp and Mollusc.

Based on the co-management (bottom up) philosophy set out in the Shellfish Management Framework, the SAGs brought together regional industry representatives, BIM, the Marine Institute, the SFPA and the Department. This structure also anticipated the formation of Local Advisory Committees (LACs) led by industry and facilitated by BIM. If SAGs provided national co-ordination, LACs would provide a local arm and truly empower local fishermen.

From the outset, the most active advisory group was perhaps the lobster SAG, and for the next two and a half years, the group busily set about drawing up and agreeing a new, national, management regime for lobster...Nine years after the BIM Inshore Report, and eight years after the formation of the inshore network, a ‘plan’ finally went to consultation. In fact, this was to be the first of two, nationwide, consultations (the second addressed issues raised by industry during the first consultation)...By 2008 however, the seascape had changed greatly: NATURA 2000 – a primary conservation initiative of the European Union – had to be addressed.

Special Areas of Conservation (SACs) and Special Protected Areas (SPAs) now stretched around the coast from Dundalk Bay to Inishowen and today it would be hard to find a fisherman who operates entirely outside that network. And so, while the management framework and the species advisory groups, and the lobster management plan may all, sadly, be things of the past, in a few areas Local Advisory Committees (LACs) still meet to work out Fishery Natura Plans (FNPs) that address the conservation objectives that are part-and-parcel of Natura...So, for today and indeed the foreseeable future, NATURA will remain centre stage for inshore fisheries.”

⁹⁹ Inshore Ireland is a marine/freshwater environment newspaper compiled by marine journalists Gillian Mills and Gerry Flynn. It reports on all marine/freshwater-related activities from the coastal rim and inland waterways.

¹⁰⁰ Volume 7, Issue 5 (October/November 2011) of Inshore Ireland. Article entitled ‘New system provides real-time snapshot of fishing activity’ available online at: http://www.inshore-ireland.com/index.php?option=com_content&task=view&id=927&Itemid=201

These two reports therefore give a brief overview of how policy has developed with regard to inshore fisheries since it became a matter for serious review once the BIM study began in 1998 and until the implementation of the NATURA Directive.

The final two reports therefore deal with the inshore fishing industry on the offshore Gaeltacht and Gaeltacht islands of Ireland. Rather than being government reports they were commissioned by community-based organisations; Comhdháil Oileáin na hÉireann and Comhar na nOileán Teo respectively.

Fisheries on the Gaeltacht Islands of Ireland (March 2007)

The report gives the background against which inshore fishing based on the Gaeltacht islands were operating in 2007 – that situation does not seem to have materially improved in the intervening period:

- The cessation of mixed stock salmon fishing;
- Overfishing of island resources by ‘others’;
- Destruction of habitat and pollution;
- Loss of workforces through emigration;
- Licensing and regulatory issues; and
- Increasing cost of fuel.

These threats are characterised as potentially placing the long-term sustainability of fishing on the islands in serious doubt.

With regard to the ‘fishery dimension’ on the island, the report suggests that a fleet of some seventy-four fishing vessels provide income to approximately one hundred households on the islands. Two thirds of these fishermen operate on a part-time basis and the fleet turnover was €2.8m which was mainly composed of brown crab, lobster, salmon and crawfish. *Árainn Mhór*¹⁰¹ and *Inis Bó Finne* had the most active fisheries, followed by *Tóraigh* and *Inis Mór*.

¹⁰¹ The report was published prior to the cessation of mixed stock salmon fishing which it was forecast would have a significant impact on *Árainn Mhór*.

In the particular context of the Gaeltacht the report stresses that fishing continues to provide an important source of local income but that it is also an “essential part of the sociology and continuity of island culture” (p.4).

Under the heading of ‘Development opportunities and strands’ section five of the report (p.16) goes further and states that:

“The core issues associated with island fisheries are not to do with fishing *per se*, but with the maintenance of sustainable communities. The concept of sustainable development requires the balanced integration of social, economic and natural interests in the management of communities and the resources on which they depend...Unfortunately these concepts do not sit well with modern economic and physical planning systems. When they can be expressed in terms of tourism revenue, or cash crops, or land value, development support is readily forthcoming – but such valuations fail to capture the value of heritage.

The nearest one comes to it is the concept of stewardship – farmers can receive payment for practising forms of agriculture that conserve natural features or biodiversity; set aside is now an established part of farm practice; there are well established planning guidelines to protect and preserve exemplary architecture, or settlement structures, or archaeological remains. But there is little in the planning lexicon to cover “community” – and this is problematic.”

However, the report does also make an important practical point which relates to how government (i.e. civil service and State Agency) decisions are made with regard to the provision of infrastructure and follows this up with the affects this has on the viability of any secondary industry (p.11):

“The small-scale of individual fishing enterprises frequently means that they are perceived as being marginal. Consequently island fisheries frequently fail ‘the numbers test’ when proposed investment in infrastructure and other development initiatives are evaluated on value for money criteria. Also, the small scale of landings and the dispersed nature of landings means that new handling, processing and marketing initiatives are often compromised or made more difficult.”

Other practical difficulties include:

- Shortage of facilities;
- Where facilities are available fishermen must often compete for space with tourism and recreational interests.
- facilities for the loading / unloading of catch and supplies as well as for even basic post-harvest processing e.g. filleting.

- There is often no chill or cold storage available for holding landings of fresh catch. Further difficulties for fishing operations result from a shortage of adequate freezing and cold storage facilities for storing bait on many of the islands.
- The non-availability of fuel on most islands presents a unique set of difficulties as storage of anything other than small quantities of gasoline or diesel fuel is highly regulated; and
- Lack of representation: There is poor representation of island interests in any discussions with fishery managers and government institutions.

The report proffers a number of innovative solutions to some of the problems facing the Gaeltacht islands including (p.18):

- bait fishing – the potting polyvalent fishing license does not allow the holder to fish for finfish to bait the pots with; this seems an unnecessary restriction on an island fisherman, where frozen bait has to be brought from the mainland, and then stored in a freezer on-island; a case should be put together for provision of a derogation on this restraint;
- there is much to be said for seeking research funding to explore traditional resource management practices, and how these support maintenance of high marine biodiversity and environmental quality as a precursor to the establishment of special fishing zones restricted to island fishermen only.

The proposal made in the second bullet point above is interesting. However, it received more in-depth analysis within the appendix to the report. This analysis reiterates that a clear disadvantage to not being considered in isolation is the fact that fisheries control and remedial measures are often implemented without special consideration to the impacts that such measures may have on island fishing enterprises. It accepts that while special consideration would not be possible or even appropriate in all circumstances, it maintains that a lack of policy or public representation in relation to the islands means that rarely are management issues brought to the fore in the context of islands and fishing.

However, the report then recognises that given increasing competitiveness for an ever more limited resource, it is unlikely that other sectors of the fleet will tolerate any moves aimed at ring-fencing, or preferential allocation of, fishery resources to islanders.

Ultimately, therefore, it suggests that the best opportunities for improving the outlook for Gaeltacht island fishing enterprises are to continue to seek improved management of inshore resources at regional level while at the same time seeking the provision of incentives to offshore islanders to remain in the fishing industry through:

“novel schemes aimed at facilitating new entrants and existing operators to expand operations into fisheries related activities. The case for significant future investment in improving the infrastructure that island fishers will require to sustain fishing enterprises in island communities cannot be overlooked.”

A Review of fisheries on Ireland's offshore islands: Sustaining island livelihoods (2009)

This report is more or less identical in its objectives and aimed to provide the background material in support of efforts to secure the future of fishing livelihoods on the English-speaking islands of Co Mayo (Inishturk, Clare Island and the smaller islands in Clew Bay, collectively referred to as the Clew Bay Islands), Co Galway (Inishboffin), Co Cork (Dursey, Whiddy, Bere, Sherkin, Heir and Long Islands). Accordingly, much of the data collected and presented is the same as in the Gaeltacht islands report. However, a review of the report is useful inasmuch as it offer us an opportunity to establish what the concerns of these island communities were three years after the previous report.

At the time of publication the report clarified that the offshore island communities retained varying degrees of dependence on commercial fishing for sustenance and as a source of employment and income. However, it pointed out (p.6) that the future role of commercial sea fisheries in sustaining island communities into the future was increasingly uncertain. Issues identified were:

- a sharp decline in most stocks of commercially exploited species;
- an ageing/declining fleet;
- increasing regulatory burden;
- infrastructural weakness;
- market conditions including access, market positioning and competition; and
- demographics of island.

These issues are similar to those identified in the **earlier** Gaeltacht islands report.

On a positive note the report suggests (p.31) that fisheries are gradually moving towards management by limited entry and suggests this will at some point in the future strongly underpin the management of inshore resources.

As with the Gaeltacht Islands report considerable stress is placed on the concept of what might be termed ‘special treatment’ for island fishermen. However, while the previous report

suggested restricting certain zones to island fishing communities, this latter report proposes regulatory exemptions or derogations from some regulations and sets out some approaches aimed at preventing their abuse (p.34):

“To present a reasonable prospect of some of the suggestions being taken on board and receiving serious consideration, it must be shown that any special concessions afforded to island fishers will not cause displacement within the fleet. It is an inevitable consequence that the granting of special terms or conditions for any sector will tend to cause migration of vessels into that sector in order to piggy back on any concessions granted. Displacement can easily be prevented by designating a limited number of fishing licences (on an individual and specific island basis) as Heritage Licences – a one time only process that would establish a register of island fishing licences. An alternative proposal could aim to associate a Heritage Fishing Permit with an existing licence, with the Permit being owned by an island based Community organisation who may assign it to a particular island based and appropriately licensed fisher, subject to a standard set of conditions.

Once it became possible to distinguish island vessels through modifications to the licensing regime or through a permit system, appropriate development initiatives and regulatory derogations be devised and focused at island fishers, with the ultimate objective of securing the future of island based fishing livelihoods.”

The rationale for such exemptions is explained (p.38) as being based on the increasing complexity of administering a fishing enterprise which it is claimed makes the activity far less attractive, particularly to small scale fishermen. Naturally, an important part of Government general business policy towards entrepreneurship for some years in relation to Small and Medium-sized Enterprises has been that of reducing ‘red tape’.

Recommendation 10: The sub-Committee recommends that the Government examines the feasibility of ‘heritage licences’ to be issued by the Department for rural coastal and island communities. Such licences would, optimally facilitate traditional fishing practices in conjunction with the establishment of a producer organisation representing vessels under a certain LOA in these designated areas.

With regard to other policy reports attention is drawn, in particular, to the Cawley report¹⁰² which, it is suggested (p.35):

¹⁰² *Steering a New Course, Strategy for a Restructured, Sustainable and Profitable Irish Seafood Industry 2007-2013* (Seafood Industry Strategy Review Group, 2006) available online at: http://www.bim.ie/media/bim/content/publications/corporate-other-publications/BIM_Steering%20a%20New%20Course%20-%20National%20Seafood%20Strategy.pdf

“makes many positive and constructive recommendations in relation to several core themes, including Fisheries Management, Fleet Restructuring and Aquaculture development. However most aspects of the strategy are being implemented in a piecemeal fashion and there is no clear commitment to resolving the question of decommissioning of vessels under 18 meters [LOA]. Until this element of the fleet is restructured, the task of improving the prospects of inshore fisheries is likely to remain ham strung. Until recommended actions in relation to aquaculture licensing are implemented, difficulties with licensing are likely to remain close to the top of the list of barriers to growth. The same can be said of recommendations in relation to fisheries management – there are clear opportunities to begin to make inroads in respect of inshore management but this is not reflected by action so far.”

The report also highlights (p.38) the likelihood of prosecution for what it describes as minor or cursory breaches of fisheries legislation. It states that under the relevant primary legislation that applies to fisheries (principally the *Sea Fisheries and Maritime Jurisdiction Act 2006*)¹⁰³ offences are very likely to result in a criminal prosecution, as there is no clear provision for administrative sanctions to be applied in respect of some offences. However, the report also accepts that greater control over access to and utilisation of sea fishery resources is necessary in order to safeguard stocks. It maintains, however, that much of the legislation and regulation is misguided and fails to tackle the core issue of “regulation of effort through limiting access.”

A Private Member’s Bill was introduced in May 2013, the *Sea Fisheries and Maritime Jurisdiction (Fixed Penalty Notice) Bill 2013*¹⁰⁴ the main aspects of which are:

- Large Foreign Vessels will continue to be subject to criminal sanctions;
- Criminal sanctions will be replaced with administrative penalties for local fishing vessels; and
- That an independent appeals system for such penalties will be introduced.

One of the main purposes of the bill is that “small fishing infraction does not result in fishermen having criminal convictions and in addition high court costs”.¹⁰⁵

The author of ‘Overkill!’ has a different perspective (pp.322 – 333) as to the introduction of the 2006 legislation describing the Bill as initiated in 2005 as “long overdue”. However, the author notes that by the time the Bill became law in 2006 it involved compromises such as the halving

¹⁰³ <http://www.irishstatutebook.ie/2006/en/act/pub/0008/>

¹⁰⁴ Available online at: <http://www.oireachtas.ie/viewdoc.asp?DocID=23440&&CatID=59>

¹⁰⁵ <http://brianodomhnaill.ie/2013/05/08/sea-fisheries-and-maritime-jurisdiction-fixed-penalty-notice-bill-2013/>

of the maximum value of a fine and the removal of the threat of confiscation of gear and vessel.

Recommendation 11: The sub-Committee recommends a more flexible legislative approach to minor fishing infractions that would ensure that they are dealt with in a way that reflects the scale of the infractions i.e. based on the LOA and the fishing impact of the vessel concerned.

2.2.3.1 Ongoing relevance of the foregoing reports

The continuing relevance of the policy proposals made in these reports may be judged by some of the proposals made by one community organisation representing fishermen in the under 10 metre LOA inshore fisheries sector, *Iascairí Intíre Cois Cladach na hÉireann*:

- A need to focus policy on providing advantages to the under 10 metre LOA sector;
- The establishment of a new fisheries management and development board comprising all stakeholders including the under 10 metre LOA sector;
- A “proper” labelling system emphasising the quality of Irish-caught fish;
- Allowing fishing vessels to become Multi-functional Vessels (MFVs) thereby allowing them to access other sources of income;
- A lack of social or economic impact studies in relation to coastal communities; and
- Confining fishing within a certain limit from shore to the under 10 metre sector

2.5.4 Salmon Fisheries management

One of the main reasons for the establishment of the sub-Committee on Fisheries was concern in relation to how (wild) Salmon fisheries have and are being managed.

Many of these concerns have previously been discussed in debate in the Houses of the Oireachtas:¹⁰⁶

“I will refresh the memory of the House. In 2006, a Fisheries Bill was introduced and in the same year, the then Minister...decided to revoke the licence for salmon net fishing around the coastline. This caused great consternation and, arising therefrom, an absolute ban on drift nets for salmon fishing was introduced which affected people

¹⁰⁶ Seanad debate of the 20th of June 2012 available online at:
<http://debates.oireachtas.ie/seanad/2012/06/20/00012.asp>

around west Cork, Kerry, the island communities and, as my colleague will attest, in Donegal. It had a socio-economic impact on those areas.”

The evolution of the current situation and the basis for it has previously been set out by the Central Fisheries Board (now IFI).¹⁰⁷

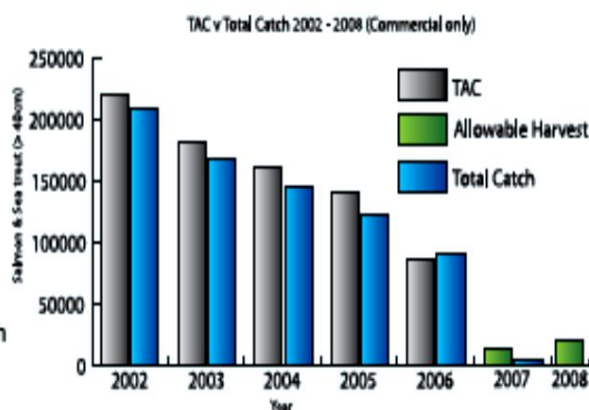
¹⁰⁷ It may be noted that drift netting was banned in Scotland in 1962.
<http://www.scotland.gov.uk/Resource/Doc/1063/0050906.pdf>

Figure 13 – Evolution of (wild) Salmon fisheries management

In the 1990s Ireland was concerned at the decline of salmon numbers returning to the Irish Coast. The Minister for the Marine established a Salmon Task Force to consider this matter and advise him on how this decline might be arrested and stocks improved.

- 1996 - The Salmon Task Force reported in 1996 and, having considered its recommendations, the Minister introduced, amongst other things, the following conservation measures in 1997:

1. Fishing area reduced from 12 miles to 6 miles offshore.
2. Cap was placed on the total number of commercial licences issued.
3. Commercial season for draft netting postponed until May 12th and drift netting postponed until June 1st.
4. Fishing week reduced to 4 days.
5. Ban placed on night fishing.



- 2000 - Established the National Salmon Commission to advise Irish authorities on salmon management. This comprised of a Standing Scientific Committee (SSC), whose role was to support, advise and assist the National Salmon Commission on all appropriate technical and scientific matters.
- 2001 - Mandatory carcass tag and log book scheme introduced for all wild salmon and sea trout over 40cm and the sale of rod caught fish banned.
- 2002 - Introduction of Total Allowable Catch (TAC) for commercial salmon fishermen and a bag limit of 20 fish per angler per season. Commercial quota set at 219,000 salmon.
- 2003 - Commercial quota further reduced to 182,000 salmon. The Central Fisheries Board undertook an independent economic / socio economic evaluation of wild salmon in Ireland.
- 2004 - Commercial quota reduced even further to 182,000 salmon. The Standing Scientific Committee changed from using a catch based model to using a wetted area model, based on productive salmon habitat, for determining the conservation limits.
- 2005 - Commercial quota reduced even further to 140,000 salmon. Irish authorities confirm their commitment to have national and district quotas fully aligned with scientific advice provided by the Standing Scientific Committee by 2007.
- 2006 - Commercial quota reduced even further to 91,000 salmon. The terms of reference for the Standing Scientific Committee were amended so that advice is now to be provided on an individual catchment basis rather than a district basis. However as Ireland was still operating a mixed stock fishery at sea, the Standing Scientific Committee provided guidance figures on a district basis.



- 2007 - Irish Authorities commit to aligning with the scientific advice for the 2007 salmon season and end mixed stock salmon fisheries at sea. Scientific advice is provided in the context of individual river stocks rather than aggregated district stocks. Harvest of salmon is only allowed in rivers where there is a surplus above the conservation limit identified and no more than this surplus will be harvested. The Irish Government introduces a hardship scheme for drift and draft net fishermen wishing to exit the fishery. The Irish Government decides to apply a salmon conservation component to the licence fee equal to the cost of the licence which contributes towards a programme for rehabilitation of salmon stocks, to be implemented by the Regional Fisheries Boards. The reported commercial catch was 8,877. The adjusted rod catch was 19,781.

- 2008 - With 148 listed salmon rivers, 62 are open for angling of which 22 are open on a catch & release basis and 86 rivers are closed. River rehabilitation projects carried out on rivers below conservation limit in areas of SAC's funded by the proceeds of the salmon conservation component generated from licence sales.

Source: *Wild Salmon management in Ireland*, Central Fisheries Board (n.d.)

It was pointed out to the sub-Committee on Fisheries by BIM on the 30th April 2013 that drift netting itself was not banned; what was banned was mixed stock¹⁰⁸ salmon fishing. However, this seems to be a mainly technical distinction as mixed stock fishing by drift net was the cause of the problem. BIM also pointed out that the case of mixed stock fishing off *Árainn Mhór* is particularly problematic because it is what could be described as an 'oceanic junction' where stocks cross paths:¹⁰⁹

"Arranmore [*Árainn Mhór*] seems to be at a crossroads, with fish passing by that are destined for a multiplicity of rivers, not just in Ireland but also on the continent. A net put in the water there will not only take fish destined for a river that it is in surplus but will also take fish destined for rivers that are, perhaps, not in surplus."

On a positive note for other regions it was pointed out that some estuaries now have surplus stocks.

¹⁰⁸ The internationally accepted definition of mixed stock fisheries (MSF), agreed by the North Atlantic Salmon Conservation Organisation (NASCO), is: "A fishery exploiting a significant number of salmon from two or more river stocks".

¹⁰⁹ Mr Michael Keating, BIM, during the sub-Committee meeting of 30th April 2103

The position of mixed stock fisheries in other countries

All commercial mixed stock fishing is banned in Iceland, the United States of America, Canada, Finland and Spain (Asturias). Sweden operates a tiny fishery of 400 fish, and is only permitted on stocked rivers. Scotland, like Ireland, has banned drift netting [this is nit case according to BIM – see previous page], and has also severely reduced its mixed stock fisheries, with a policy in place to confine all exploitation to within individual rivers and estuaries. Norway banned drift netting in 1989, and its policy is to phase out all bend nets by 2013. In Northern Ireland, 90% of the commercial nets in the Foyle area were bought out by the Government, with the remainder under negotiation. The Russian Federation has imposed a quota on its coastal fisheries of 40 tonnes (8,000 fish) with a policy to phase out the fisheries eventually.

Source: Report of the Scottish Mixed Stock Salmon Fisheries Working Group (2010, p.46)
Available online at: <http://www.scotland.gov.uk/Publications/2010/03/31154416/0>

A very useful overview of the issues facing Member States (MS) within the EU when it comes to mixed stock fishing (MSF) is provided in section 3.4 (pp.44-45) of the *Report of the Scottish Mixed Stock Salmon Fisheries Working Group* (2010).

This report notes that the European Commission (Cion) has considered the question of MSF. The Cion Staff Working Document *Report on Mixed Stock Fisheries for Salmon in Atlantic Community Waters* (2006, p.11),¹¹⁰ states that:

“In the present conditions, MSFs for salmon are widely considered to be inappropriate because the lack of information on the stocks being exploited make the conservation and rational management of individual river stocks very difficult. It is therefore widely agreed that there should be a general presumption against operating MSFs unless they can be shown not to contravene basic conservation policies”.

and concludes that:

“national legislation is perfectly adequate to minimise the impact of mixed stock fisheries on salmon conservation”.

The Cion Staff paper further recognises that the challenge for management authorities is to ensure sustainability of stocks and a fair sharing of fishing opportunities by the various types of fishermen. It acknowledges that not all causes of stock decline are related to fisheries so that regardless of management of exploitation, other challenges to stocks may remain.

¹¹⁰ Available online at:

http://www.europarl.europa.eu/registre/docs_autres_institutions/commission_europeenne/sec/2006/0590/COM_SE C%282006%290590_EN.pdf

These potential challenges include:

- Predation;¹¹¹
- River water quality;
- Deterioration or loss of spawning grounds; and
- Man-made barriers to migration.

Interestingly, the Cion paper is of the view that MSF are not inherently detrimental to stock status. However, the paper does suggest that even if the real effect of an MSF on a distant river is low, the interception of just a few fish could harm the rebuilding to sustainable levels of some small and depleted stocks, where the spawning population may consist of just a few tens of individuals. This has the implication that, on the basis of NASCO objectives, this requires a precautionary approach including the complete banning of all MSFs.

The Scottish Working Group report does however conclude by acknowledging the counter-argument that such complete banning does not recognise the issue of proportionality between the socio-economic impact of the measure and the likelihood and magnitude of the threat to stock recovery.

The sub-Committee on Fisheries is, of course, conscious from the presentations made by fishing representatives of the scale of the socio-economic impact of the ban on MSF on communities such as *Árainn Mhór*.

The potential and future use of Genetic Stock Identification is therefore a development that should be incentivised.

Genetic Stock Identification

Stock-specific management actions can be difficult to implement since groups of fish are often mixtures of stocks from different areas or with different behaviours. This presents a particular challenge for decision-makers seeking to balance fishing opportunities with resource conservation when abundant stocks intermingle with weaker stocks. GSI is one of the most successful biological tools to determine composition of mixed stocks and origin of individual fish. A variety of identification methods are utilized to analyse mixtures of fish in an effort to study or benefit specific spawning populations of salmon. While some methods artificially

¹¹¹ For example, see the *Seal Salmon Predation Project Interim Report* (December 2012) available online at: <http://www.fisheriesireland.ie/Notices/sealsalmon-predation-project-interim-report.html>

place a tag on a fish, other methods such as GSI take advantage of the naturally-occurring, inherent biological differences between stocks.

The advantages of modern GSI include:

- Fish can be easily and non-lethally sampled.
- Tissue samples require no special storage.
- Can provide close to 'real-time' information on stock composition.
- Estimates are based on a solid statistical framework.

Source: Northwest Fisheries Science Centre (2011). Factsheet available online at: http://www.nwfsc.noaa.gov/publications/documents/gsi_2011.pdf

It does seem clear that the more exact the scientific data available by which salmon stock and populations can be assessed the better the prospects may be for an eventual or partial return to MSF either by using drift nets or otherwise.

In the short-term, the issues which fishing communities feel have led to the decrease in salmon stocks in particular but, generally, that of many species remain those of pollution, seal predation and poaching.¹¹²

Recommendation 12: The sub-Committee recommends that if salmon stocks are increasing, innovative technologies should be used so that all fishermen including drift fishermen can harvest them in a controlled and managed way that will not endanger stocks and that pilot projects should be initiated and Ireland should lead the way.

2.5.5 Developments at EU level

As noted by Dr Alyne Delaney at her appearance before the sub-Committee on Fisheries new initiatives such as the establishment of FLAGs (under Axis 4 of the European Fisheries Fund (EFF)) may provide opportunities in situations where a transition from traditional to alternative industries may be appropriate.

¹¹² Senator Brian Ó Domhnaill speaking at the sub-Committee meeting on the 25th of June 2013.

2.2.3.1 The establishment of FLAGs under Axis 4 of the EFF¹¹³

Priority Axis 4 of the European Fisheries Fund (EFF) represents a new departure for structural aid in the fisheries sector. Unlike previous programmes Axis 4 focuses on the sustainable development of fisheries areas. This area-based approach was introduced into the EFF for the first time in the period 2007–2013 and reflects the complex and rapidly-changing forces affecting fisheries areas and communities. In many cases these cannot be dealt with by traditional policies and tools on their own.

Central to this area-based approach is the argument that the EU “must be able to provide accompanying measures in conjunction with the conversion of areas affected by the restructuring of the fisheries sector”.¹¹⁴ Axis 4 provides the EFF with such measures, while the area-based approach means that solutions can be adapted to the different situations and problems that exist in different parts of the country.

In some respects Axis 4 may appear similar to other initiatives and some of the actions carried out may prove similar to those implemented under other schemes. However, the crucial difference between Axis 4 and other elements of the EFF lies not so much in the individual actions undertaken but in the way in which these actions are implemented and linked together, both in the fisheries area and by the fishing communities themselves. In this respect Axis 4 is similar to the Leader ‘area-based approach’¹¹⁵ to development in rural areas.

Axis 4 seeks to go beyond merely tackling the short term effects of the economic, social and environmental consequences of the depletion of fish stocks. Its purpose is to enable fisheries communities to create new and sustainable sources of income and to improve their quality of life. It aims to do this by empowering local communities by providing them with the tools and resources to develop and adapt solutions to meet their needs.

¹¹³ The following section is based on information contained in AXIS 4 A START UP GUIDE FOR FISHERIES LOCAL ACTION GROUPS - Sustainable Development of Fishery Dependent Areas available online at: <http://www.bim.ie/media/bim/content/newsandevents/START%20UP%20GUIDE%20FOR%20FISHERIES%20LOCAL%20ACTION%20GROUPS.pdf>

¹¹⁴ Ibid. (Introduction)

¹¹⁵ Strategies for local development that have an area-based/spatial element and a "bottom-up" method of implementation are now perceived as essential in complementing and reinforcing the traditional range of macro-economic and structural development policies. According to the 1996 OECD report on "Ireland: Local Partnerships and Social Innovation", "As well as improving the efficiency of public policy-making, area-based approaches also permit policies to be more socially inclusive and help ensure the social stability and cohesion without which economic growth and structural adjustment will be obstructed." Source: Challenges for rural areas, available online at: <http://ec.europa.eu/agriculture/rur/leader2/rural-en/biblio/defis/art02.htm>

The central principles of the approach are driven by the diversity of fisheries areas and situations that exist throughout the EU as well as the principle of subsidiarity. This means empowering local communities to become the drivers of local development. Assistance under Axis 4 is designed to form part of an integrated local approach centred on a local development strategy which is adapted to the local situation. Its design and implementation will be as decentralised as possible, coordinated by a partnership of local actors from the public, private and community sectors that have come together to form a FLAG or, in some cases, a local committee.

The overall approach can be characterised by three main and interlinked strands:

- (a) the territory or area,
- (b) the group or partnership, and
- (c) the integrated local development strategy.

The approach to be taken is encapsulated by the following statement:¹¹⁶

“Axis 4 of the European Fisheries Fund is different from the rest of the fund in that it targets fisheries areas rather than just the fisheries sector. This is reflected in its title ‘Sustainable development of fisheries Dependant Areas’ and article 43.3 of the EFF which specifies that areas selected for assistance should be limited in size but should also be sufficiently coherent from a geographical, economic and social point of view. In particular assistance should target areas with low population density, areas where fishing is in decline, and small fisheries communities.

In Ireland, we are keen to ensure that the benefits of Axis 4 are available to all fishing communities meeting the eligibility criteria of the EFF. So while towns and cities with a population in excess of 15,000 and projects located more than 10 kilometres from the sea are explicitly excluded under the terms of the regulation, the vast majority of our coastline is included....

In Ireland Axis 4 will develop around 6 FLAGs chosen to reflect contiguous stretches of coastline with broadly similar backgrounds and local issues. For convenience these are referred to as regions:

To support the effective operation of Fisheries Local Action Groups...The final group envisaged is the local committee. This will operate at a more local level than the FLAG – a priority sub area within a FLAG - and will be primarily responsible for project development and implementation.”

¹¹⁶ See footnotes 101/102.

The functions, objectives and composition of the FLAGs is set out in the following figure (see Figure 14 over); the geographical configuration is given in Figure 15.

Figure 14 - FLAGS- Functions, Objectives and Composition

Fisheries Local Action Groups will be the main drivers of Axis 4. These are the groups that will

- develop and implement integrated local development strategies - *STRATEGY*
- approve or reject projects delivered under Axis 4 - *DECISION MAKING*
- provide the administrative support base for of Axis 4 delivery - *ADMINISTRATION*

Fisheries Local Action Group will aim to achieve the following objectives

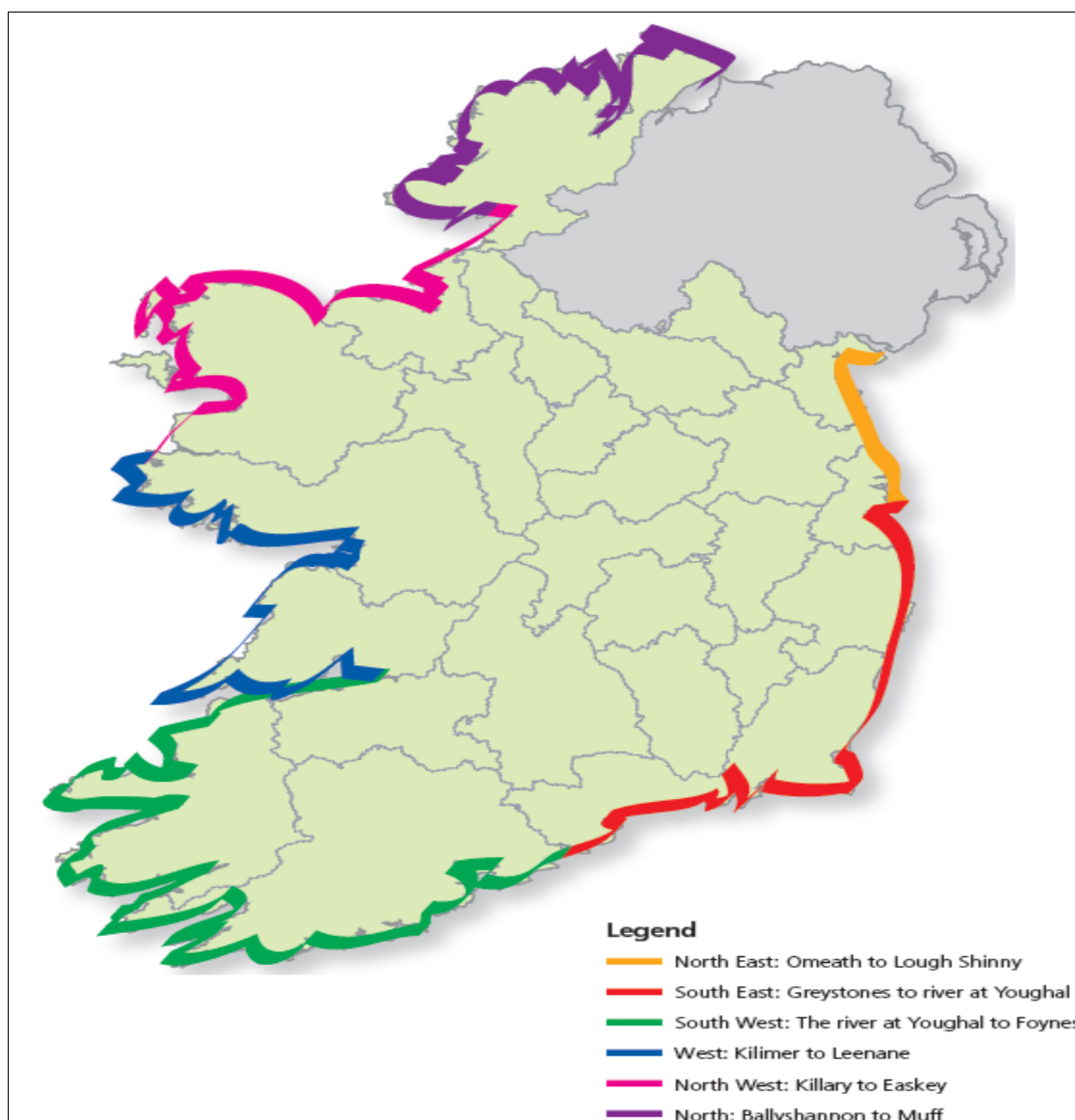
1. To enhance the economic and social prosperity of the areas concerned and to add value to fisheries products;
2. To maintain and support job creation in the areas concerned through support for diversification and the economic and social restructuring of areas facing socio-economic difficulties as a result of changes in the fisheries sector;
3. To promote the quality of the coastal environment

Fisheries Local Action Group will consist of a Board, made up of public and private partners from the various local socio economic sectors, selected according to the principle of proportionality.

The precise composition of FLAGS will be decided, where necessary, on a case-by-case basis, bearing in mind local circumstances. In general the following guidelines will be taken into account:

- a) FLAGS will consist of a Chairman and a minimum of 10 ordinary members. The role of the Chairman is to provide leadership and guidance to the FLAG and to act as a 'driver of success'.
- b) In respect of decision making, the Chairman will at all times seek to establish consensus within the FLAG, but will, where necessary, accept a majority decision of the ordinary members, or in the event of a tied decision, exercise a casting vote.
- c) The balance of public to private members of the FLAG will be taken in to account and, in general, public representative should not occupy more than 40% of the ordinary positions.
- d) Gender balance will be respected by FLAGS and, in general, this balance will not be less than 30%.
- e) The representation of local, relevant, socio economic sectors is essential to the functioning of FLAGS and these representatives will be allocated not less than 60% of the ordinary positions.

Figure 15 – National map of Axis 4 Fisheries Local Area Groups (FLAGs)



Recommendation 13: The sub-Committee recommends that the progress of the six designated Fisheries Local Action Groups (FLAGs) should be evaluated on an on-going basis and that significantly increased funding be sought for this programme.

The role of Bord lascaigh Mhara

BIM is the Implementing Authority for the European Fisheries Fund in Ireland. As such it retains responsibility for the overall administration of the Axis 4 programme. BIM will, for example, co-ordinate the formation of FLAGs.

The Fisheries Local Development Measure is the basis of all grant aid dispersed by FLAGs. While the European Fisheries Fund sets out the areas that may be funded through Axis 4, it is a matter for the FLAG, based on their integrated local development strategy, to determine the priorities for funding in their area. Each FLAG will do this by way of its Fisheries Local Development Measure. This is the brochure setting out the priorities, the terms and conditions, the selection criteria etc. as well as the application form for operations financed within a region/priority area that give effect to the integrated local development strategy.

Article 44 of the EFF sets out the eligible measures where support for sustainable development of fisheries areas may be granted. These include, *inter alia*:

- (a) Strengthening the competitiveness of fisheries areas
- (b) Restructuring and redirecting economic activities, in particular by promoting eco-tourism, provided that these activities do not result in an increase in the fishing effort.
- (c) Diversifying activities through the promotion of multiple employment for fishers through the creation of additional jobs outside the fisheries sector.
- (d) Adding value to fisheries products.
- (e) Supporting small fisheries and tourism related infrastructure and services for the benefit of small coastal communities.
- (f) Protecting the environment in fisheries areas to maintain its attractiveness, regenerating and developing coastal hamlets and villages with fisheries activities and protecting and enhancing the natural and architectural heritage.
- (g) The EFF may also finance (up to a maximum of 15% of the priority axis involved) measures such as the promotion and improvement of professional skills, worker adaptability and access to employment, particularly in favour of women, provided that these measures are an integral part of a sustainable development strategy.

What is allowed, within the parameters of the EFF as well as any parameters agreed nationally, and the priority each has with respect to the rest are the basis of the Fisheries Local Development Measure. For example, beneficiaries of support provided for in points (b), (c) and (g) must be either workers in the fisheries sector or persons with a job linked to the sector.

The final body envisaged in Ireland's strategy for Axis 4 is the **National Implementation Board (NIB)**. The most important role of the NIB is to provide oversight and governance to the Axis 4 process. It will do this by providing a forum that brings together representatives of the FLAGs along with all the strategic partners involved in the process, including public and other national bodies. Because it oversees all the FLAGs the NIB should be in a position to ensure

consistent implementation of Axis 4 by Fisheries Local Action Groups; it should facilitate and encourage the exchange of experience and best practice; it should also stimulate co-operation between Groups and will disseminate information.

2.5.5.1 Support for small-scale fishing

In the context of the European Union as a whole what was characterised as “the appreciation of our [i.e. island fishing communities’] plight at the European Parliament level” was highlighted in Donegal islands Fishermen’s (DIF’s) presentation to the sub-Committee on Fisheries.

The DIF were making reference here to amendments tabled and adopted to the Common Fisheries Policy (CFP) in December 2012 by the Committee on Fisheries in the European Parliament.¹¹⁷

How these amendments would progress would depend on the negotiations between the European Parliament and the Council of Ministers (as co-legislator in this policy area). Ireland’s member on the EP Committee on Fisheries stated that he was:¹¹⁸

"pleased by the recommendation of the Committee to provide special support for the small scale sector. It is vitally important that we support small scale, inshore and small island fisheries...Small islands like off Donegal are characterised by their dependence on small vessels at the mercy of adverse weather conditions on the Atlantic seaboard. It is a unique, dramatic and harsh aspect of our common European heritage which we lose at our peril."

The text of the relevant amendment adopted by the EP Committee was:¹¹⁹

“(14a) The definition of small-scale fishing needs to be widened to take account of a range of criteria in addition to boat size, including, inter alia, the prevailing weather conditions, the impact of fishing techniques on the marine ecosystem, the time spent at sea and the characteristics of the economic unit exploiting the resource. Small offshore islands which are dependent on fishing should be especially recognised and supported both financially and through the allocation of additional resources, in order to enable them to survive and prosper in the future.”

¹¹⁷ Please see the European Parliament report dated 10 January 2013, PE 483.528v02-00 A7-0008/2013 on the proposal for a regulation of the European Parliament and of the Council on the Common Fisheries Policy (COM(2011)0425 – C7-0198/2011 – 2011/0195(COD)) available online at: <http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2013-0008&language=EN>

¹¹⁸ Pat ‘the Cope’ Gallagher MEP, ‘The European Parliament’s Committee on Fisheries votes to overhaul the Common Fisheries Policy’, 18.12.2012. Available online at: http://www.europarl.ie/en/News_Events/News/pr-2012/Fisheries.html

¹¹⁹ <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2013-40>

The justification provided by the EP Committee was that the original European Commission proposal¹²⁰ constituted a typical scenario demonstrating the danger of applying the principle of 'one size fits all'. In this context the EP Committee pointed out that offshore islands are characterised by their dependence on small vessels which are typically at the mercy of adverse weather conditions on the Atlantic seaboard. On this basis the EP committee were of the opinion that the criteria as applied, using the 12 metre vessel size category, was not appropriate in this instance.

To understand the significance of this, reference has to be made to the issue of Transferrable Fishing Concessions (TFCs)¹²¹ which were the subject of other amendments, on the same occasion by the European Parliament Committee.

It is interesting to note then that this initiative has fared well in the negotiations and the text of the basic regulation of the revised CFP now reads:¹²²

“(14) Rules in place restricting access to resources within the 12 nautical mile zones of Member States have operated satisfactorily benefiting conservation by restricting fishing effort in the most sensitive part of Union waters. Those rules have also preserved traditional fishing activities on which the social and economic development of certain coastal communities is highly dependent. Those rules should therefore continue to apply. Member States should endeavour to give preferential access for small scale, artisanal or coastal fishermen.

(14a) Small offshore islands which are dependent on fishing should, where appropriate, be especially recognised and supported in order to enable them to survive and prosper in the future.”

2.5.5.2 Support for Aquaculture

The Cion has, as recently as April of this year, called for cooperation between MS and stakeholders to boost sustainable aquaculture in Europe

With this aim in mind the Cion has issued strategic guidelines¹²³ aimed at assisting in coordinating efforts across all MS.

¹²⁰ COM(2011)0425 available online at: <http://www.ipex.eu/IPEXL-WEB/dossier/document/COM20110425.do>

¹²¹ http://ec.europa.eu/fisheries/reform/docs/tfc_en.pdf

¹²² BASIC REGULATION ON THE CFP - FINAL COMPROMISE TEXT (as endorsed by the Coreper meeting of 14 June and submitted for consideration to the PECH meeting of 18 June) available online at: http://cfp-reformwatch.eu/wp-content/uploads/2013/06/2013-06-14_Basic_regulation_on_the_CFP_final_compromise_text.pdf

¹²³ Available online at: http://ec.europa.eu/fisheries/cfp/aquaculture/official_documents/com_2013_229_en.pdf

It should be stressed that these are guidelines and therefore do not create new legal obligations. The Cion describes the strategic guidelines as presenting a series of voluntary steps that can be taken to promote an aquaculture industry that is economically, socially and environmentally sustainable and provides consumers with healthy, high-quality seafood. The Cion notes that in other parts of the world this industry is booming but characterises it as stagnating in the EU, partly because of slow licensing procedures and administrative inefficiencies at different levels:¹²⁴

“Today, obtaining a licence for a new farm can take up to three years, which obviously deters investors” said European Commissioner for Maritime Affairs and Fisheries Maria Damanaki. “I want to work with Member States to cut red tape and help the competitiveness of this sector building upon the high level of consumer and environmental protection we currently have”.

The Cion has identified four main challenges facing the aquaculture sector:

1. a necessity to reduce red tape and uncertainties for operators;
2. a need to facilitate access to space and water;
3. a requirement to increase the sector's competitiveness; and
4. a need to improve the level playing field by exploiting the competitive edge of ‘made-in-the-EU’ fish products.

The Cion claims that their strategic guidelines address these challenges and identifies a mix of measures that will assist market forces in unlocking the potential of the EU aquaculture sector. These include:

- administrative simplification,;
- spatial planning;
- market organisation;
- diversification; and
- better labelling and information

The Cion has also committed to coordinating an exercise in identifying best practices to reduce licensing times to start new aquaculture businesses and claims that it is promoting an

¹²⁴ See press release available at: http://europa.eu/rapid/press-release_IP-13-381_en.htm

integrated approach to spatial planning that will help guaranteeing fish farmers proper access to space and water while minimizing impact on the environment and on other economic activities.

Finally, the Cion also points out that the strategic guidelines are linked to the proposed reform of the CFP which aims to promote aquaculture through an 'open method of coordination'.¹²⁵ On the basis of these guidelines, and without prejudice to the outcome of the negotiations on the CFP reform, Member States will prepare their Multiannual national strategic plans, taking into consideration each country's specific starting conditions, challenges and potential. The Cion will help coordinate activities and exchange best practices and provide further guidance on how to reconcile, in practice, economic activities with EU legislation.

2.5.5.3 The EU's Blue Strategy

'Blue growth' is the title of the EU's long-term strategy to support growth in the maritime sector as a whole. It aims to:

- Identify and tackle challenges (economic, environmental and social) affecting all sectors of the maritime economy;
- Highlight synergies between sectoral policies;
- Study interactions between the different activities and their potential impact on the marine environment and biodiversity; and
- Identify activities with high growth potential in the long term and support them by:
 - removing the administrative barriers that hamper growth;
 - fostering investment in research and innovation;
 - promoting skills through education and training.

¹²⁵ This method is defined by the Cion. as a voluntary process for cooperation based on Strategic Guidelines and Multiannual national strategic plans identifying, common objectives and, where possible, indicators to measure progress towards these goals. To achieve these aims, all relevant actors should be engaged: authorities, the industry, retailers, consumer associations as well as representatives from the civil society. The proposed Aquaculture Advisory Council is designed to play an important role in this context. These Strategic Guidelines aim to assist the Member States in defining their own national targets taking account of their relative starting positions, national circumstances and institutional arrangements. Issues covered by EU legislation are not addressed under the open method of coordination, but they provide the framework for its activities. Source: Strategic Guidelines for the sustainable development of EU aquaculture (pp. 2-3)

In its September 2012 communication¹²⁶ to the other EU institutions the Cion set out the five policy areas where it believes additional effort at EU level could stimulate long-term growth and jobs in the blue economy, in line with the objectives of the Europe 2020 strategy.

Four of the five activities highlighted by the Cion which are most relevant to the work of the sub-Committee on Fisheries:

- consider further options which would give industry the confidence to invest in ocean renewable energy;
- work collaboratively with Member States to develop best practice and agree on Strategic Guidelines on Aquaculture in the EU to be adopted in early 2013;
- Assess how maritime and coastal tourism can further contribute to economic growth and provide less precarious jobs whilst improving its environmental sustainability; and
- Assessing the options for blue biotechnology to harness the diversity of marine life.

2.5.6 Inshore fishery – overall management

2.5.6.1 Definition of the Inshore Fishery¹²⁷

In waters within 12 nautical miles of their coast EU member states exercise exclusivity, in the area known as the territorial coastal waters. Ireland's territorial waters are approximately 41,000 km² in extent. Ireland retains exclusive access to fisheries in this zone with exceptions in the case of certain fisheries, in restricted locations, between 6 and 12 nautical miles where other EU MS (France, the Netherlands, Germany, Belgium and the United Kingdom – including Scotland) maintain long-established fishing rights. In waters within 6 nautical miles of the coast Irish vessels have sole access to fisheries with the exception of Northern Irish (but not Scottish or other UK) vessels who can also fish, under certain conditions, in this zone.

With regard to what constitutes the inshore fleet it is generally recognised that this relates to the Length Overall (LOA) of the vessel and that physical constraints, including weather

¹²⁶ COM(2012) 494 final COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Blue Growth - opportunities for marine and maritime sustainable growth. Available online at: http://ec.europa.eu/maritimeaffairs/policy/blue_growth/documents/com_2012_494_en.pdf

¹²⁷ *Atlas of the Commercial Fisheries around Ireland*, Foras na Mara | the Marine Institute (2009) available online at: <http://www.marine.ie/NR/rdonlyres/43BF1F38-A158-4882-9DA8-8962FDC52DB5/0/AtlasofCommercialFisheriesAroundIreland09.pdf>

conditions means that, in effect, this fleet is one composed of smaller vessels. The exact definition has never been agreed:¹²⁸

“The proposals for the reform of the CFP include the cut-off for determining ‘small-scale coastal fleets’ at vessels of under 12 meters length overall without towed gear. From the consultation on the reform of the CFP it is clear that there is no agreement among Member States, stakeholders and industry on a definition of small-scale fleets. This is why the Commission has chosen to maintain the definition of small scale fleet that is currently used in the European Fisheries Fund. This has the advantage of being clear and simple to apply and in a uniform manner by all Member States.”

However, on a national basis it could be argued that the inshore fleet is that composed of vessels under 17 metres LOA as this is the length (actually 55 feet) which determines vessels’ status within the allocation of monthly quotas. Accepting this definition would include most vessels except relatively large ones (such as those over 22 metres LOA – see Figure 12 of this Report).

Recommendation 14: In light of the recent revisions to the regulations of the Common Fisheries Policy (CFP), the sub-Committee recommends that consideration should be given to exclusive access to vessels under 10 metres LOA within the national 12 mile limit, with the expectation that such an LOA restriction would then apply to all EU vessels.

Recommendation 15: The sub-Committee furthermore recommends that the issues of extending the 12 mile coastal limit considerably should be pursued by Ireland with its European maritime partners with the aim of ensuring the preservation of coastal communities across the EU.

2.5.6.2 Economic value of the Inshore Fishery

As the Federation of Irish Fishermen (FIF)¹²⁹ pointed out to the sub-Committee on Fisheries¹³⁰ the last complete figures available in relation to the economic value of the inshore fishery relate to 2005.

¹²⁸ Question for written answer E-001436/12 to the Cion. tabled by Nuno Teixeira (PPE) (7 February 2012) and answered by Commissioner Damanki available online at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:104E:0001:0315:ET:PDF>

¹²⁹ The Federation of Irish Fishermen comprises of the Irish Fish Producers Organisation, the Killybegs Fishermen’s Organisation and the Irish South and West Fishermen’s Producer Organisation. Collectively they represent a number of segments including pelagic, mixed demersal fisheries, brown crab, nephrops (also known as Dublin Bay prawns), and inshore fisheries.

¹³⁰ in its presentation on the 28th of March 2013

First sale values of 2005 Irish landings have been grouped in three categories:¹³¹

- demersal¹³² fisheries contributed €49m;
- pelagic¹³³ fisheries contributed €59m; and
- ‘shellfisheries’ contributed €57m.

However, the ‘Shellfisheries’ category included Nephrops which is captured by demersal trawl and mussel which is on-grown, largely from seed taken from coastal waters. The remaining shellfisheries landings represent animals harvested from the inshore.

The inshore is largely a geographical concept embracing a wide variety of metiers, some of which belong to the pelagic and demersal sectors. In 2005, inshore landings with an estimate value of €29.2 million were harvested by the Irish fleet (see Table 7). It was stressed that the value of €29.2 m was conservative.

Table 7 – The value of strictly inshore, wild rather than cultured, landings in 2005

Order of inshore stocks	Value, €k	Inshore value, €k	Notes
Bass	?	?	Angling species
Conger	360	180	50%
Whelk	2,508	2,508	
Periwinkle	1,318	1,318	
Cockle	238	238	
Surf clam	40	40	
Scallop	2,016	1,008	50%
Palourde	?	?	
Razor clam	1,349	1,349	
Purple sea urchin	?	?	
Green crab	6	6	
Spider crab	141	141	
Velvet crab	455	455	
Brown crab	8,050	6,037	75%
Lobster	12,795	12,795	
Crawfish	708	708	
Shrimp	2,400	2,400	
Totals	32,384	29,184	

Source: Foras na Mara | the Marine Institute, Inshore Fisheries Overview

¹³¹ The source of these statistics is the Foras na Mara | the Marine Institute Inshore Fisheries Review available online at: <http://www.marine.ie/NR/rdonlyres/C4584201-0877-48D1-A386-B73F48A2A203/0/InshoreOverview06.pdf>

¹³² Fish, such as cod, whiting, haddock, sole, plaice, megrim, hake, monkfish normally swim in mid-water at or close to the sea floor.

¹³³ Fish that spend most of their life swimming in the water column, as opposed to resting on the bottom, are known as pelagic species (e.g. Mackerel, Horse mackerel, Herring, Sprat and Sardines).

The FIF estimated, in their presentation to the sub-Committee on Fisheries, that in excess of 80% of Ireland's fishing fleet operate inside the 12 mile zone and explained that the Irish inshore fleet (by their definition mainly composed of vessels under 15 meters in length (of approx. 2,100 registered, 1,872 are in this category) supporting 3,000 fishermen is spread along the entire coastline. These smaller vessels are:

“reflective of sectors such as aquaculture, polyvalent¹³⁴ general, polyvalent potting and specific”.

In a subsequent meeting with the sub-Committee on Fisheries (on 30th April 2013) the SFPA informed the Sub-Committee that approximately 75% of the 2,162 vessels in the Irish fleet are less than 10 metres in length.

The SFPA gave further useful contextual background information including that these inshore vessels operate on a day-trip basis and target high value fish such as prawns, pollock, turbot, brill, mackerel, crustaceans such as lobsters, crayfish or crab, and shellfish such as razors clams, scallops or whelks. The SFPA also stated that the fishing gear used and fishing patterns of these inshore fishing vessels leave a generally light environmental footprint as their operating range and capacity is restricted by the size of the fishing vessels used and their vulnerability to the weather and sea conditions.

2.5.6.3 Fish processing¹³⁵

While this Report was being prepared BIM published their Seafood Strategy for the years 2013 to 2017 and relevant new data from that report is provided at a later stage in this section. However, it was decided that it might be helpful – in making comparisons over time – to retain the existing data which covers the period 2006 to 2009.

There were 172 fish processing enterprises in Ireland in 2009. The total turnover of the Irish fish processing industry in 2009 was €500 million which was a decrease of 4% from 2008. In 2009 Ireland had seafood exports of €332 million and seafood imports of €171 million. There

¹³⁴ 'Polyvalent' refers to the use of flexible as opposed to homogenous fishing tactics by vessels. For the importance of the homogeneous nature of fishing strategies within a métier which can provide more 'accurate' catch per species and effort calculations for assessment, and effective partitioning of fishing mortality see *Using a multivariate approach to define Irish métiers*, Irish Fisheries Investigations No. 21 2009, An Foras Mara | the Marine Institute (2009) available online at:

<http://oar.marine.ie/bitstream/10793/105/1/IrishFisheriesInvestigationsNo21finalversion.pdf>

¹³⁵ ¹³⁵ Statistics from Scientific, Technical and Economic Committee for Fisheries (STECF) *Economic Performance of the EU Fish Processing Industry Sector* (STECF-OWP-12-01) (2012, p.89)

were approximately 2,596 FTE's employed in the fish processing industry which was made up of 1,817 Male FTE's and 779 Female FTE's.

The industry comprised of finfish, shellfish, smoked, pelagic and whitefish operators. Shellfish companies accounted for the largest number of fish processing companies in Ireland. Many companies in Ireland specialised in more than one species.

In 2009 the Irish fish processing industry was generally composed of small enterprises. Those with less than 10 employees accounted for 54% of all Irish fish processing companies. 34% of Irish fish processing companies had between 11 and 49 employees, 12% had between 50 and 249 employees and there was no large company in Ireland with more than 250 employees (see Figure 17 over).

Irish fish processing companies were primarily located in coastal communities on the western and southern seaboard.

Figure 16 – Size distribution of companies in the fish processing industry

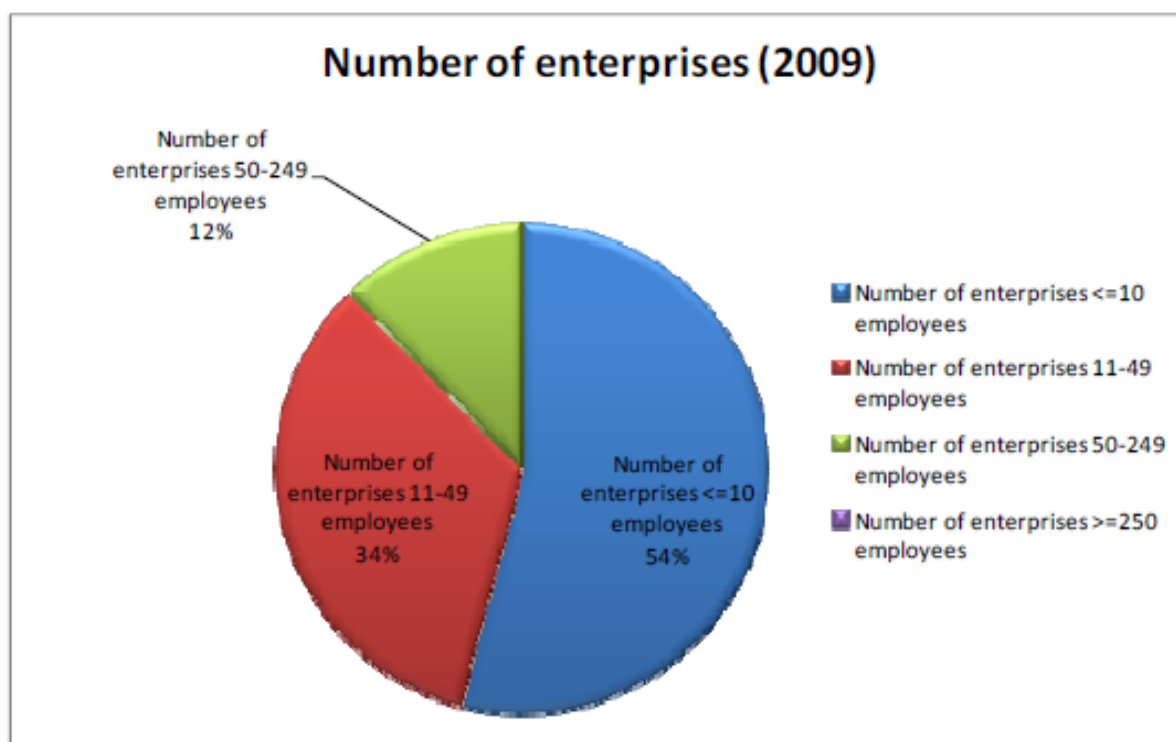


Table 8 provides socio-economic indicators with the most detail available relating to 2008 and 2009 a period when average wages and the number of businesses both fell.

The challenges facing the industry were summed up in *Food Harvest 2020* (p.52):

“The Irish fish processing sector in 2010 consists of 200 firms, 50% of which have a turnover of less than €1 million each. A lack of scale, higher production costs and inconsistency of product supply adversely affect the profitability of the sector.”

Table 8 – socio-economic performance indicators (2006 to 2009)

Structural Indicators	2006	2007	2008	2009
Number of enterprises	198	198	172	172
Social Indicators	2006	2007	2008	2009
Male employees			2007	2007
Female employees			860	860
Total employees			2867	2867
FTE			2596	2596
Average salary (€)			32243	30931
Employment per enterprise	0	0	15	15
% of unpaid work (%)			6	6

Figure 17 – Fish processing operating costs (2009)



In 2009, total production costs were €372 million, 74% of the total industry turnover.

The purchase of fish and other raw material for production was the largest cost accounting for 73% of the overall operating costs, followed by wages and salaries at 20%, energy costs and other operational costs at 3% and unpaid labour at 1%.

Table 9 – Economic Productivity and Performance indicators (2008 and 2009)

Economic Performance Indicators	2008	2009
Turnover (million €)	523	500
Gross Value Added (million €)	222	210
Operating Cash Flow (million €)	144	134
EBIT (million €)	128	116
Net profit (million €)	125	113
Productivity Indicators	2008	2009
Labour productivity (€/FTE)	85348	80709
Running cost to turnover ratio (%)	74	74
Future Industry Expectations (%)	-3	-4
Labour productivity (GVA/FTE)		
Capital productivity (GVA/Total assets)		
Future industry Expectations((Net investment-Depreciation)/Total Capital)		
Financial position (Dept/Total Assets)		

Turnover decreased by 4% between 2008 and 2009. The Gross Value Added (GVA) also decreased by 5% and Operating Cash Flow decreased by 7%. Earnings before Interest and Tax (EBIT) which is one measure of a firm's profitability, decreased by 9% between 2008 and 2009. Net Profit decreased from 2008 to 2009 by 10% from €125 million in 2008 to €113 million in 2009. Labour productivity decreased by 5%. There was no change in the Running cost to Turnover Ratio between 2008 and 2009. Future Industry Expectations reached a value of -3 in 2008 and -4 in 2009.

In 2009 the primary export markets for Ireland were France, Spain and the United Kingdom with market shares of 24%, 14% and 12% respectively. The pelagic sector was the only sector to show growth in 2009 increasing by 3% in value. Declines were noted in respect of both the shellfish and salmon sectors dropping in value by 12% and 25% respectively. Whitefish also suffered with total export value decline of 11% in 2009

Retail sales amounted to €172 million in 2009, a drop of 6% from 2008. Food service sales amounted to €180 million, a decrease from 2008.

With regard specifically to the Gaeltacht, *Údarás na Gaeltachta* noted that there remain up to twenty processors along the west coast such as Ó Catháin Iasc in *Daingean Uí Chúis* | Dingle, O'Mahoney and Ted Browne and further commented that:¹³⁶

“There are quite a few in [*Ros a Mhí*]; at one stage up to 400 people worked in [*Ros a Mhí*], but the figure has reduced to 40, mainly because of a lack of raw material for processing. The same applies elsewhere, such as [*Teileann*] in [County] Donegal.”

On the 17th of July 2013 the Minister for Agriculture, Food and the Marine announced the award of €2.4 million in grant aid to twenty-five seafood processing companies under the 2013 Seafood Processing Business Investment Scheme.¹³⁷ Taken in conjunction with private sector investment the total investment will be over €8 million in 2013.

On the same occasion the Minister stated that overall exports were valued at €517m in 2012 (an increase of 20% on 2012) and that this overall €8 million investment:

“represents a very significant funding commitment by processing companies and Government to the seafood sector and underpins the confidence of new joint venture partnerships which were significant contributors to the increase in the value of Irish seafood exports in 2012”.

The twenty-five companies receiving grant aid are located in counties Kerry, Dublin, Cork, Galway, Wexford, Mayo and Donegal.

The Minister made the announcement of the new investments at the launch of BIM's new strategy for the seafood sector 2013 – 2017. The strategy, *Capturing Ireland's share of the global seafood opportunity 2013-2017* (2013) sets targets for the creation of 1,200 additional jobs, aligned to a total sales value of €1 billion of which exports will form €650m by the end of 2017.

The current situation of the industry is reproduced (see Figure 18 over).¹³⁸

¹³⁶ CEO of *Údarás na Gaeltachta* speaking to the sub-Committee on 30th April 2013.

¹³⁷ Press release available online at: <http://www.merrionstreet.ie/index.php/2013/07/minister-coveney-launches-new-bim-2013-2017-strategy-and-announces-e8-million-in-new-investment-this-year-in-25-seafood-processing-companies/>

¹³⁸ *Capturing Ireland's share of the global seafood opportunity 2013-2017* (BIM, 2013, p. 10) available online at: <http://www.bim.ie/media/bim/content/publications/BIM%20Strategy%202013-2017.pdf>

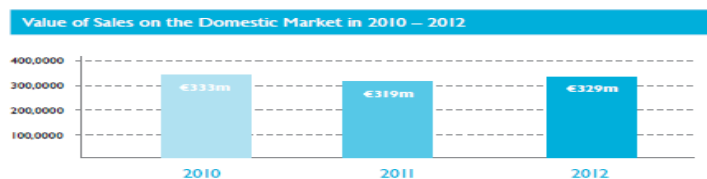
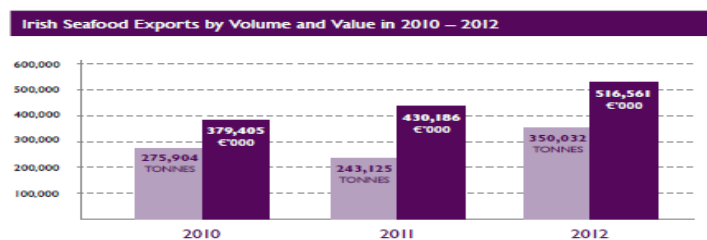
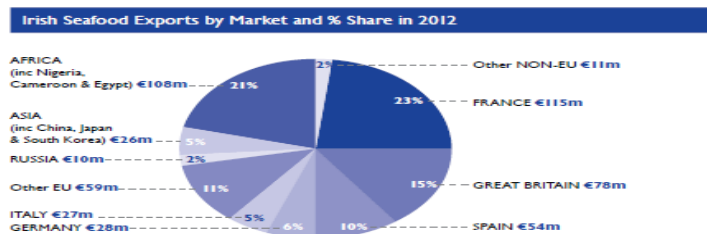
Figure 18 – Current state of the national seafood industry

Capture Fisheries – Landings to Irish Ports in 2011		
	Tonnes	€000
Pelagic Fish	127,605	86,900
Demersal Fish	45,547	94,195
Shellfish	25,785	88,004
Total	198,937	269,099

Note: Latest available data from SPPA

Aquaculture Production in 2012		
	Tonnes	€000
Finfish	13,880	83,830
Shellfish	22,820	48,940
Total	36,700	132,770

Industry Employment			
The seafood industry supports the economic viability of many coastal communities, directly generating or supporting approximately 11,000 jobs. This includes full and part time/casual employment in the fisheries, aquaculture, seafood processing and ancillary services sectors as shown below.			
	Full Time	Part Time	Total
Total Fisheries	3,924	1,060	4,984
Aquaculture	693	1,023	1,716
Processing	2,200	660	2,860
Ancillary		1,440	1,440
Total		11,000	11,000



2.5.6.4 Physical infrastructure

A theme that was mentioned regularly in the context of enabling small communities to benefit from the available fisheries was the provision of the necessary physical infrastructure. The lack of such an infrastructure hampered communities in the past and any ongoing deficit hampers any attempts to diversify their economic activities in addition to impacting on their social / health and safety conditions.

The communities' perception of the importance of this infrastructure deficit to their economic well-being should not be under-estimated:¹³⁹

“Cé go bhfuil farraigí saibhre mórtimpeall Inis Oírr tá an t-oileán féin faoi mhíbhuntáiste mór mar nach bhfuil céibh ná sleamhnán sábháilte ar an oileán. Mar sin níl muintir an oileáin in ann tairbhe a bhaint as an acmhainn is mó atá acu...Mar atá an chéibh faoi láthair tá bac mór ar iompar thurasóirí, iompar lasta, iascáirí áitiúil, agus báid pléisiúir ar mhistigh leo theacht chuig an oileán. Ní amháin go bhfuil bac ar na grúpaí thuasluaite, ach tá fadhbanna móra sábháilteachta leis an gcéibh freisin. Gan amhras, is í forbairt na céibhe an fhorbairt amháin is tabhachtaí chun todtachaí Inis Oírr a shlánú.”

[“Although Inis Oírr is surrounded by rich seas the island itself is under a very significant disadvantage as it possesses no safe quay or slipway. Therefore, the people of the island cannot derive advantage from the most valuable resource they possess. In the context of the current condition of the quay it must be noted that there are considerable barriers to the effective transport of goods and tourists, and access for local fishers and tourist boats. Not only are there barriers in relation these groups but there are serious safety issues with the quay itself. The development of the quay is, without a doubt, the most important development to made if the future of Inis Oírr is to be ensure.”]¹⁴⁰

The significance and complexity of such infrastructure is conveyed by some of the literature produced by the United Nations Food and Agriculture Organisation (UNFAO):¹⁴¹

“For the purpose of this chapter, a quay is a general term used to describe a marine structure for the mooring or tying-up of vessels, and for loading and unloading of goods and passengers. It is generally contiguous with the shore. A pier or finger jetty is a quay that projects into the water. In contrast to a normal quay, a finger jetty may be used on both sides. In areas with a high tidal range, both quays and jetties are often of the floating type. The traditional slipway in many small beach-side communities is still the natural beach where boats are hauled ashore for scrubbing, cleaning and repair. However, a beach is not always suitable or available for servicing a vessel...On the other hand, inside fishing harbours, the recent technological advances in boat hoists has further widened the range of options available to a would-be designer of slipways.”

¹³⁹ Litir dar dáta 22 Márta 2013 ó Phaddy Crowe, Bainisteoir Comhar Caomán Teoranta chuig Cléireach an foth-Choiste um lascach.

¹⁴⁰ Aistriúchán de chuig na Seirbhíse Leabharlainne & Taighde [Translation provided by the Library & Research Service from within its own staff resources]

¹⁴¹ *FAO Fisheries and Aquaculture Technical Paper No. 539 Fishing harbour planning, construction and management* (2010, p.109). Available online at: <http://www.fao.org/docrep/013/i1883e/i1883e00.htm>

2.5.6.5 An Integrated Coastal Zone Management System

The sub-Committee on Fisheries heard calls from Mr Séamus Ó Cnáimhsí from *Árainn Mhór* for an ICZMS which would cater specifically for the situation of islands and would ensure that any relevant legislation or policies were 'island-proofed'.¹⁴² This relates directly to the foreshore regime in Ireland.

The Programme for Government (PfG) contains a number of commitments in relation to the marine sector and in particular the foreshore consent regime.

The DECLG has indicated that key elements of the PfG commitments will be advanced by the development of legislation in the form of a *Foreshore and Marine Area Development Bill*.¹⁴³

The foreshore, under existing Irish legislation, extends from the mean High Water Mark to a point 12 nautical miles from the Low Water Mark (i.e. the territorial seas). The vast majority of this area is owned by the State. The operation of the current foreshore consent and estate management regime is governed by the *Foreshore Act 1933*, which has only been the subject of limited updating since enactment. In 2010 the Department of the Environment, Heritage and Local Government (now the DECLG) assumed responsibility for a range of foreshore functions, including management of the foreshore as part of the public estate and the granting of development consent, where it is in the public interest.

The principal areas of development activity for which this Department has responsibility are:

- All foreshore energy-related developments including oil, gas, wind, wave and tidal energy;
- Aggregate and mineral extraction developments on the foreshore;
- Foreshore projects in respect of Port Companies and Harbour Authorities and projects in respect of any other harbour and harbour-related developments intended for commercial trade; and
- All other foreshore projects, other than those relating to aquaculture and sea fisheries.

¹⁴² Committee meeting of 28th March 2013 available online at:

<http://oireachtasdebates.oireachtas.ie/debates%20authoring/DebatesWebPack.nsf/committeetakes/AG32013032800015?opendocument>

¹⁴³ For further detail to the background around this legislative proposal please refer to the Department of the Environment, Community & Local Government Consultation Paper entitled *A New Planning and Consent Architecture for Development in the Marine Area* (n.d.) available online at: <http://www.environ.ie/en/Publications/DevelopmentandHousing/Foreshore/FileDownload,32268,en.pdf>
The public consultation invited submissions up to 1 March 2013.

The *Foreshore Act 1933* requires that a lease or licence must be obtained from the Minister for the ‘carrying out of works, or placing of structures or material on, or the occupation of or removal of material from State-owned foreshore’. The consent of the Minister is also required if development on privately owned foreshore is contemplated.

Leases are required for exclusive use of the foreshore where developments or structures are of a permanent nature. Examples of such developments on the foreshore include small developments such as piers and slipways, and major developments encompassing wind farms or commercial port facilities.

Licences are generally required for temporary activities or developments that do not involve exclusive rights to the foreshore. Such activities include, for example, seaweed harvesting, site investigations, horse racing, filming and other such outdoor events. The laying of pipelines and telecommunications cables also requires a licence (rather than a lease), as they are generally non-exclusive and can co-exist with other developments or activities.

The maximum term allowed for a lease or licence under the current legislation is 99 years, although generally the term granted for a lease is around 35 years.

2.6 Sea and Coastal Angling

2.6.1 Introduction

There are two main forms of Sea Angling:

1. Shore angling was identified by the IFI to the sub-Committee on Fisheries as the most popular form of sea angling in Ireland and one which attracts many participants who fish estuaries and from piers, rocks and beaches all around the coast. Shore angling can take place during 12 months of the year.
2. Small boat angling is carried out by anglers from locally owned small boats at small ports nationally. Small boats go approximately 5 km out to sea and the activity is weather dependent. Therefore, small boats usually operate from spring to autumn.

There are approximately 80 chartered skippers nationally who run small businesses based in local communities. Up to 12 people can go out on a boat hired from a chartered skipper for the day. These boats go approximately 30 km out to sea.

The species targeted by anglers include bass, shark, ling, cod, pollock and mackerel. However, there are 33 species which are, for example, the subject of normal small boats competitions off the south east and south west coasts.

Areas of development identified to the sub-Committee included Bass fishing, light rock fishing and kayak angling.

2.6.2 Current status

As the Department of Communications, Energy and Natural Resources (DCENR) pointed out to the sub-Committee, Sea and Coastal Angling is a tourism activity.¹⁴⁴ The DCENR also welcomed the work of the sub-Committee particularly in the context of the forthcoming publication by IFI of the most comprehensive study of the national Angling product and of the requirements and expectations of the customer both domestic and overseas.¹⁴⁵

The study has asked anglers what their expectations are and its results will offer a strategic guide to build on development plans for the sector that underpin employment and income in the angling sector and in the related hospitality and transport areas.

The report¹⁴⁶ was subsequently launched in July 2013 and was reported as having found that:¹⁴⁷

“...direct spending on angling in Ireland amounted to €555 million in 2012, with indirect spending worth an additional €200 million and totalling €755 million. Recreational angling was also found to directly support 10,000 existing Irish jobs, many of which are located in the most peripheral and rural parts of the Irish countryside and along our coastline.

The Study found that 406,000 people were involved in recreational angling in Ireland last year, with over 150,000 of these travelling from Northern Ireland and overseas. Over a quarter of a million Irish adults (252,000) held a fishing rod last year with sea angling along with salmon and brown trout angling seen as the most popular categories where domestic anglers are concerned.”

¹⁴⁴ In the interests of clarity and in the context of the very significant economic importance of Angling, it is treated separately to other forms of tourism in this paper.

¹⁴⁵ See IFI press release available online at: <http://www.fisheriesireland.ie/Press-releases/does-recreational-angling-contribute-to-the-economy.html>

¹⁴⁶ The report itself is available online at: <http://www.fisheriesireland.ie/media/tdistudyonrecreationalangling.pdf>

¹⁴⁷ See IFI press release available online at: <http://www.fisheriesireland.ie/Press-releases/new-study-angling-worth-075-billion-to-irish-economy-and-supporting-10000-jobs-in-rural-ireland.html>

Iascach Intíre Éireann | Inland Fisheries Ireland (IIE | IFI)

In 2010 the Irish Central Fisheries Board and 7 Regional Fisheries Boards amalgamated to form Inland Fisheries Ireland (IFI) under the *Inland Fisheries Act 2010*.¹⁴⁸ The IFI covers inland waters and out to the 12 mile limit and protects freshwater species, sea bass and certain mollusc species. The IFI is in charge of recreational sea angling IFI's status is that of a statutorily independent agency under the aegis of the Department of Communications Energy and Natural Resources (DCENR). It has also a remit to promote the inland fisheries and sea angling resource. IFI also has national responsibilities under the EU Habitats Directive, Water Frame Work Directive and the Eel Regulations.

In cross border areas the IFI work alongside the Loughs Agency which is an agency of the Foyle, Carlingford and Irish Lights Commission and was established under agreement between the Irish and UK governments. The Loughs Agency has responsibility for the development of fisheries and aquaculture, conservation and protection of inland fisheries and sustainable development of marine tourism in the two cross border Loughs. IFI has an agreed angling marketing strategy with Fáilte Ireland and Tourism Ireland. It also works on an all-island basis with Northern Ireland's Department of Culture, Arts and Leisure (DCAL) and the Loughs Agency in promoting angling abroad.

IFI supports its industry/trade partners to produce information, attend trade shows, market directly to customers and develop the angling product. IFIs Business Development Section is resourced to deliver on IFIs aim to increase the number of anglers and increase the return from angling and inland fisheries to Ireland.

Note: The source of this text box summary is the appearance by officials of the DAFM before the JSC on 21st March 2013 and the report *Northern Ireland Inshore Fisheries* (updated 2013)

In terms of legislative reform DCENR announced on 13th May 2013 that they proposed to introduce a new Inland Fisheries Act to consolidate, update and amend existing legislation which governs the conservation, protection, management and development of the inland fisheries and sea angling resources.¹⁴⁹

The IFI confirmed to the sub-Committee that Sea Angling is an important part of the overall Angling Product in Ireland and that the latest comprehensive study of the overall angling sector indicates a value in excess of €500M to the economy and that it supports 10,000 jobs in rural and peripheral communities, particularly along the western seaboard.¹⁵⁰ How many of those 10,000 jobs should be ascribed to Sea Angling in particular does not seem to be clear yet.

The IFI believe that the income generated from angling visits and tourism is spent almost entirely within the community where it is based.

¹⁴⁸ <http://www.irishstatutebook.ie/2010/en/act/pub/0010/>

¹⁴⁹ Public consultation announcement available at: <http://www.dcenr.gov.ie/Natural/Inland+Fisheries/Latest+News/>

¹⁵⁰ Presentation to the sub-Committee on Fisheries on 21st March 2013

Some statistics showing the number of anglers participating in the sport were also provided by the IFI to the sub-Committee:

- Irish Anglers - 252,000 are active;
- Approximately 250,000 further anglers have fished in the past and have indicated a desire to participate again;
- Northern Irish Anglers – 40,600;
- Overseas Anglers – 113,000 (2011 figures from Tourism Ireland);
- Participation in Sea Angling – 97,000 (Some Sea Anglers also fish for freshwater fish).

In addition, an estimated 773,500 trips are made by Sea Anglers per annum and the age profile of these anglers suggests a good future for the industry as 72% are under the age of 55 and indeed 23% are between the ages of 18 and 34. Sea Anglers are estimated to spend on average €1,300 each annually on their sport. It was also noted that Sea Anglers specialising in Bass spend twice the average amount (€2,600). Indeed, in relation to Bass, the IFI identified this as a species with significant and growing economic potential.¹⁵¹

“Bass fishing is most interesting in terms of developing trends. It is the only fishery that is managed as a recreational marine species. The proliferation of bass angling guides, accommodation providers and the comments of anglers lead us to believe there is a developing business in this area. Figures in our study will show that.”

However, it was confirmed to the sub-Committee that the bass stock is very much depleted. The estimate given is that there is a recovery in the stock but only to 5% or 10% of its historic level. Bass is a commercial fish species managed for recreational angling and as a long living species is not particularly suitable for commercial fishing. Much of the bass angling practised at the moment is on a catch and release basis.¹⁵²

The reason the bass angling product is developing well in Ireland is because England, France and Spain have commercial bass fisheries but no bass angling (see Map 1 for European distribution). Ireland is the last

¹⁵¹ JcSF meeting with IFI, 21st March 2013

¹⁵² Irish vessels are currently precluded from landing sea bass under the Bass (Conservation of Stocks) Regulations 2006, S.I. No. 230 of 2006, and the Bass (Restriction on Sale) Regulations 2007, S.I. No. 367 of 2007. The complete ban for the commercial fishing of sea bass applies to Irish fishing vessels in all areas. These regulations were introduced as a co-ordinated set of measures with the sea bass fishing conservation by-laws. The by-laws imposes a bag limit on anglers of two bass in any one period of 24 hours and a ban on angling for bass during the spawning season, from 15 May to 15 June in any given year. These measures have been in place since 1990 and were introduced arising from the dramatic decline of sea bass stocks in the 1970s.
Source: Dáil Éireann debate of the 10th of May 2012 available online at: <http://debates.oireachtas.ie/dail/2012/05/10/00018.asp>

remaining country for bass angling and the NPWS feels that it should be maintained as a recreation angling species given the status of the stock and the biology of the species. However, the sub-Committee subsequently heard of other complexities in the situation of this species from Mr Dónal Maguire of BIM:

- That the UK and France can land Seabass but that Irish fishermen cannot because an Irish regulation rather than an EU one stopped this commercial fishing;
- That the forthcoming CFP ban on discards will mean that it will be illegal to catch Seabass and illegal to throw them away if caught.

BIM proposed that all stakeholders in the seabass fishery, including anglers, will have to give careful consideration to their objectives and reach a consensus on a species management plan which might include closed seasons and a mechanism allowing the sale of inadvertent catches.

It was noted by the sub-Committee the fact that Ireland has no seabass landings may mitigate against being awarded any quota if it is determined on the basis of historical landings data. However, BIM did suggest that there may be some value in the recorded catches of recreational fishers of which Inland Fisheries Ireland has a long record and that this may be something that could be extrapolated by scientists.

estimated that there is a multiplier effect of 0.48¹⁵⁴ with such income, i.e. if €1 million is spent, there is €1.5 million worth of an economic impact in local and peripheral communities (see Table 10). This would be regarded as a high multiplier effect.

Table 10 – Regional Tourism Multipliers

	Multipliers	
Direct Impact	1.0	
Indirect Impact	0.30	
Induced Income	0.18	
Total Economic Impact (Income Multiplier)	1.48	For every €1 spent by marine tourists in the West of Ireland, approximately €0.48 was generated by secondary effects

Source: *A Socio-economic Study of Marine-based Water Activities in the West of Ireland* (n.d. p.10)

Equally, the view of the IFI was that an industry composed of small businesses was not lacking in innovation or an appreciation of the need to have an integrated programme of activities:¹⁵⁵

“Most of our angling stakeholders are very innovative and see that one cannot send anglers to the pub for the day. They are examining alternatives. If an angler cannot go sea fishing one day, he or she can go game or coarse angling. The Cork sea angling hub is another great example of the work being done by agencies and stakeholders. There are approximately nine chartered skippers between Ballycotton and Kinsale and accommodation, restaurants and boat hire are all tied up together in a hub to offer a complete package to anglers. Competitions are run which attract many international visitors.”

This point was developed by a Member of the sub-Committee.¹⁵⁶

¹⁵⁴ Speaking to the sub-Committee on the 25th of April 2013 Dr Hynes of SEMRU quoted a multiplier of 0.57 in respect of fishing or any marine-related activity which he characterised as above average for a multiplier.

¹⁵⁵ JcSF meeting with IFI, 21st March 2013

¹⁵⁶ JSCF meeting with IFI, 21st March 2013

“Another positive aspect of the industry is that it is locally-owned. There are small owners with multiple participants between providers of tackle, services, accommodation and so on. That is why it is very sustainable. This has to form a key part of any effort to help coastal and island communities. The integrated product presents the challenge. If we want to bring people in, we have to have the accommodation, back-up services, boats and so on that they need.”

Contrary to a problem which has developed in Irish tourism, the IFI confirmed that when anglers come they stay longer than typical travellers and spend all their time on the west, south-west and north-west coasts and in the Shannon region, i.e. they only spend 7% of their time in Dublin. Anglers then are travelling to the peripheral and isolated communities and the income generated is retained in those areas.

The IFI also confirmed to the sub-Committee that they have been working with Leader companies across the country and has been successful in assisting angling clubs, fisheries owners, community groups and other applicants on proposed fisheries works or have indicated what else might be needed on a specific river catchment. They provide a list of various measures under Axis 3 which applicants may seek funding under.

In general the three different Axis 3 measures that may be applicable to anglers are:¹⁵⁷

- Encouragement of tourism activities;
- Village renewal and development; and
- Conservation and upgrading of the rural heritage.

They have also suggested some possible types of fishery enhancement works that could fall under these categories and so may be eligible for funding.

Examples of businesses / programmes supported The South Kerry Development Company is working with Kerry County Council and IFI to develop the www.GoKerry.com angling website which will provide a one stop shop of game fisheries, accommodation providers etc. that will enable people to book a holiday, guide, accommodation and fishing licences.

IFI has also facilitated the development of the Donegal Angling Tourism Alliance, a group of chartered skippers and game fisheries which also hopes to establish a one stop shop website offering a combined product to make it easier for anglers to visit. The marine and countryside guides programme is run by Fáilte Ireland with IFI support. Its key role is to get people involved in the marine and countryside sector to become guides and offer a tourism service to anglers or others who want to participate in marine and countryside activities. It allows people to change roles, for example, to move from commercial fishing to guiding.

Source: IFI appearance before the sub-Committee on 21st March 2013

¹⁵⁷ For further information see IFI web page available online at <http://www.fisheriesireland.ie/Angling-Information/leader-funding-for-angling-projects.html>

Further progress could be made in this arena, however. The NPWS, for example, characterised what had been achieved to date as:¹⁵⁸

“scratching the surface in terms of what we can do”

And went on to explain how activities are being integrated and the importance of this:¹⁵⁹

“In terms of the angling product, we are working with Fáilte Ireland. We have a strategy entitled ‘Travel, Stay, Fish & Play’. We are responsible for the fish portion of that but, as others have pointed out, if the travel, stay and play elements are not sorted out, it does not matter how good the fishing is... People are linking accommodation providers and chartered providers. Fáilte Ireland is helpful because it gives us a certain classification and people can get an angler’s welcome. When people see the angler’s welcome ticket, they know there may be somewhere to store the tackle, some freezer capacity for fish, somewhere to store bait or the ability to have lunches made when they are going fishing. These small things can make a difference between someone coming to Ireland and going elsewhere.”

2.7 Tourism

2.7.1 Introduction

Research carried out by NUIG supports the thesis that tourism is particularly appropriate for and beneficial to these communities:¹⁶⁰

“Tourism is typically identified as a source of economic activity which can generate positive economic and socio-economic impacts in rural and remote areas (Solon and Brunt, 2006; Cawley and Gillimore, 2008). This argument is well-founded as tourists and outdoor recreationists become increasingly attracted to peripheral coastal areas (Garróid and Wilson, 2004; Cawley and Gillimore, 2008) as an antidote to the anomie of urban life (Urry, 2002). However, research has found that if tourism is to flourish in remote, rural areas, the structure of the sector should be complementary to existing economic and social structures in the area (Garróid et al., 2006; Buttimer, 2001). Three features that have emerged from the published literature as being conducive to the development of rural tourism include local resources and ownership, complementarity in use and an appropriate business model scale (Cawley and Gilmore, 2008). Local ownership and a sense of choice on how to use the resource base serve to maximise economic benefits with an area (Shaw and William, 2002) and help foster community identity (Flannery and O’Cinneide, 2009). Tourism activities should be complementary to existing structures and support local resource conservation (Garróid et al., 2006). Part of this complementarity relates to the scope and scale in which the development of the tourism sector is pursued in an area. For rural tourism this generally means indigenously owned, small-scale micro-businesses (Cawley and Gilmore, 2008).”

¹⁵⁸ Appearance before the sub-Committee on 21st March 2013

¹⁵⁹ Ibid

¹⁶⁰ *A Socio-economic Study of Marine-based Water Activities in the West of Ireland*, The Socio-Economic Marine Research Unit (SEMURU) at the National University of Ireland, Galway *Working Paper Series* Working Paper 11-WP-SEMURU-01, Karyn Morrissey and Caroline Moran, n.d. pp.2-3 available online at: http://www.nuigalway.ie/semru/documents/m_m_wp1_updated.pdf

The above quotation is taken from a SEMRU working paper and another SEMRU staff member, Dr Stephen Hynes, when appearing before the sub-Committee on the 25th of April 2013 also stressed the importance of marine tourism, in particular.¹⁶¹

Dr. Hynes pointed out that this is estimated to be the most highly valued sector in the marine economy. Indeed, in relation to rural coastal and island communities he felt that it was probably one of the most relevant. However, he noted that it is also very difficult to get data in this area. He did note that a survey carried out on behalf of *An Foras Mara* | the Marine Institute in 2002 asked how much of tourists activity was marine-related and was able to estimate the value in that year.

Referring to a survey, part of work undertaken by SEMRU for the DECLG, to assess the attitude of the general public to the marine environment and to get an indication of the marine recreational activities undertaken, Dr. Hynes noted that participation in on-water activities is very low. He believed that it was also of interest that those who do participate in on-water activities can be broken into two distinct groups:

- those who undertake passive activities will only undertake one such activity per trip;
- those engaged in more active activities tend to do a few activities during any trip to the coast.

Dr.Hynes felt that this finding may be of use in terms of clustering activities in the context of promoting tourism in certain areas, i.e. that certain activities can be clustered together successfully.

The sub-Committee also heard from Dr Hynes that, in the overall context of rural tourism, marine tourism is not given due consideration. In addition he cited the work of Dr Mary Caley of NUIG who states that initiatives must be relevant to an area's culture and geographical scale. A good example of appropriate marine-related tourism mentioned by Dr Hynes was Coláise UISCE¹⁶² in *Béal an Mhuirthead* in the Mayo Gaeltacht which combines marine activities (windsurfing, dinghy sailing) situated in a sheltered bay with the Irish language.2.7.2 Marine tours.

¹⁶¹ See Marine Tourism: developments, impacts and management (Orams, Mark, 1999), for a discussion as to how marine tourism should be defined, i.e. defining it too strictly could exclude activities from the shore which utilise the seas but defining it too broadly could lead to the inclusion of activities that are only tangentially related to the seas.

¹⁶² Website available at <http://www.usice.ie>

2.7.2.1 Whale watching etc.

The DAHG confirmed to the sub-Committee that they had provided the Irish Whale and Dolphin Group (IWDG)¹⁶³ with some 'seed funding' and had also awarded contracts supporting its scientific work. *An Chomhairle Oidhreachta* |The Heritage Council, an agency of DAHG, had also provided the group with what was characterised as substantial support.

2.8 The Seaweed industry

The seaweed industry comprises both traditional, wild, naturally grown seaweed and cultivated or farmed seaweed. For that reason, it is being treated separately in this Report rather than being included as part of Aquaculture.

2.8.1 The international scope of the industry

According to the FAO¹⁶⁴ the seaweed industry provides a wide variety of products that have an estimated total annual value of US\$ 5.5-6 billion. The greater part of this value relates to food products for human consumption (about US\$ 5 billion. Substances that are extracted from seaweeds (hydrocolloids) - account for a large part of the remaining US\$ 1 billion, while smaller, miscellaneous uses, such as fertilizers and animal feed additives, make up the rest.

The industry uses 7.5-8 million tonnes of wet seaweed annually which is harvested either from naturally grown, wild seaweed or from farmed crops. The farming of seaweed has expanded rapidly as demand has outstripped the supply available from natural resources. Commercial harvesting occurs in about 35 countries, spread between the Northern and Southern Hemispheres, in waters ranging from cold, through temperate, to tropical.

2.8.2 The current scope of the Irish industry

This is an industry which, to the extent that it has been developed, is closely linked with the Gaeltacht (particularly counties Galway, Mayo and Donegal) and mainly based therein with two processing factories in operation, *Arramara Teo.* and *Oileán Glas Teo.*

¹⁶³ The IWDG's website is available at: <http://www.iwdg.ie/index.php>

¹⁶⁴ 'Introduction to commercial seaweeds' available online at: <http://www.fao.org/docrep/006/y4765e/y4765e04.htm>

Ireland's seaweed and biotechnology sector is currently worth approximately €18 million per annum with a target in place to grow the sector to €30 million by 2020 (as outlined in the Marine Institute Sea Change Strategy 2006).¹⁶⁵

A total of 36,000 tonnes of naturally grown, wild seaweed is currently processed and one hundred and eighty-five FTEs are employed as a result.

The product source does not currently include any farmed seaweed and the product range is mostly limited to high volume, low value products such as:

- animal feeds;
- plant supplements;
- specialist fertilisers; and
- agricultural products.

A smaller proportion goes into higher value products such as foods, cosmetics and therapies.

Údarás na Gaeltachta quoted a survey carried out approximately thirteen years ago which suggested that there was approximately 70,000 tonnes of *ascophyllum nodosum*,¹⁶⁶ which is the most commonly-processed seaweed. The main processor is a company the *Údarás* owns outright, *Arramara Teoranta*, which harvests 25,000 tonnes per annum.

The concept of developing a farmed seaweed sector has been under serious consideration for some years.¹⁶⁷ However, the latest developments include BIM, in conjunction with NUIG and Queen's University Belfast

¹⁶⁵ Source: BIM press release entitled 'BIM Highlights the Business Potential of Seaweed' (December 2012) available online at: <http://www.bim.ie/news-and-events/content,68009,en.html>

¹⁶⁶ *Ascophyllum nodosum*, a major North Atlantic seaweed resource, is distributed widely from the Arctic Circle to 40 degrees North Latitude. In eastern Canada 45,000 T of wet *Ascophyllum* are considered harvestable. The present annual harvest ranges is 5/000 to 9,000 wet tons. Hand harvesting has been largely replaced by mechanical harvesting in the last 15 years. Recovery of biomass following harvest is dependent on site productivity/distribution of standing crop, and degree of harvest. After mechanical harvesting residual biomass ranges from 80 percent to 40 percent of pre-harvest standing crop. The economics of harvesting methods were compared, and cost per harvested ton ranged from Canadian dollars 10.65 to Canadian dollars 38.71 per wet ton. Source: UN Food and Agriculture Organisation (FAO) available online at: <http://www.fao.org/docrep/X5819E/x5819e04.htm>

¹⁶⁷ See, for example, the Strategic Review of the Feasibility of Seaweed Aquaculture in Ireland (Foras na Mara | The Marine Institute, n.d.) available online at: <http://www.irishseaweed.com/documents/MI%20DK01008.pdf>

(QUB), carrying out practical research (funded by *An Foras Mara* | the Marine Institute) between 2008 and 2011 into the rationale for and possibility of farming different species of seaweed:¹⁶⁸

“Limited seaweed farming activity has been taking place in Irish coastal waters over the last ten years. This has involved the species *Alaria esculenta* and only one licensed site in the south-west. Now, with funding provided under the Sea Change Strategy (2006) for the project...it has been possible to dedicate three and a half years to the development of culture techniques for two identified species, *Palmaria palmata* [an edible red algae] and *Laminaria digitata* [the large brown kelp]. Three hatcheries have been used to establish the early stages of these species and material has been grown out at five sea sites around Ireland.”

See photographs of the relevant algae and kelp over.

¹⁶⁸ *Business Plan for the Establishment of a Seaweed Hatchery & Grow-out Farm, Part 2* (BIM, n.d., p.3 available online at: <http://www.bim.ie/media/bim/content/publications/Business%20Plan%20for%20the%20Establishment%20of%20a%20Seaweed%20Hatchery%20and%20Grow-out%20Farm.pdf>)

***Laminaria digitata* (kelp)**



***Palmaria palmate* (algae)**



Source: Photographs courtesy of BIM (Presentation (n.d.) entitled ‘The Economics of Seaweed Aquaculture in Ireland *Laminaria digitata* and *Palmaria palmata*’).

The same source states that the need for seaweed product has been identified as “significant” and that, for example, feeding abalone and urchins in culture in Ireland would require 2,000 tonnes of raw material per year at full capacity. BIM points out that this sector has not yet reached its potential value but that, by identifying more products of higher value, greater returns could be realised.

As with aquaculture BIM notes that farming seaweed allows for the production of a standardised product in a controlled environment but that sites must be licensed. Sites must also, generally, be near the shore (seaweed can be farmed at mussel longline sites) and adjacent to a pier and access roads.

Some of the techniques employed and the outcomes of the above research from 2008 to 2011 have also been publicised by BIM.¹⁶⁹

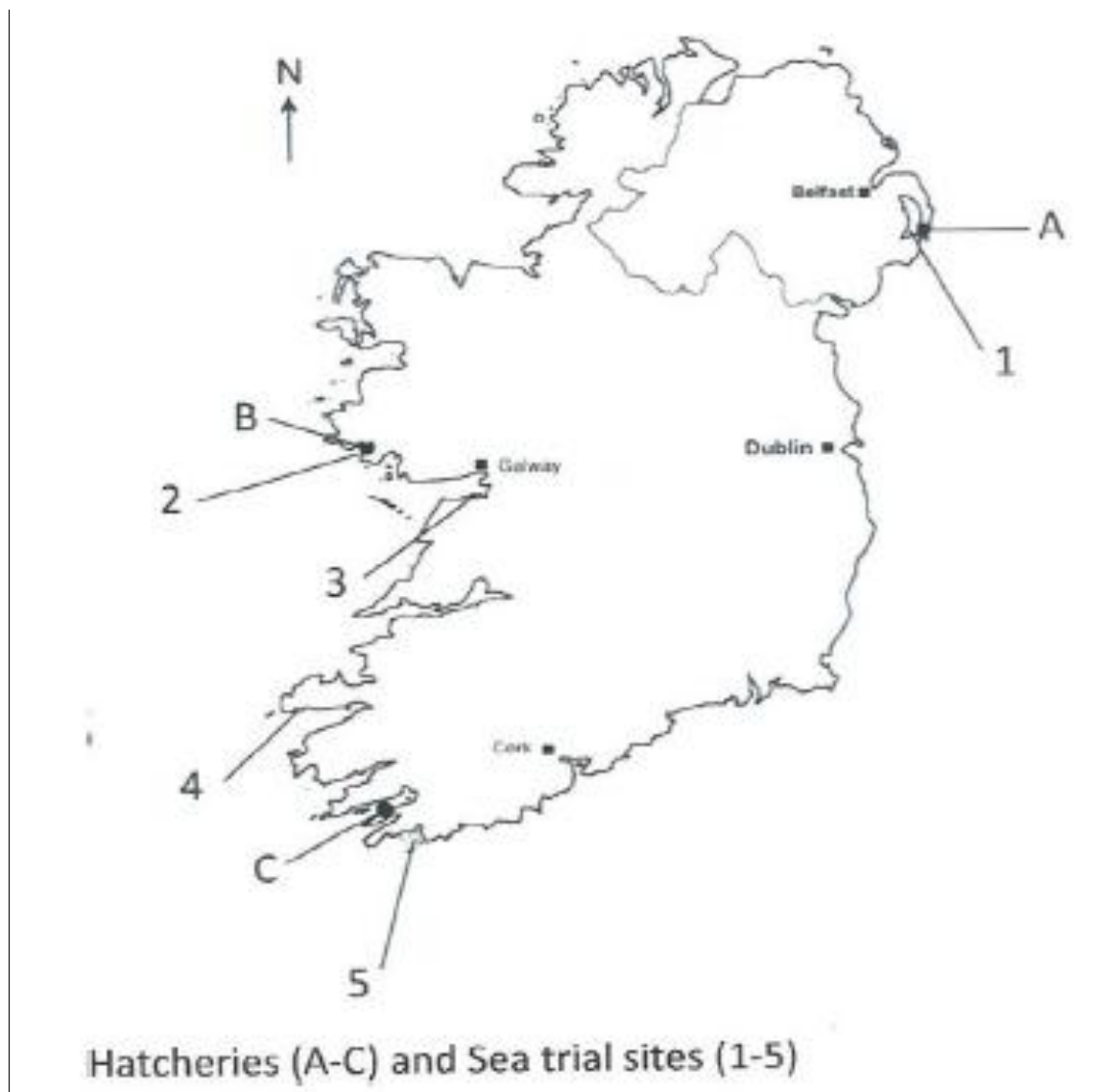
2.8.3 Techniques employed

- Working with three hatcheries, techniques were trialled to establish spore cultures for *Laminaria digitata* (Kelp);
- The optimum growth environment was created for the seaweed plantlets prior to on-growing at sea; and
- The plantlets were then deployed at five licensed sea sites (see map 1) where BIM held 'industry days' bringing the research team to the sites to discuss on-growing methods to best achieve a healthy crop.

Speaking to the sub-Committee on the 30th of April, Mr Dónal Maguire of BIM confirmed that the technique for hatching and growing seaweed facilitating the use of seed lines at sea had been perfected. The first licences are to be applied for in west Cork.

¹⁶⁹ BIM case study 'Developing seaweed farming to produce a high-value product' available online at: <http://www.bim.ie/our-work/projects/developingirishseaweedfarmingforhighvalueproducts/>

Figure 20 – The BIM Seaweed Hatchery project



Source: BIM presentation (n.d) entitled 'The Economics of Seaweed Aquaculture in Ireland *Laminaria digitata* and *Palmaria palmata*' available online at: https://www.was.org/documents/MeetingPresentations/AQUA2012/AQUA2012_0540.pdf

The spore solution can be maintained in the hatchery (see picture below) ready for spraying onto the specially prepared collector string.



Source:

<http://www.bim.ie/our-work/projects/developingirishseaweedfarmingforhighvalueproducts/>

2.8.4 Outcomes: farms developed to commercial scale

- Seaweed is being commercially farmed by a number of the companies involved in the trial;
- Kelp is now easily manipulated in the hatchery and the techniques developed provide for the establishment of spore cultures when the seaweed is fertile.

Mussel harvesters were used to harvest Kelp at one of the sites (see picture below).



Source: *ibid.*

2.8.5 BIM's future plans

Other species such as *Alaria esculenta*, *Saccharina latissima* and the high value red seaweed, *Palmaria palmata* have been investigated with a view to perfecting cultivation techniques.

BIM has, for example, determined that *cultivation of Palmaria palmata* is not economically viable at present, largely because the prices currently available for *Palmaria* as a food-product or for abalone feed are so low. However they expect that increasing demand for *Palmaria* will soon be reflected in the price, and that high-value end-products based on *Palmaria* will soon be developed.¹⁷⁰

2.8.6 Regulation of supply

Údarás na Gaeltachta identified to the sub-Committee that the principal issue in developing the seaweed processing industry is the regulation of supply. Specifically, the Údarás identified the fact that legal ownership

¹⁷⁰ *Aquaculture Explained No. 27 Cultivating Palmaria palmate* (BIM, May 2011, p.3) available online at: <http://www.bim.ie/media/bim/content/publications/Aquaculture%20Explained%20Issue%2027%20-%20Cultivating%20Palmaria%20palmata.pdf>

of 98% of seaweed belongs to the Minister for Agriculture, Food and the Marine (as it sits below the high water mark, i.e. on the foreshore).

In addition to *Arramara teoranta*, another company (in Donegal) extracts liquid from seaweed and the remaining by-product is used for soil enhancement. The Údarás explained to the sub-Committee that the drying extraction plant obtains three times the value for liquid extraction compared to the drying and milling plant operated by *Arramara teoranta*. However, it was noted that to build a liquid extraction plant would probably cost approximately €10 million.

The problem is that investors would be unlikely to provide or secure capital funding on that scale when uncertainty surrounds the supply of the raw material to be processed.

2.8.7 Policy in relation to the foreshore¹⁷¹

The development of an integrated marine and coastal planning process in order to maximise the potential of Ireland's coastline in fishing, aquaculture, ocean energy and tourism was identified as a priority within the Programme for Government (2011) and the DECLG have stated that it is intended that this commitment, among others, will be advanced by the development of legislation in the form of a foreshore and marine area development Bill.

As previously explained, the foreshore is the land and seabed between the high water of ordinary or medium tides and the twelve nautical mile limit off the baseline (approximately 22.24km). This equates to 9.7 million acres or 36% of Ireland's land area. The vast majority of the foreshore is owned by the State and, in accordance with the *State Property Act 1954*, there is a general presumption that ownership of the foreshore is vested in the State unless evidence to the contrary can be produced.

By virtue of the Foreshore Acts, the Minister of Environment, Community and Local Government negotiates the terms and conditions on which the State is prepared to enter into a property contract with the proponent of a development, including such matters as the lease/licence rental fee. Currently, both the development consent and estate management aspects of a foreshore lease or licence are addressed simultaneously by the Minister when determining whether it is in the public interest to grant a foreshore lease or licence. In practice,

¹⁷¹ This section is based on the consultation paper entitled *A New Planning and Consent Architecture for Development in the Marine Area* (DECLG, 2013) available online at: <http://www.environ.ie/en/Publications/DevelopmentandHousing/Foreshore/FileDownload.32268.en.pdf>

the one lease/licence document executed between the parties serves as both the property contract and the development consent, incorporating the environmental conditions as a schedule to the document. In the case of development proposals on privately-owned foreshore, the Minister performs only the development consent function.

The foreshore legislation, which predates planning legislation, was originally designed to address the property aspects of foreshore estate management. The role has evolved over time, particularly with regard to the various environmental assessments required under national and EU law. These requirements have been incorporated into legislation governing the foreshore over the years.

There have been a number of criticisms levelled at the operation of the foreshore consent process, many of which reflect the fact that the legislation is dated. The foreshore legislation was developed long before the advent of significant offshore infrastructural developments, including renewable energy technology, oil and gas pipelines and modern port infrastructure. Since assuming responsibility for the foreshore function in 2010, the DECLG has met with a range of stakeholders to hear their views on the operation of the foreshore consent regime.

Changes in the consent regime would have implications for the property management role. Property management of the State foreshore is a shared responsibility between the Ministers for Public Expenditure and Reform and the Ministers for the Environment, Community and Local Government and Agriculture, Food and the Marine.

The Minister for Public Expenditure and Reform is the owner of the State foreshore and has statutory responsibility for disposals (sales).

The Ministers for the Environment, Community and Local Government and Agriculture, Food and the Marine are empowered to grant leases and licences but have no statutory authority to sell foreshore. In addition, the Minister for Environment, Community and Local Government is vested with a range of general functions related to the management of foreshore.

Section 3: Developing Strategies for Rural and Island Communities

An essential component and great strength of the work of Oireachtas committees is the opportunity their hearings give to communities and experts to provide Members with the benefit of their experience, to bring the most pertinent research to the attention of Members and to propose strategies which they believe can address the challenges faced by communities and sectors.

When coupled with Members own experience and research and through constructive dialogue between them and these stakeholders valuable contributions can be made which may lead to useful policy developments if actioned.¹⁷²

This section, therefore, attempts to briefly identify strategies that could be examined further in order to promote a sustainable future for rural coastal and island communities. This Report concentrates on existing industries rather than alternative ones.

However, it is worth acknowledging that alternative industries such as renewable energy¹⁷³ may hold the potential for development in the future.

3.1 Aquaculture

3.1.1 Licensing

The sub-Committee heard the background to the current licensing difficulties and backlog of licence applications from the officials of the DAFM that appeared before them. Evidence of the socio-economic difficulties this has caused, especially to those involved in the ‘traditional’ and small-scale aquaculture sector, was referred to by IFA Aquaculture in their appearance before the sub-Committee.¹⁷⁴

However, the sub-Committee were also apprised by the DAFM of progress now being made in addressing the backlog. Some of the benefits which may now accrue to the industry if DAFM can ensure that the backlog is

¹⁷² Source: Public Administration Ireland, Issue 85 of June 2012 (Ó Cléirigh, Niall), Supporting the Oireachtas Committees: The role of the Oireachtas Library & Research Service available online at: <http://www.publicaffairsireland.com/journal/archive/92-issue-85-june-2012/articles/1234-supporting-the-oireachtas-committees-the-role-of-the-oireachtas-library-research-service>

¹⁷³ Please see online article re island communities and the potential economic benefits of the renewable energy industry at: <http://www.cleantechinvestor.com/portal/islands/11018-islands-and-peripheral-communities-at-the-forefront-of-renewable-energy.html>

¹⁷⁴ See also news article on Shellfishtrader.com where IFA President, John Bryan, is reported as having called on the government to streamline the aquaculture licensing system. Available online at: <http://www.shellfishtrader.com/news/122-irish-government-called-on-to-stream-line-aquaculture-licence-system>

cleared, that the new licencing system works well and that the database of environmental and conservation information is well employed may (the IFA proposed) include:

- In the case of small-scale aquaculture an increase in employment from two to four thousand and export earnings from €100 million to €200 million;
- An increase in the available supply of raw material to local fish and shellfish producers; and
- Enabling producers to raise funds and invest in new technology.

To facilitate this outcome the IFA called actions which included the following:

- The provision of “answers” to the industry as to how key economic and practical questions raised by targets set in *Harvest 2020* and *Our Ocean Wealth* will be met;
- How the State will support the industry “in practical terms” – the IFA specifically mentioned the recent BIM grant scheme¹⁷⁵ in this context saying that 95% of the sector who could not get a licence renewal were effectively excluded from it;
- The redeployment of existing resources in BIM and *Foras na Mara* | the Marine Institute into the sector’s development;
- A better understanding of the needs and limitations of farmers of different fish species.

IFA Aquaculture has also spoken to the publication *Inshore Ireland* (in 2012) about the issue of licensing:¹⁷⁶

“The long-running aquaculture licensing delay saga has been slammed by the sector ... Richie Flynn of IFA Aquaculture told *Inshore Ireland* that **80% of IFA members are currently deemed ineligible for capital grant aid to carry out modernisation or environmental work due to the delay** [L&RS emphasis], a debacle further compounded by bureaucracy in the sector’.

‘We all know that creating new jobs and protect existing ones are the top priority. And there is a real demand out there for quality Irish fish and shellfish...But since 1996, I have dealt with fourteen different ministers responsible for fisheries and asked every one of them to sort out aquaculture licensing. At countless meetings, voluntary IFA aquaculture members asked for better and more transparent regulation. But the plethora of individuals, departments and agencies involved in our relatively small industry is mind-boggling....’

‘The only measures of success are licences, jobs and exports. Everything else is window dressing. Without these basic outcomes, we lose young people to emigration, markets to competitors, and shut down service and support industries. The aquaculture sector has the potential, skills and experience to make a positive contribution to our local and national economy. The first job for the next Ministers for

¹⁷⁵ Commercial Aquaculture Development Scheme 2013 announced on the 11th of March. Further details available online at: <http://www.bim.ie/schemes/bimcommercialaquaculturedevelopmentscheme/>

¹⁷⁶ *InshoreIreland* Volume 7 Issue 1 - article entitled ‘Aquaculture sector slams licensing delays’ available online at: http://www.inshore-ireland.com/index.php?option=com_content&task=view&id=841&Itemid=185

Fisheries and the Environment is to clear a backlog of over 500 licences within six months to get our communities back to work. We can't afford not to.' "

The sub-Committee noted that *Údarás na Gaeltachta* also believe that it is "critical" that the licencing system be reviewed and simplified and that sufficient resources be made available to the appeals board to support its work programme.¹⁷⁷

Such requirements have been flagged for some years and formed part of the recommendations made by the Crawley report (2006. p.119).

Recommendation 6.2 *Review the current licensing and regulatory regime.*

A review of the existing procedures and processes used to administer and implement the current licensing and regulatory regime for the aquaculture sector (finfish and shellfish) should take place with a view to strengthening current systems and procedures and delivering an improved service to customers.

The L&RS briefly examined the situation in Scotland¹⁷⁸ when planning to apply for a new aquaculture licence and found that several organisations were involved in the process in that country too.¹⁷⁹

In relation to some of these issues the position of the DAFM is that the State:

"Have rigorous systems in place for the protection of the environment and the regulatory authorities ensure that best practice systems are rigorously enforced. The State's monitoring protocols in relation to fish farms are fully enforced and, for example, sea lice controls are regarded as representing best practice internationally."

Equally, DAFM believes that the existing aquaculture licence templates have been comprehensively updated to make them 'fit for purpose' to meet the challenges and opportunities facing the industry. DAFM also states that significant work has gone into devising this new updated suite of licences, creating a balanced set of rights and obligations for the industry suited to the current era.

They highlight the key features of the licence templates as including:

¹⁷⁷ Appearance before the sub-Committee on 30th April 2013.

¹⁷⁸ A general overview of the status of Scottish aquaculture is provided in Appendix 4.

¹⁷⁹ The website of the Scottish Government provides a webpage which serves as a gateway to the policy, guidance, procedures and application forms for planning permission and other licenses needed to develop and operate an aquaculture farm. Available online at: <http://www.scotland.gov.uk/Topics/marine/Fish-Shellfish/18716>

- A move to Standing Stock Biomass for finfish as the means of measuring production capacity at an aquaculture site;
- Enhanced provisions on environmental monitoring;
- Greater clarity on the requirements for operators in relation to operational conduct and monitoring;
- The possibility for the group-marking of sites for navigational purposes;
- Specific provisions covering company registration/dissolution, tax certificates, payment of fees etc; and
- The new licence templates are also species specific.

With regard to **aquaculture licensing statistics** DAFM confirmed to the L&RS on the 26th of July 2013 that there are in the order of 640 aquaculture licences in use. Approximately 600 of these are for shellfish production – with the balance being for salmon/finfish farming.

These licences break down into approximately half which are ‘existing licenses’ currently operating under Section 19A(4) of the *Fisheries Amendment Act 1997*¹⁸⁰ which permits the operator to continue to function subject to the terms and conditions of the previous licence provided a renewal application has been submitted to the Department. The other half is made up of new licence applications. The number of sites represented by these licences is approximately 2,000, i.e. many of these are multi-site licences and applications for such licences though the Department notes that as part of the new templates which were developed for licences in 2011 that the system is moving towards the introduction of single-site licences.

DAFM further confirmed to the L&RS that the average timeframe for processing each particular application varies depending on location, species, scale and intensity of production, statutory status of sites, potential visual impact etc. Other factors include consideration of any submissions or observations raised during the public consultation period.

Information seminars on **the new licence templates** have been provided by DAFM for the industry.

DAFM accepts that the Cawley Report had recommended, *inter alia*, that licences should be extended to a minimum of 20 years. DAFM states that it has neither accepted nor rejected this recommendation but that this should be viewed in the context of other calls for licences of an even shorter duration than that which currently applies (ten years) and, overall, is of the view that a balance must be maintained between the industry’s need

¹⁸⁰ English-language version of the Act available online at: <http://www.irishstatutebook.ie/1997/en/act/pub/0023/>

for security of tenure and the requirement to achieve maximum environmental protection. Therefore, DAFM, while keeping the matter under ongoing review considers that the current licence duration of ten years duration is the appropriate one.

Recommendation 16: The sub-Committee has concerns that sufficient management are not being devoted to the processing of aquaculture licence applications and renewals. It recommends that applications of non-natura areas and natura areas, where baseline data collection has been completed within the statutory timeframe set out by legislation, should be processed expeditiously.

The evidence and views reviewed in this Report should be placed in the context that the science and best-practice in relation to sea lice control, for example, continues to evolve.

The Scottish Parliament | *Pàrlamaid na h-Alba* recently approved the *Aquaculture and Fisheries Act 2013*.¹⁸¹ One of the submissions received by the Parliament in relation to the Bill was from Professor Chris Todd,¹⁸² professor of Marine Ecology at the University of St. Andrew's, who pointed out that:¹⁸³

"I would offer you the following observations – which are a strictly personal (i.e. not institutional) opinion – based upon my own research expertise and interests in further understanding the interaction between farmed and wild salmonids. From a scientific perspective I believe it essential that sea lice data should be collated and published on a farm by farm basis. Concatenating and pooling data for multiple farms (or sites) within a sea loch or bay and publicising a summary statistic would considerably erode their utility in ascertaining farm performance and would effectively preclude informative and detailed scientific analysis of potential interactions with both other farmed and wild fish.

In the latter respect, I note the important recent publication by Jansen et al. (2012) in Proceedings of the Royal Society B.... The focus of their study was to determine whether the continued expansion of the Norwegian salmon aquaculture industry would comprise an ever-increasing challenge to sea lice control on farmed fish. In brief, they sought to ascertain if local sea lice infection pressure was related to the density of fish on farms: more salmon on a farm provides more hosts for parasites, which may produce more infective larvae and therefore local sea lice populations might be increasingly challenging to control...

¹⁸¹ Available online at: http://www.legislation.gov.uk/asp/2013/7/pdfs/asp_20130007_en.pdf

¹⁸² Profile available online at: <http://biology.st-andrews.ac.uk/contact/staffProfile.aspx?sunID=cdt>

¹⁸³ Submission available online at:

http://www.scottish.parliament.uk/S4_RuralAffairsClimateChangeandEnvironmentCommittee/General%20Documents/Professor_Chris_Todd_%28combined%29.pdf

The analyses of Jansen et al. (2012) are extensive and very comprehensive and included all farms throughout the Norwegian industry....

Their key finding is that there is indeed a relationship between local fish density and sea lice infection pressure. From the wider perspective perhaps their most important conclusion was that: 'With a continued increase in the density of farmed salmon, our analyses suggest that the current management regime will lead to increasing sea lice infection pressure in fish farms, as well as increasing efforts of chemotherapeutic control and hence the risk of development and the spread of treatment resistance. To counter this development, we believe regulations will need to go from a threshold defined for the average infection per fish to a threshold based on a measure of the spatial sea lice density.' These results might well lead the Norwegian authorities to require the industry to control their lice levels on a fjord/total biomass basis, rather than applying a simple, single national threshold level per fish irrespective of farm size.

Several respondents in the written evidence to your Committee commented on the need for sea lice infection pressure to be assessed not as a per fish average, but scaled to allow for the number of fish on a farm. (In brief, an average of 0.5 adult female lice per fish within a given sea loch comprises a low infection pressure if there are 1,000 fish on a farm, compared to a farm with the same average lice density but 100,000 host fish.) I would concur with that view, but would emphasize also the importance of sea lice infection levels being recorded and reported on a per farm basis and made publicly available in a consistent and detailed format."

The situation in Ireland as outlined by the Minister for Agriculture, Food and the Marine¹⁸⁴ is that Ireland's sea lice control protocols are operated by *An Foras Mara* | the Marine Institute and that results of inspections are provided to the farm operators within 5 working days. Results are also reported to DAFM and to other interested parties such as IFI. Overall results and trends are published annually.

Recommendation 17: In light of the current sea lice control protocols and the necessity to meet the highest international standards, the sub-Committee recommends that the detailed results of the Marine Institute inspections already carried out should be published.

3.1.2 Regulation

The sub-Committee may also wish to note an interview reported in *Inshore Ireland* (Volume 4, issue 3) with Jan Feenstra who is the Managing Director of the Irish subsidiary of the Norwegian company, Marine Harvest ASA¹⁸⁵ which has six sites around the western seaboard. Mr Feenstra described the importance of regulation which is supportive of producers while protecting the environment:¹⁸⁶

¹⁸⁴ Parliamentary Question of the 7th of May 2013 available online at: <http://www.kildarestreet.com/wrans/?id=2013-05-07a.707>

¹⁸⁵ <http://marineharvest.com/en/About-Marine-Harvest/About-Marine-Harvest1/Ireland/>

¹⁸⁶ Article entitled ' 'Dynamic regulator' required to maximise Irish aquaculture production ' available online at: http://www.inshore-ireland.com/index.php?option=com_content&task=view&id=682&Itemid=168

“Environmental sustainability is achievable only through sound regulation that on the one hand takes care of the environment and the general public’s interest while on the other hand supports the operator and enables him or her to implement best farming practices to benefit the environment as well as the farming business. This is a concept that still has to develop in Ireland. Instead, the regulator is seen here as having a policing role as opposed to a managing role. Farmers need several sites to apply best practices; however if these are not being made available in the first place, then the farmer can end up in a compromised production set up that is ultimately not entirely of his own making. Aquaculture is a young and dynamic business producing healthy nourishing foods that need a dynamic regulator with a deep and up-to-date understanding. That is, in my view, the key road block.”

The sub-Committee also heard from the SFPA of a positive and innovative approach taken by one aquaculture producer an aquaculture producer whose production area had been designated as an SAC. That producer initially perceived this as a significant business impediment but now markets his shellfish across the EU as grown in pristine special area of conservation waters, designated as environmentally protected, i.e. turning the situation to his advantage through branding which emphasises the high standard of the environmental conditions.

3.1.3 Promotion of commercial aquaculture

Údarás na Gaeltachta, at its appearance before the sub-Committee, called for a three-year development scheme for commercial aquaculture. Such a scheme, if introduced, could they believe provide many opportunities in seaweed, mariculture, food and tourism development, especially cultural tourism.

This suggestion was made in the context of improving the effectiveness of BIM’s existing Commercial Aquaculture Development Scheme¹⁸⁷ which is designed to “promote the commercial development of aquaculture on a basis which is financially, technically and environmentally sustainable” and which is open to SMEs engaged in commercial aquaculture.

Grant aid of up to 40% of the eligible investment costs is available from either BIM or Údarás na Gaeltachta (co-funded by the EFF) and the main focus of the existing scheme is on:

- The modernisation and expansion of aquaculture SMEs;
- Development of handling facilities for quality improvement and efficiency; and

¹⁸⁷ Full details of the scheme are available at: <http://www.bim.ie/schemes/bimscommercialaquaculturedevelopmentscheme/>

- Measures of a collective nature in particular: quality assurance and environmental impact, efficiency, safety and competitiveness in the aquaculture industry.

At the moment support under the above scheme is provided on an annual basis only, i.e. no multi-annual budgeting and therefore does not have the facility to allow companies to drawn down grants over a period of several years. Údarás na Gaeltachta posited that “This can be a limiting factor for companies implementing a three to five year business plan”.¹⁸⁸

Recommendation 18: The sub-Committee recommends that the Government examine whether grants can be provided by agencies to Co-operatives, producer groups and Small and Medium Enterprises (SMEs), operating in rural coastal and island communities based on standard evaluation process, on a multi-annual basis.

3.1.4 Linguistic impact of large scale developments

3.1.4.1 The role of Údarás na Gaeltachta

Údarás na Gaeltachta is the regional authority responsible for the economic, social and cultural development of the Gaeltacht. The overall objective of *Údarás na Gaeltachta* is to ensure that Irish remains the main communal language of the Gaeltacht and is passed on to future generations.

The authority endeavours to achieve that objective by funding and fostering a wide range of enterprise development and job creation initiatives and by supporting strategic language, cultural and community based activities.

3.1.4.2 The potential impact of large-scale aquacultural developments on the Irish language

The issue of whether large-scale aquacultural developments as foreseen under *Food Harvest2020* and by BIM would have an impact on the viability of the Irish language as the main communal language within coastal Gaeltacht areas was raised by a Member during a meeting of the sub-Committee, “An bhfuil aon léirmheas déanta ag an Údarás ar an tionchar a bheadh ag 500 post ar an teanga?”¹⁸⁹ [Has the Údarás carried out any review of the impact that the creation of 500 jobs would have?].

¹⁸⁸ Correspondence between the Oireachtas L&RS and Údarás na Gaeltachta dated 21st May 2013.

¹⁸⁹ The sub-Committee meeting with Agencies including Údarás na Gaeltachta

Mr. Stiofán Ó Cúláin, the CEO of Údarás na Gaeltachta was of the opinion that “Má thagann 500 post isteach sa cheantar, agus má bhíonn siad ar fáil sa Ghaeltacht, beimid ag súil go gheobhadh muintir na Gaeltachta formhór na postanna sin.” [If 500 jobs come into the area, and if they are available in the Gaeltacht, that we would hope that the Gaeltacht community would get most of those jobs].

The sub-Committee noted that with the enactment of the *Gaeltacht Act 2012* the role of Údarás na Gaeltachta and the status of the Gaeltacht itself has now changed.

The major changes are that the Údarás now has additional functions in relation to language planning within the Gaeltacht and that each area within the Gaeltacht will now be designated as part of a Gaeltacht Language Planning Area. Each of these areas must devise a language plan which if not implemented to the satisfaction of the Minister for Arts, Heritage and the Gaeltacht may result in their losing their Gaeltacht status.

Language planning role of Údarás na Gaeltachta and status of the Gaeltacht Language Planning Areas¹⁹⁰

In regard to the statutory language planning process, the Bill provides for the designation of the existing Gaeltacht as a number of discrete Gaeltacht Language Planning Areas, using language planning criteria rather than geographical criteria as has been the case to date. This approach is based on the *Comprehensive Linguistic Study of the Use of Irish in the Gaeltacht* which showed that there has been a significant language shift towards English in the Gaeltacht and concluded that, without urgent remedial action, the Irish language may only have a lifespan of 15 to 20 years as a community and household language in the Gaeltacht.

This will involve the designation, by Order, of areas within the existing Gaeltacht as Gaeltacht Language Planning Areas comprising Electoral Divisions and parts thereof in respect of which language plans have been agreed by the communities concerned with the Minister for Arts, Heritage and the Gaeltacht, in accordance with prescribed regulations made by the Minister. The purpose of the language planning process is to strengthen the Irish language as the family and community language of Gaeltacht Language Planning Areas. Údarás na Gaeltachta will have a role in assisting communities with the preparation and implementation of language plans in Gaeltacht Language Planning Areas.

¹⁹⁰ Extracts from the Explanatory Memorandum accompanying the Gaeltacht Bill 2012 available online at: <http://www.ahg.gov.ie/en/20YearStrategyfortheIrishLanguage/GaeltachtAct2012/Explanatory%20Memo.pdf>

Section 8 — Implementation of Irish language plans in Gaeltacht Language Planning Areas

This section provides for the implementation of language plans in Gaeltacht Language Planning Areas [subsection (1)], for the provision by Údarás na Gaeltachta of assistance in this regard [subsection (2)] and for the periodic review by the Minister of the implementation of the plans [subsection (3)]. If a plan is not being implemented to the satisfaction of the Minister, the Minister shall formally request the implementing organisation to remedy identified deficiencies within a specified time period, which can be extended by the Minister [subsections (4) and (5)]. If, following further review by the Minister, the deficiencies have not been remedied, the Minister may, by Order, revoke the designation of the Gaeltacht Language Planning Area and make a public notice to that effect [subsections (6), (7) and (8)].

Other legislative provisions relating to developments in Gaeltacht areas include linguistic impact statements. A linguistic impact statement is a report that is prepared to support significant developments in Gaeltacht Areas. The report is essentially a study, which assesses whether a proposed development will have an impact on the linguistic integrity of the locality, and it is submitted in support of planning applications for significant developments within the Gaeltacht.¹⁹¹

The *Planning and Development Act 2000* (as amended)¹⁹² has stated that Development Plans must include objectives for the “protection of the linguistic and cultural heritage of the Gaeltacht including the promotion of Irish as the community language, where there is a Gaeltacht Area in the area of the development plan”.

Increasingly Local Authorities request linguistic impact statements to support applications for development in Gaeltacht areas, this can be included as a policy requirement within the development/local area plan or alternatively can be requested on a case by case basis via a further information request on individual Planning Applications.

3.2 Island and coastal (within the 12 mile zone) fisheries

A key witness who appeared before the sub-Committee, Dr Stephen Hynes of SEMRU, identified two of the challenges which are worth considering as an introduction to this section:

¹⁹¹ <http://www.mccarthykos.ie/Services/Planning/LinguisticImpactAssessments>

¹⁹² <http://www.environ.ie/en/DevelopmentHousing/PlanningDevelopment/Planning/PlanningLegislation-Overview/>

1. That the incorporation of socio-economic considerations into fisheries management would appear to be lacking (a point also made to the sub-Committee by Dr Alyne Delaney of Aalborg university, Denmark);
2. That research by Dr. Áine Macken Walsh of Teagasc's Rural Economy Research Centre (RERC) has found that the culture within fishing communities can be a barrier to rural development, i.e. that as generations of families are involved in fishing and consequently there may be a reluctance to diversify into a non-fishing sector.

3.2.1 Wild Salmon Fisheries management

The desire among communities and representative organisations to find ways of continuing island and coastal fisheries and its rationale was perhaps best summed up by the Donegal Islands' Fishermen (DIF) in their presentation to the sub-Committee.

"We ask for the responsibility and right to practice traditional livelihoods that are ecologically sustainable, socially just and culturally diverse, and to pass down our traditions, knowledge and skills to future generations."

The scale of the economic problem they face is set out in the submission (2009) by Crick Carleton of Nautilus on behalf of *Comhar na nOileán Teoranta*:

- A reduction of between €800,000 and €1,000,000 in respect of the economy of the island of *Árainn Mhór*.

The solution they advocated is set out in a report by Dr. Alyne Delaney:

- That the ban on salmon fishing be 'relaxed' for a period of five years;
- During this period that a series of experiments be conducted on a 'days at sea'¹⁹³ basis within the 12-mile zone;
- That there be collaboration between the island fishing industry and the appropriate bodies (presumably *An Foras Mara* | the Marine Institute) to establish, through DNA analysis, whether fish being caught are bound for rivers that are in surplus stock or not.

The broad thrust of this proposed solution is to determine whether the islands fishing industry is "significantly" affecting under-stocked rivers. The DIF accept that if this is the case that the industry would have to "cease our fishing practices".

¹⁹³ Fishing effort ('days at sea') is the time that vessels spend at sea.

However, when the specific case of fishing off *Árainn Mhór* was raised by the sub-Committee with the IFI, the Agency's CEO told the Members of the Sub-Committee that:¹⁹⁴

"Deputy Pringle raised the issue of drift netting in Arranmore [*Árainn Mhór*] Island. It is a difficult question to answer. On a biological level, it is easy; there are no rivers coming off Arranmore [*Árainn Mhór*] Island, so every salmon that passes down the coast is coming from somewhere else and going to somewhere else. It is the classic bad example in terms of mixed stock fisheries. This means that every salmon which passes the coast is coming from and going to somewhere else. This is the classic bad example in terms of mixed stock fisheries because when one throws a net off Arranmore [*Árainn Mhór*] Island, one can catch 20 salmon that are heading for the River Moy which has a very healthy surplus or the last 20 salmon heading for the River Loire or River Rhine. The mixed stock fishery ceased for this reason. This is a difficult issue for Inland Fisheries Ireland because fishermen are not gardeners, plumbers or painters and want to fish, yet we must tell them they cannot fish for salmon. It is inherent in fishing that one will fish in mixed stock fisheries. I do not see any potential for salmon fishing until such time as the mixed stock nature of the fisheries either improves or one has some confidence that the fish being caught all come from sustainable stocks."

Having said that, however, the CEO described some of the latest international developments in policy formulation with regard to socio-economic issues and acknowledged that while there are three aspects to fishing,

- Management;
- Scientific; and
- Socio economic,

that it was the scientific aspect which has been prioritised in recent years but that questions were raised as to how to incorporate socio economic factors into scientific and management decisions. The examples of countries such as Canada and Norway which have indigenous peoples and the policy formulation of the North Atlantic Salmon Conservation Organization (NASCO)¹⁹⁵ were mentioned in this context. However, the CEO also noted that these considerations have yet to filter down into any substantive policy shift which would be of benefit to inshore Salmon fishermen.

¹⁹⁴ Appearance before the sub-Committee on 21st March 2013.

¹⁹⁵ NASCO is an international organization, established by an inter-governmental Convention in 1984. The objective of NASCO is to conserve, restore, enhance and rationally manage Atlantic salmon through international cooperation taking account of the best available scientific information. Source: NASCO website available online at: <http://www.nasco.int/about.html>

It should be noted however that even within the NASCO's published guidelines¹⁹⁶ on incorporating socio economic factors into decisions which may affect the wild Atlantic salmon and the environments in which it lives that the 'Precautionary Approach'¹⁹⁷ applies and that the second question in the Guidelines demands that an assessment be made in respect of each option (aimed at achieving the objective of the relevant proposal) to establish whether there is a risk of serious or irreversible deleterious impact on the salmon and its environments.

The guidelines have been developed on the basis that all decisions in relation to the following factors should be taken in the context of the 'Precautionary Approach':

- Management of salmon fisheries;
- Habitat protection and restoration;
- Aquaculture, introductions and transfers and transgenics;
- Stock rebuilding programmes; and
- By-catch.

NASCO also notes that in applying these Guidelines there may be a need for expert social and economic advice. While the Guidelines are intended for use by those who have responsibility for managing the wild Atlantic salmon and its environments they believe that may also be useful in communicating concerns to other sectors whose proposals could impact on the wild salmon and its environments. In addition, NASCO recommends that social and economic factors be incorporated in decisions through socio-economic impact assessments whose purpose should be to support and inform decision-making rather than to provide a mechanism for making the decision.

However, the current scientific advice as to the sustainability of certain salmon stock should, ultimately, be relied upon. Reference should be made to the L&RS paper dated the 26th of August 2013 provided to the sub-Committee entitled *Background and issues relating to the ban on fishing for mixed stock salmon using drift nets* which is available at Appendix 7 This concludes that:

¹⁹⁶ The NASCO Guidelines are available online at: <http://www.nasco.int/pdf/agreements/socioeconomics.pdf>

¹⁹⁷ The principal objective of NASCO and its Contracting Parties in applying the 'Precautionary Approach' to the conservation and management of Atlantic salmon is to protect the resource and preserve the environments in which it lives. Under the Precautionary Approach priority should be given to conserving the productive capacity of the resource.

“...despite the conservation measures in place, Atlantic salmon in Irish waters remains a threatened species and is protected under the Habitats Directive (92/43/EC).

The most recent scientific advice recommends limiting exploitation of salmon to single stocks which are at or exceeding their Conservation Limits.

Certain factors such as climate change are out of our control in the short-term. However, adhering to the latest authoritative scientific advice when determining how and where salmon may be fished and maintaining responsible levels of fishing which ensure that Conservation Limits are not negatively impacted upon should continue.”

Recommendation 19: The sub-Committee recommends that other threats to fish stocks (salmon stocks in particular) including municipal pollution, need to be addressed. It further recommends that where the scientific evidence exists that stocks are at a sustainable level (including salmon stocks) that restricted drift net fishing or other suitable method would be allowed on a pilot basis. The pilot could be trialled over a period of two years initially, on offshore Islands only.

3.2.1.1 Control of the Seal population

Two species of seal are found in Irish waters; the Atlantic Grey Seal and the Common or Harbour Seal.

The sub-Committee heard calls from *Íascairí Intíre Cois Cladach na hÉireann* for the control of the seal population, perhaps by capture and re-release elsewhere.

In **Ireland**, the 1992 EC Habitats Directive as transposed by the EC (Natural Habitats) Regulations requires that both seal species are maintained at favourable conservation status.

The sub-Committee noted however that, by contrast, **Canada** deals with this situation in a commercial manner, i.e. by the development of a market in seal products.¹⁹⁸ In 2011 the Canadian Government announced a major breakthrough in the Chinese market,¹⁹⁹

“Canadian sealers and processors produce some of the finest quality products in the world,” said Gerry Ritz, Minister of Agriculture. “Opening the Chinese market presents a great opportunity and will hopefully be a real profit boost for our producers. This arrangement caps off a successful few days of promoting the Canadian fish and seafood industry in China. Minister Shea was joined on the trip by the

¹⁹⁸ See the Cion.'s description of seal products available at:

http://ec.europa.eu/environment/biodiversity/animal_welfare/seals/seal_hunting.htm

¹⁹⁹ Fisheries and Oceans Canada (Government of Canada | *Gouvernement du Canada*) press release entitled ‘Canada Opens New Market for Seal Products in China’ available online at: <http://www.dfo-mpo.gc.ca/media/npres-communique/2011/hq-ac01-eng.htm>

Honourable Daniel Shewchuk, Nunavut Environment Minister and the Honourable Clyde Jackman, Newfoundland and Labrador Minister of Fisheries and Aquaculture.”

Fisheries and Oceans Canada (DFO) is the federal department responsible for managing the seal harvest. DFO describes Seals as a valuable natural resource and states that the seal harvest is an economic mainstay for numerous rural communities in Atlantic Canada, Quebec and the North.²⁰⁰

However, the situation in Ireland and in the context of EU law has recently been summarised by the Minister for Arts, Heritage and the Gaeltacht:²⁰¹

“Both are included in a list of species protected under the EU Habitats Directive. Consequently, Ireland is obliged to monitor and report on their status, including in relation to their population, every six years. The next such report is due this month. The assessments of seals will be available shortly on the website of the National Parks and Wildlife Service of my Department at www.npws.ie.

My Department has carried out a number of surveys, including aerial surveys, on the population of both the common and grey seals in the past number of years. All data arising from these surveys from the previous years are now being analysed in advance of the forthcoming report to the European Commission.

The data from both the Harbour and Grey Seal monitoring programmes will be comparable with previously-collected data and will inform my Department’s view as to the current status of the respective populations.

In terms of ascertaining the likely effects of seals on the fishing industry, I will be informed not only by the population monitoring undertaken by my Department, but also by investigations into seal-fisheries interactions that have been commissioned by Inland Fisheries Ireland and Bord Iascaigh Mhara and I understand that both organisations will report later in 2013.

While seals are protected under the Wildlife Acts, licences may be obtained under section 42 of the Wildlife Act to hunt seals where damage is being caused. Licences are issued in response to specific applications and each application is considered on its merits. This redress is available to individual fishermen to control damage to fisheries by seals at particular locations.”

While the more comprehensive monitoring set out by the Minister would seem welcome it also seems unlikely that any significant culling of either seal population seems likely in the short-term.

Statistics in relation to the number of seals shot under licence in Scotland is available at the following link.²⁰²

²⁰⁰ See DFO website at: <http://www.dfo-mpo.gc.ca/fm-gp/seal-phoque/index-eng.htm>

²⁰¹ <http://oireachtasdebates.oireachtas.ie/Debates%20Authoring/DebatesWebPack.nsf/takes/dail2013061800071#N17>

²⁰² <http://www.scotland.gov.uk/Topics/marine/Licensing/SealLicensing>

3.2.2 Inshore fishery – overall management requirements

The sub-Committee noted that one of the witnesses who appeared before them, Dr Hynes of SEMRU, made some fundamental observations in relation to the availability of data on inland fisheries and small fishing vessels. Dr Hynes contrasted this paucity with the positive situation which pertains in agriculture.²⁰³

“...I worked for Teagasc and we were able to do fantastic stuff on policy analysis, as it still does, using the national farm survey with individual-level data for the farmers. The farm representative bodies are well able to use that type of analysis. It would be of major benefit to the fishery representative bodies if we had that data and could use it for policy analysis. That is a recommendation. I have had constructive talks with the Sea-Fisheries Protection Authority and BIM on that data but there seems to be a mismatch. BIM is collecting data on the cost side of the fleet and the Sea Fisheries Protection Authority has the log book data on what is being landed and the sales note data but there is a mismatch between the inland fleets and the boats above 10 metres. That data issue could be examined.”

The Federation of Irish Fishermen (FIF) made a number of points in relation to how a healthy inshore fishery could be ensured:

- Sustainable management and regulation;
- Capitalising on the “significant amount of autonomy” Ireland enjoys in respect of managing its inshore fishery, i.e. that we are not constrained by TACs for most of the mollusc and crustacean species found in inshore waters; and
- That a further ‘task force’ is unnecessary – two reports published by BIM in 1999²⁰⁴ and 2005²⁰⁵ already provide the basis for designing the most effective policy.

Some specific examples which illustrate some of the policy approaches outlined above by the FIF were made by the Irish South and East Fish Producers Organisation (IS&EFP Ltd.) In their presentation to the sub-Committee:

- The closure around the coast, of certain bays and in respect of certain species, in the case of vessels over 18 metres in length (the rationale being that smaller vessels do not have the same capacity to go further out to sea on health and safety grounds);
- Distributing TACs to smaller vessels (the rationale in this case being that these vessels using their TAC over a longer period of time have a greater socio-economic impact).

²⁰³ Appearance before the sub-Committee on 25th April 2013

²⁰⁴ *Irish Inshore Fisheries Sector: Review and Recommendations*

²⁰⁵ *Managing Ireland's Inshore Fisheries*

A similar concept, but one influenced by the presentation of *lascairí Intíre Cois Cladach na hÉireann*, was put forward at the sub-Committee meeting of 25th June by Deputy Éamon Ó Cuív:

- That coastal communities utilising under 10 metre vessels should be allowed to fish within the 12 mile limit on condition that only certain fishing gear is used.

A Member of the sub-Committee had also pointed out at the meeting of 20th March with DAFM that some rural communities have suffered as a result of consolidation in the sea-fishing industry and raised the following associated issues:²⁰⁶

- How aquaculture can be made complementary to sea fishing;
- Whether a TAC allocation (i.e. from one sector to another), improved licensing or more favourable policy instruments could address the support needed by island and rural communities that do not have access to fishery harbour centres on the west coast; and
- The development of small inshore fleets.

DAFM's response to these questions suggested that there may indeed be future potential for exploring how these issues can be addressed to the benefit of small rural and coastal communities. DAFM pointed out that:²⁰⁷

- While it is technically the case that the Common Fisheries Policy governs all living marine organisms from the shore to a point 200 miles out at sea, management measures have not been developed for many species. Only a certain number of species are subject to quotas, tax and other limitations. For many inshore species, few if any Common Fisheries Policy positions exist.
- There are provisions to govern the registration of fleet vessels but there are few at species level other than provisions on minimum sizes and other technical provisions.
- We have many inshore fisheries which are not heavily impacted by the Common Fisheries Policy and it is very much open to debate as to whether that is a good or bad thing. It is a question of whether they should be subject to further management.

²⁰⁶

<http://oireachtasdebates.oireachtas.ie/Debates%20Authoring/DebatesWebPack.nsf/committeetakes/AG32013032000005?opendocument>

²⁰⁷

<http://oireachtasdebates.oireachtas.ie/Debates%20Authoring/DebatesWebPack.nsf/committeetakes/AG32013032000006?opendocument>

- Decisions in that context are dependent on the availability of information, the ability to manage and the ability to enforce.
- There are many different and varied inshore fisheries ranging from lobster and crab fisheries to whelks and crawfish.
- There is a huge multiplicity of things that can be done and that fishermen are still able to do.

Recommendation 20: While recognising there are a large number of representative fishing organisations based on geographical area, LOA and fishing type, the sub-Committee recommends that all of the fishing organisations should consider a restructuring which would lead to the formation of an inshore fishing organisation to provide a unified voice on a sectoral basis.

With regard to (B) in the preceding text box the issue of what category of fishing vessel LOA is most important to rural coastal and island communities is a difficult one to answer.

In addition, there are other arguments associated with this issue such as the general overfishing of stocks alleged by some commentators, fleet decommissioning and the composition/size of crews on fishing vessels of various LOA categories.

The technical issues relating to the **fishing capacity** (see UN FAO definition below) of vessels are quite complex and vessels can be categorised other than by length – vessel tonnage, engine power, hold size, gear and fishing methods used.²⁰⁸

FISHING CAPACITY IS "THE MAXIMUM AMOUNT OF FISH OVER A PERIOD OF TIME THAT CAN BE PRODUCED BY A FISHING FLEET IF FULLY UTILIZED, GIVEN THE BIOMASS AND AGE STRUCTURE OF THE FISH STOCK AND THE PRESENT

STATE OF THE TECHNOLOGY". THAT IS, $Y_c = Y(E_c, S)$

WHERE Y_c IS CURRENT YIELD OR CATCH, E_c IS THE CURRENT EFFORT GENERATED BY A FULLY UTILIZED FLEET (100 PERCENT CAPACITY UTILIZATION), S IS FISH STOCK BIOMASS, THE FISHING FLEET IS THE STOCK OF INPUTS, AND ASSUMING THAT MANAGEMENT OBJECTIVES ARE RELATED TO SUSTAINABILITY OF THE RESOURCE (FAO, 1998).

Source: Ibid.

It may also be worth reviewing what Edward Fahy, author of 'Overkill!' has to say about how to define the inshore fleet (p.176):

²⁰⁸ For a more detailed discussion see the UN FAO paper by Erik Lindebo entitled 'Fishing Capacity and European Union fleet adjustment' available online at: <http://www.fao.org/docrep/006/y4849e/y4849e05.htm>

“Ireland’s fishing fleet in August 2010 was made up of 2,133 vessels. Almost three-quarters of them were under 10 m and almost 90% were less than 15 m [LOA]. At first glance these statistics suggest an ‘inshore’ rather than a ‘high seas’ fleet and this definition is the official one. As recently as September 2011, I listened to a senior official in the Department of Agriculture, Food and the Marine say that Ireland does not have an offshore fleet. Yet, if two other vessel characteristics are examined, that statement is questionable. Taking the EU definition of inshore boats being less than 12 m, the number in this group is 86% of the Irish fleet but their tonnage amounts to only 10% of the total, so boats greater than 12 m [LOA] account for 90% of GT; the percentage of kW, engine power, belonging to smaller vessels is a little higher, 30%, but 70% resides among the larger ones. It is not possible to give a breakdown of employment between inshore and offshore vessels but it is probably about 50% each.”

However, in a specifically Irish context and in relation to what the Cawley report had to say about the scarcity of some fish stocks and the need to decommission some parts of the fleet, it may be noted that 18 metres LOA may, arguably, also be appropriate:

“Extend and develop the current Decommissioning Programme to bring about a better alignment between fleet capacity and resource availability through the permanent removal of 45% of the capacity of the demersal fleet 18 metres in length and over.”

The possible recommendation outlined in the previous text box is based on an extract from the revised basic regulations of the CFP which is reproduced here.

Relevant extracts from the revised CFP Basic Regulations²⁰⁹

(14) Rules in place restricting access to resources within the 12 nautical mile zones of Member States have operated satisfactorily benefiting conservation by restricting fishing effort in the most sensitive part of Union waters. Those rules have also preserved traditional fishing activities on which the social and economic development of certain coastal communities is highly dependent. Those rules should therefore continue to apply. *Member States should endeavour to give preferential access for small scale, artisanal or coastal fishermen.*

(14a) *Small offshore islands which are dependent on fishing should, where appropriate, be especially recognised and supported in order to enable them to survive and prosper in the future.*

²⁰⁹ Available online at: http://cfp-reformwatch.eu/wp-content/uploads/2013/06/2013-06-14_Basic_regulation_on_the_CFP_final_compromise_text.pdf

(27) In their 12 nautical mile zone, Member States should be *empowered* to adopt conservation and management measures applicable to all Union fishing vessels, provided that, where such measures apply to Union fishing vessels from other Member States, the measures adopted are non-discriminatory, prior consultation of other Member States *concerned* has taken place and that the Union has not adopted measures specifically addressing conservation and management within that 12 nautical mile zone.

The question of whether there was further potential to exploit the lobster and other inshore fishery stocks was answered by BIM when discussing the merits of the lobster v-notching scheme – the answer was that “I think we all agree the chances are we could. It is down to management”.²¹⁰

With regard to a question raised by the sub-Committee as to whether local ownership would lead to an enhanced resource a BIM official gave qualified support to this policy:²¹¹

“My personal view is that this offers an avenue for exploration ... Local ownership poses some problems ... The question is who will have first ownership and how will the process be managed. It would be wrong to raise those intellectual barriers because that type of well-managed locally owned fishery can prove extremely beneficial to communities.”

This should be seen in the context that changes were proposed in the management of access to the Irish lobster fishery in a Department of Agriculture, Food and the Fisheries / BIM document launched in April 2008 (*Managing Access to the Irish Lobster Fishery*). Some of the main proposals made included:²¹²

- Access to lobster fisheries should be managed regionally;
- Vessels which fish for lobster will need an authorisation to do so;
- Authorisations can, effectively, be transferred with capacity within a management unit but not to other units;
- New entrants to the lobster fishery will be managed on the basis of priority rules; and
- Authorised vessels must record and report their fishing activity.

However, it would appear that this document was never implemented.

²¹⁰ Mr Michael Keating, fisheries development manager, BIM speaking to the sub-Committee on 30th April 2013

²¹¹ Ibid.

²¹² Document proposal described in the following article, ‘Minister Browne to launch new management proposal for the Irish lobster industry’, available online: <http://www.worldfishingtoday.com/news/default.asp?nyld=776>

Recommendation 21: The sub-Committee notes that at the time of writing this Report, there is an on-going consultation process taking place on lobster and shrimp fishery. In light of this, the sub-Committee asks the Department of Agriculture, Food and the Marine to re-examine the case for developing the policy proposals set out in the report *Managing Access to the Irish Lobster Fishery*.

3.2.3 Marketing

The SFPA introduced to the sub-Committee the innovative concept that necessary regulation could be turned to the benefit of the industry, i.e. that they could be used to support particular marketing claims such as labelling fish as 'caught off the coast of west Cork'. The SFPA believed that the fish caught by the inshore sector have many unique selling points (USPs), particularly for the Irish consumer. These USPs range from its low food miles to its freshness due to short distances travelled to its artisan attention to detail in primary handling to its direct contribution to coastal economies.

The SFPA are currently working with BIM and the fishing industry on a project designed to ensure regulatory compliance with obligations around traceability and provision of information to consumers, and they see benefits in differentiation of inshore seafood:

"It is fair to say local is the new organic with reference to produce. There is an increasing consumer desire for low carbon mile figures. The proximity of Ireland to the rich natural fishing resources and the lower volume of diesel used by Irish fishermen in the search for fish are marketing points that might have benefits. We are in the middle of a recession, but the high-end food market seems to be relatively recession-proof and perhaps this should be considered. There is a need to improve the awareness of consumers. For example, what does the term 'line-caught mackerel' mean to the average consumer? Are consumers aware of the benefits of it not being towed in a trawl? Are they aware that larger fish, rather than the smaller fish, will bite the bigger hook? This is an example to simplify a very complex issue."

Similarly, in the context of the CFP the SFPA stated that it is intended to extend the fishery control regulation to the retail sector. The descriptive labelling of fish as not previously frozen will then become obligatory at retail level and should give an advantage to this type of fish product.

However, the SFPA also clarified that the legislation they are responsible for implementing does not stipulate how inshore fisheries products should be labelled.²¹³ It is, however, open to fishermen and local companies to work on product development and marketing with assistance from BIM. The issue of how foodstuffs are

²¹³ <http://www.sfpa.ie/>

labelled is one which has also been examined by the Oireachtas Joint Committee on Agriculture, Food and the Marine and this was mentioned by one Member of the sub-Committee.²¹⁴

“There is a need to look at labelling, which the committee [the JCAFM] has examined from the point of view of agriculture. We also need to examine it from the point of view of fisheries so that it is definitive...The ordinary punter buys the Irish processed food thinking it is authentically Irish, but it is not. When it comes in here, a package is put on it and that may be the only processing that takes place here. The fish may be caught in Norway but it is brought in here and sold with the Irish processed green label on it. We must work on this and there is a need for a statutory framework to protect the Irish sector and ensure the Irish product obtains the highest possible price for the fishermen, just like the farmer.”

Figure 21 – Denmark’s fisheries and the Marine Stewardship Council (The blue label) – an ambitious example of aiming to meet labelling standards

MSC was created in 1997 by WWF - World Wildlife Fund and the food giant Unilever. However, since 1999 it has been an independent organisation with a board consisting of people from the fishing industry, environmental NGO's and research institutions worldwide. The first years relatively few fish products were sold carrying MSC's blue label, but since 2006 the interest has increased explosively, both among the world's fisheries and among the super-markets, fish retailers, etc. that sell fish to consumers - particularly in Europe.

MSC's requirements for certified fisheries can be grouped into three basic principles:

- The fish stock and the level of fishing must be sustainable.
- Damage to the ecosystem and marine environment must be minimised.
- The fishery must be managed effectively so that sustainability and ecosystem are safeguarded.

THE DANISH FISHERIES

The Danish fisheries have for many years been working to ensure that they can be sustainable, also in the future. The number of vessels has been adapted to the quantities of fish that is available. Flexible quota schemes have been introduced in order to avoid discard and together with researchers new gears have been developed allowing us to fish more selectively and carefully. Thus the Danish Fishermen's Association and the Danish Fishermen's Producers' Organisation have decided to document this effort and further improve our work by seeking MSC certification for our fisheries - the aim is quite simply that:

All those Danish commercial fisheries where it is within our power to meet the requirements of the MSC standard – are certified by 2012.

²¹⁴ Senator Brian Ó Domhnaill speaking at the sub-Committee meeting of 25th June 2013

The SFPA has also had a role in negotiating market access for Irish seafood in, for example, Japan, the Russian Federation and the People's Republic of China, as well as achieving what it characterised as “a significant reduction in the regulatory burden” required for Irish seafood exports to the United States of America.

However, a fundamental problem in the view of the BIM as expressed to the sub-Committee is that there is an absence of larger companies, i.e. that there is no equivalent of Glanbia or the Kerry Group and indeed that there is no company with a market turnover in excess of €50 million per annum. BIM were strongly of the view that to compete successfully on the global market such an upscaling is necessary.

One innovative solution to this problem cited by the BIM was co-ordinating collaborative ventures between smaller companies,²¹⁵

“Last year we were fortunately able to get four companies to collaborate together and go to the Chinese market as one rather than compete against each other in that market. Companies from Kilmore Quay, Castletownbere, Donegal and Mallow in County Cork came together as a group to access the Chinese market. That has been very effective.”

The BIM also referenced the role of the Department of Foreign Affairs in working with them and with Irish exporters in marketing their products to 44 countries (in 2012) outside of the European Union.

3.2.4 Fish processing

3.2.4.1 BIM's Seafood Strategy to 2017

The Minister announced in July 2013 that he believed that through investment supports (part-funded by the State) and by policies aimed at assisting Irish seafood processing companies to scale up, diversify and innovate as they develop new markets that this will lead to enhanced profitability and job creation.

The sub-Committee noted that *the BIM Strategy 2013-2017*²¹⁶ (p.7) presents a strategic direction centred around five key priority areas (though six are listed) which are to be supported by specific projects. The projects are to be undertaken by BIM in conjunction with industry and will prioritise:

1. Expanding the raw material supply;

²¹⁵ Appearance by the CEO of BIM before the sub-Committee on 30th April 2013

²¹⁶ Available online at: <http://www.bim.ie/media/bim/content/publications/BIM%20Strategy%202013-2017.pdf>

2. Increasing added value;
3. Aquaculture growth;
4. Scaling up the sector;
5. Developing skills; and
6. Enhancing sustainability.

The Strategy provides, on one page, the key actions relating to five of the above strategies (number three above being absent). These actions would seem to be ones that the sub-Committee, in the context of its hearings, would approve of and would urge BIM to progress with the support of DAFM and all relevant partner agencies.

However, the Members took cognisance of five proposed actions:

- BIM working in conjunction with Údarás na Gaeltachta will evaluate, and where necessary reconfigure, potential and existing aquaculture licence locations (including an investigation of further deep sea salmon farm locations) to accelerate development, bring redundant licensed capacity back into production and improve and standardise environmental performance and overall compliance with conservation needs and regulatory requirements.
- Significantly develop the aquaculture sector, within the context of clearly defined national policies, output targets and environmental targets. This will be derived from the new Strategy for Aquaculture to be produced in tandem with the Seafood Operational Programme 2014–2020 which will give effect to the new European Maritime and Fisheries Fund (EMFF).
- To ensure a ready availability of sound, comprehensive statistical and economic analysis on the seafood industry that will help inform policy and support for the sector, BIM will produce and circulate regular economic reports with an initial focus on the main harbours and hinterland areas.
- Adopt a more commercial approach for BIM to deal with start-up projects including the use of trial farms and campus companies.
- Cognisant of the new Common Fisheries Policy and specifically the issue of the obligation to land all catches, BIM will work with the industry to develop new approaches to implement the obligation such as measures to reduce and eliminate discarding of commercial fish species.

3.2.4.2 Invitation to make Submissions on DAFM's Seafood Development Programme 2014 – 2020²¹⁷

In July 2013 DAFM sought the views of stakeholders to assist in the preparation of the next operational programme for the seafood sector covering the period 2014 to 2020, in accordance with the (draft) European Maritime and Fisheries Fund Regulation. In particular, stakeholders' views are sought to inform the SWOT analysis (strengths, weaknesses, opportunities and threats) required by the draft Regulation to be conducted as part of the preparation of the operational programme. Further stakeholder consultations will follow later in 2013 on the draft text of the operational programme and on the Strategic Environmental Assessment.

The public were invited to make submissions up to the 6th of September 2013.

3.3 Sea angling

3.3.1 Introduction

DCENR in its presentation to the sub-Committee acknowledged that the inshore coastal area is vital to coastal communities and that exploitation of what it described as “a sensitive area” requires “a balance between sustainable developments across all sectors underpinned by a cohesive approach among stakeholders”.²¹⁸

The “sensitive” nature of this area relates to the State's international obligations in terms of:

- The environment;
- Conservation;
- Biodiversity; and
- Natural resource management.

The key objective from DCENR's perspective is to facilitate sectors developing in a manner that, as far as possible, protects what are clearly finite resources but also to ensure that developments fully benefit the local communities. Accordingly, the Department characterises the correct resource management of inland fisheries as being one of stable development and balance exploitation.

²¹⁷ Available online at:

<http://www.agriculture.gov.ie/fisheries/marineagenciesprogrammesdivision/futureseafooddevelopmentinireland2014-2020/>

²¹⁸ DCENR presentation to the sub-Committee (on March 21st 2013)

DCENR confirmed to the sub-Committee that its approach to angling, as a whole, is based around keeping visitors returning to Ireland based on the high quality of the fishing and the level of support services (infrastructure/information).

An example of physical infrastructure raised with and by Members of the sub-Committee themselves is that of piers and slipways. The IFI felt that this type of physical infrastructure should be audited and that decisions on addressing such deficits should be made as part of a coherent strategy rather than in isolation. They foresaw the tackling of such issues as part of the next phase of understanding the context within which their industry is currently operating.

Concerns mentioned by the IFI included illegal fishing and netting, a reduction in Anglers, depletion of fish stocks, increasing fuel costs and lack of enforcement of regulations.

One piece of very positive news which the BIM was in a position to deliver to the sub-Committee was that, in some of our rivers, we are beginning to see high numbers of returning salmon. BIM were of the opinion that it was vital that this renewed stock be fully utilised, i.e. that, where possible, 'traditional' wild-catch fishermen, along with anglers, should be allowed to benefit from these stocks.

Some of the rivers mentioned were:

- the Moy (where there were 26,000 surplus fish this year);
- the Nore; and
- the Suir.

Conversely, the Barrow was a river which was described as not having fully recovered.

BIM suggested, in this context that there may be new opportunities for traditional fishermen to devolve into managing upstream traps with a smoking or processing ancillary business attached to it.

BIM also pointed out to the sub-Committee that, as on *Árainn Mhór*, there are fishermen in Passage East and Cheekpoint (for example) who did not take the compensation offered to cease mixed stock fishing²¹⁹ and are awaiting permission to apply for a licence to begin fishing again:²²⁰

²¹⁹ The Salmon Hardship scheme – see the final report available online at:
<http://www.dcenr.gov.ie/Natural/Inland/Fisheries/Division+%28old+remove%29/Salmon+Hardship+Scheme.htm>

“If a river is below the surplus but then gets back to that level, fishing should reopen. Scientifically, that is possible.”

Recommendation 22: The sub-Committee recognises the need for Island and coastal communities to have access to ocean and the seas in order to exploit the natural resources of the environment they live in and to develop their potential. It therefore recommends that local authorities with responsibility for such island and coastal communities carry out an audit of essential rural coastal and island fishing access infrastructure suitable for vessels up to 10 metres LOA with a view to utilising all marine infrastructure and usage to its full potential. Based on the results of that audit, a targeted programme of infrastructure provision and/or upgrading should be planned and local authorities should be funded to carry out any necessary feasibility or environmental impact studies to facilitate development of the infrastructure.

Recommendation 23: The sub-Committee asks that when the relevant Ministers consider any draft Statutory Instrument that would impact on coastal and rural communities, the sub-Committee should be consulted prior to publication.

3.3.2 Legislative reform

A major matter of interest to the sub-Committee is the DCENR’s acknowledgement that the development of Sea Angling and of Angling Tourism in general requires a modern and transparent legislative base. Therefore, a review of legislation will go to public consultation in the near future. The DCENR explained to the sub-Committee that a key objective of this project will be to put in place the legislative basis to allow IFI to develop the potential of the sector by:

- Increasing the number of anglers utilising the resource;
- Empowering stakeholders to take an active role in the development of the resource; and
- To maximise the returns from the inland fisheries resource to local communities and the State.

The IFI itself expand on the proposal for legislation when it met the sub-Committee. With regard to process a memorandum on the proposal will go to the Government shortly, after which the proposal will go for public consultation.

²²⁰ Mr Michael Keating of BIM speaking to the sub-Committee on 30th April 2013

With regard to the background to the proposal the IFI noted that the *1959 Fisheries (Consolidation) Act*²²¹ is based on legislation that predates the founding of the State and is no longer fit for purpose. The legislation the IFI are proposing will contain a number of key elements which they described thus:

- Decriminalisation of some of the minor offences contained in the Act. It is hoped to introduce a system akin to the penalty points system, rather than continuing to criminalise infringements and waste court time with minor offences, some of which have been committed inadvertently.
- Invasive species which have the potential to destroy native species. There is no legislation at present on invasive species; and
- A fisheries reserve. Legislating to create a fisheries reserve to act alongside IFI inspectors should create opportunities for IFI to deploy its resources more effectively, for example, by using surveillance technology rather than constantly patrolling rivers.

3.3.3 Sea Angling – an integrated product

The sub-Committee noted that the latest study²²² carried out on behalf of IFI did not seem to focus on this concept.

Recommendation 24: The sub-Committee calls upon Inland Fisheries Ireland (IFI) to work more closely with tourism agencies and to accord a high priority to the integration of sea angling, where relevant, into tourism packages and marketing campaigns.

3.3.4 Facilitating diversification into Sea Angling

The question of whether conventional fishing vessels could be retrofitted to make them compatible with Sea Angling was raised at a meeting of the sub-Committee (21st March 2013) and whether any grants were available for this purpose.

The CEO of IFI noted that any such retrofitting would have to take into account significant differences between commercial fishing and tourism / passenger vessels such as:

- Licensing;
- Certification; and

²²¹ *Leagan Gaeilge den Acht ar fáil ar líne ag an seoladh:* <http://acts.oireachtas.ie/ga.act.1959.0014.1.html>

| English language version of the Act available online at: <http://acts.oireachtas.ie/en.act.1959.0014.1.html>

²²² Available online at: <http://www.fisheriesireland.ie/Angling-Information/socio-economic-survey-of-recreational-anglers.html>

- Health and safety.

In some cases, it would not be possible to retrofit vessels. However, he accepted that whether to pursue this was something that could be decided and that the funding that would be required would be an aspect of that decision.

The sub-Committee may also wish to note that plans have been reported²²³ for the mandatory introduction of locator beacons for vessels under 15 metres LOA. The move is part of a number of safety initiatives to be granted aid by BIM. Others include obligatory safety training courses for fishermen and the use of auto pilot alarm systems on smaller vessels. Fishermen will also have to undergo safety and equipment training every five years. A working group is to be established to look at all aspects of safety on fishing vessels and to report before the end of the year.

Recommendation 25: The sub-Committee asks the Department of Transport to review whether, following the introduction of further safety initiatives or other relevant measures, the licensing of dual use fishing vessels both for commercial fishing and tourism angling should be considered and their conversion grant-aided.

3.4 Tourism

3.4.1 Comhairle na Tuaithe

Overall, the sub-Committee through their questioning of witnesses and their research established that tourism is already delivering a very significant socio-economic impact. However, they also confirmed to their satisfaction that there is also considerable scope to improve that impact.

Potential for 'high-end' tourism – an example

'High-end' tourism which caters for tourists who wish to enjoy high quality accommodation and meals while experiencing dramatic wilderness and a pristine environment has seen an upsurge in recent years.

An example in Ireland is the launch of Wilderness Ireland which a new sister company to the award winning adventure tour operator Wilderness Scotland. It will specialise in walking, cycling and sea-kayaking trips, with both guided group tours and tailor made itineraries. It advertises highlights such as a trip on foot and boat along the southwest coast to Cape Clear, and a sea-kayak adventure from Connemara to Achill.

The company's website highlights their team's intimate knowledge of the areas toured, that the holiday comprises a complete package (which can be tailored to the tourist's itinerary) and their commitment to the environment.

²²³ See Irish Times article dated 8th July 2013 available online at: <http://www.irishtimes.com/news/environment/government-unveils-measures-to-cut-deaths-at-sea-1.1456648>

Dr.Hynes of SEMRU mentioned some points in relation to developing marine-related tourism:

- Carrying out an audit of existing tourism facilities (including slipways and quays), suitable landscape and marine features;
- A determination of what the consumer wants;
- Recognition that modern wetsuits have expanded number of people and time when people can participate in activities;
- New activities such as kayaking and paddle boarding which do not require tourists to have significant pre-existing skills or knowledge.

A tactic that was discussed by the Members of the sub-Committee was that of establishing an ‘umbrella’ organisation in respect of the coastal / estuary / inshore / island environment.

Such an organisation, *Comhairle na Mara*, would seek to bring together Waterways Ireland, Inland Fisheries Ireland and other interests to explore how best they could co-ordinate their activities in order to make the greatest socio-economic impact on behalf of island / coastal communities.

The sub-Committee noted that the relevant body which mediates in respect of problems affecting the countryside already exists, *Comhairle na Tuaithe* (see Text box for a description of its role).

Comhairle na Tuaithe

Comhairle na Tuaithe was established in February 2004 to address the following priority issues; Access to the countryside; Developing a countryside code; and Developing a countryside recreation strategy.

The Department of the Environment, Community and Local Government provides the secretariat and chair for Comhairle na Tuaithe, which meets, on average, three or 3. times per annum. Comhairle na Tuaithe comprises representatives of the farming organisations, recreational users of the countryside and state bodies with an interest in the countryside. It has identified and agreed a set of access parameters to the countryside, which it believes will serve as a basis for conflict prevention and integrate a variety of needs and responsibilities.

The national countryside recreation strategy was agreed and published in 2006 and the principle of "leave no trace" has effectively been adopted as the code for recreation users. The strategy is dedicated to creating a nationally recognised and accepted outdoor ethic, which encourages all outdoor enthusiasts to act with responsibility in the countryside and take care of the environment. While not universal, there is widespread permissive access to the countryside for recreation purposes.

Some of the current areas Comhairle na Tuaithe is trying to address include the development, with the main State agencies, of an outdoor recreation plan for public lands and waters.

These agencies include Coillte, Inland Fisheries Ireland and Bord na Móna. Comhairle na Tuaithe, through the Department representatives, also works closely with the national trails advisory committee, a Sub-Committee of the Irish Sports Council, to oversee the implementation of its national trails strategy and assist the national trails office in its work.

With Fáilte Ireland, the Department funds 12 rural recreation officers through local development companies to support the development of walking trails and manage the walk scheme. While the scheme is closed to new trails, it currently maintains more than 40 trails throughout the country and approximately 1,800 landowners are participating in it.

Sources: Department of Environment, Community and Local Government: accessed at:

<http://www.environ.ie/en/Community/RuralDevelopment/NationalRuralDevelopment/ComhairlenaTuaithe/>

Joint Committee on Agriculture, Food and the Marine Debate on 29th January 2013 accessed at:

<http://oireachtasdebates.oireachtas.ie/debates%20authoring/DebatesWebPack.nsf/committeetakes/AGJ2013012900003>

Recommendation 26: Having considered the role of *Comhairle na Tuaithe*, the sub-Committee recommends that a similar 'umbrella' organisation in respect of the coastal/estuary/inshore/island environment and marine leisure, be established (perhaps entitled *Comhairle na Mara*) and that this organisation would bring together the relevant Government Department, statutory voluntary agencies, NGOs and other interests, led by the relevant Minister, to explore how best they could co-ordinate their activities in order to make the greatest socio-economic impact on behalf of island and coastal communities.

3.5 EU Funding and State Aid rules

3.5.1 The overall EU funding framework to 2020²²⁴

Europe 2020 aims to set the strategic views of the European Union (EU) for the next programming period 2014-2020. It defines precise objectives and corresponding targets for the EU at the horizon 2020. All EU policies (including the Integrated Marine Policy [IMP] and Common Fisheries Policy [CFP]) are expected to contribute to Europe 2020 objectives and targets.

As regards in particular Cohesion Policy, Rural Development Policy and the Maritime and Fisheries Policies, the respective funds have been grouped under a "Common Strategic Framework" (CSF) which sets the

²²⁴ This section is based on the information given on the DAFM's website at:

<http://www.agriculture.gov.ie/fisheries/marineagenciesprogrammesdivision/futureseafooddevelopmentinireland2014-2020/>

strategic vision of the EU for the use of those funds in the next programming period. In particular, the CSF establishes eleven Thematic Objectives (TOs), derived from the Europe 2020 objectives, to which the:

- European Regional Development Fund (ERDF);
- European Social fund (ESF);
- Cohesion Fund (CF);
- European Agriculture Fund for Rural Development (EAFRD); and
- the European Maritime and Fisheries Fund (EMFF)

which will now be described as the European Structural and Investment Funds (the ESI Funds) are expected to contribute within the scope of their respective fields of action. The CSF represents the common strategic guidelines of the EU for all the ESI Funds for the next programming period.

Following the strategic orientations of the CSF and consistent with their respective National Reform Programmes which the Member States have established for the implementation of the Europe 2020 strategy, the Member States will develop national strategies covering all the ESI Funds within Partnership Agreements (PAs) to be negotiated with, and agreed by the Cion.

In summary, the PA will have to define which relevant TO of the CSF will be targeted in each Member State through the ESI Funds and set the strategic national lines to do so. Similarly to the CSF, the PA will replace the specific National Strategic Plans currently applying, in separation, to each of the funds. The national strategies set in each PA will then be implemented through national programmes.

In order to increase coordination between the ESI Funds and harmonisation of their rules of implementation, common provisions for such funds have been proposed by the Cion within a Common Provisions Regulation (CPR). The latter is complemented by fund-specific Regulations, which specify detailed provisions for each of the funds deriving from the specific characteristics and implementing mechanisms of the respective policies.

3.5.2 The European Fisheries fund (EFF)

The European Fisheries Fund (EFF) provides funding to the fishing industry and coastal communities to help them adapt to changing conditions in the sector and become economically resilient and ecologically sustainable.

The EFF has a budget of €4.3 billion for the period 2007-2013. Funding is available for all sectors of the industry – sea and inland fishing, aquaculture (the farming of fish, shellfish and aquatic plants), and processing and marketing of fisheries products. Particular attention is given to fishing communities most affected by recent changes in the industry.

Projects are funded on the basis of strategic plans and operational programmes drawn up by national authorities. There are five priority areas (axes) for EFF funding:

- Adjustment of the fleet (e.g. to support scrapping of fishing vessels);
- Aquaculture, processing and marketing, and inland fishing (e.g. to support the shift to more environmentally friendly production methods);
- Measures of common interest (e.g. to improve product traceability or labelling);
- Sustainable development of fisheries areas (e.g. to support diversification of the local economy); and
- Technical assistance to finance the administration of the fund.

The funding made available to the MS of the EU during the period 2007 to 2013 is shown in the following table.

Table 11 – Allocation of EFF aid: 2007 to 2013

Allocation of EFF aid from 1 January 2007 to 31 December 2013			
Member State	Convergence	Non convergence	Total
Belgium		26 261 648	26 261 648
Bulgaria	80 009 708		80 009 708
Czech Republic	27 106 675		27 106 675
Denmark		133 675 169	133 675 169
Germany	96 861 240	59 004 177	155 865 417
Estonia	84 568 039		84 568 039
Ireland		42 266 603	42 266 603
Greece	176 836 728	30 995 509	207 832 237
Spain	945 692 445	186 198 467	1 131 890 912
France	34 250 343	181 802 741	216 053 084
Italy	318 281 864	106 060 990	424 342 854
Cyprus		19 724 418	19 724 418
Latvia	125 015 563		125 015 563
Lithuania	54 713 408		54 713 408
Hungary	34 291 357	559 503	34 850 860
Malta	8 372 329		8 372 329
Netherlands		48 578 417	48 578 417
Austria	187 326	5 071 992	5 259 318
Poland	734 092 574		734 092 574
Portugal	223 943 059	22 542 190	246 485 249
Romania	230 714 207		230 714 207
Slovenia	21 640 283		21 640 283
Slovakia	12 681 459	1 007 069	13 688 528
Finland		39 448 827	39 448 827
Sweden		54 664 803	54 664 803
United Kingdom	43 150 701	94 677 188	137 827 889
Total	3 252 409 308	1 052 539 711	4 304 949 019
* Amounts in EUR, current prices			

Source: European Fisheries Fund factsheet available online at:
http://ec.europa.eu/fisheries/documentation/publications/cfp_factsheets/european_fisheries_fund_en.pdf

3.5.3 European Maritime and Fisheries Fund (EMFF)²²⁵

As the IFI pointed out to the sub-Committee the EFF is due to be replaced on 1 January 2014 by the new EMFF.²²⁶

It was announced on the 17th of July 2013 that the Council of Agriculture and Fisheries had backed new criteria for fisheries fund allocations.²²⁷ The new system will support compliance with the reformed Common Fisheries Policy and in particular with the objective of increased sustainability. The EMFF will be used to co-finance projects alongside national funding streams.

Discussions with the European Parliament will take place in the autumn in order to secure an agreement on the funding instrument by the end of the year. This is crucial for the fund to run in parallel with the implementation of the reformed Common Fisheries Policy (CFP) as of the 1st of January 2014.

Under the current EFF, the allocation distributed to Member States followed a cohesion approach: it took into account the Gross Domestic Product (GDP) of each Member State giving an advantage to those MS with a lower GDP. By contrast, the Cion points out, the new EMFF's aim is to accompany the implementation of the CFP Reform rather than to support regional development. On that basis it is proposed to base the allocation of resources on a sectorial approach based on criteria including employment and production in the fisheries and aquaculture sectors, as well as the share of small scale coastal fishing in the fishing fleet (the importance of small scale coastal fishing being something which the Commissioner for Maritime Affairs and Fisheries, Maria Damanaki, particularly highlighted and welcomed).

One intention is to ensure that proportional shares of the EMFF are attributed to both the fisheries and aquaculture sectors of each MS.

Each MS will be allocated a share of the total budget, before drawing up an operational programme, specifying how it intends to spend the money allocated. Once the Cion approves this programme, it is up to the national authorities to decide which projects will be funded. The national authorities and the Cion will be jointly responsible for the implementation of the programmes.

²²⁵ See the Cion.'s Fisheries webpage for links to all the documents relating to the proposed EMFF available online at: http://ec.europa.eu/fisheries/reform/emff/index_en.htm

²²⁶ The IFI identified the EMFF as being important to them because they expect that one of the pillars of the new fund will be aimed at diversification for former inshore fishermen and one of the areas that they hope to secure funding for is that of charter skippers.

²²⁷ See press release entitled 'European Maritime and Fisheries Fund (EMFF): Investing in a sustainable future' available online at: http://ec.europa.eu/information_society/newsroom/cf/mare/itemdetail.cfm?item_id=11498&lang=en

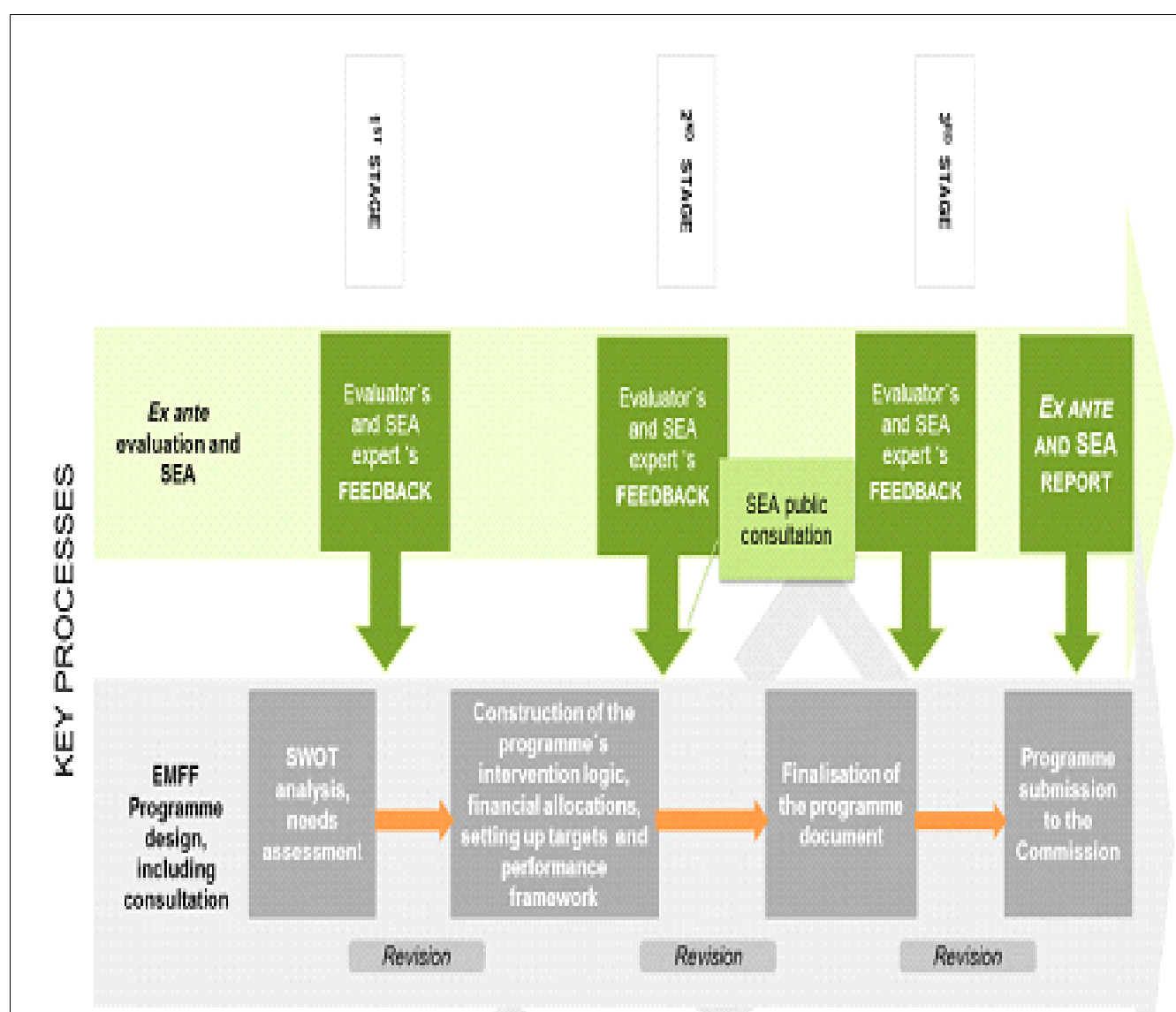
The current proposal would increase investment by 50% over the EFF allocation in respect of intensifying and improving data collection and control programmes.

3.5.3.1 How the EMFF will work²²⁸

The DAFM provides an overview of how the programme is to be developed in the period up to 2020 (see Figure 22 over).

²²⁸ This section is based on the information given on the DAFM's website at:
<http://www.agriculture.gov.ie/fisheries/marineagenciesprogrammesdivision/futureseafooddevelopmentinireland2014-2020/>

Figure 22 – EMFF programme development (overview)



As in the current programming period, the strategic orientations established within the EU and national strategies will be implemented on the ground through programmes covering the different policies.

In the case of EMFF programmes, the overall approach taken by the Cion proposal follows the logic of continuity with respect to the current programming period. Accordingly, the MS will have to set-up the overall strategy addressing the fisheries and aquaculture sectors, as well as the development of fisheries areas in general, based on a thorough analysis of the needs of the geographical area covered by the programmes.

Such strategies will be implemented through the EMFF measures and other delivery mechanisms such as Community-Led Local Development and Financial Instruments.

Recommendation: 27: The sub-Committee recommends that the Government urgently address data gaps in relation to the small-scale fishing industry and the socio-economic status of rural coastal and island communities. These data gaps should be filled if a “thorough analysis of the needs of the geographical areas” (to be assisted under the European Maritime and Fisheries Fund (EMFF)) are identified and addressed.

3.5.3.2 The EMFF and the FLAGs

The background information in relation to the FLAGs was provided in section two of this Report. This sub-section briefly recaps on that information.

Since 2007, Priority Axis 4 of the EFF has provided support for the sustainable development of fisheries areas, by aiming to ensure that the actions undertaken by the Fisheries Local Action Groups (FLAGs) build on the strengths and opportunities of each fisheries area; exploit new markets and products; and incorporate the knowledge, energy and resources of local actors from all sectors. Almost 213 FLAGs are now in operation in seventeen Member States. The Cion has stated that its new proposals will strengthen the ability of these FLAGs to carry out their work and provide an enhanced opportunity for integrated working with other sectors and neighbouring areas.²²⁹

BIM described the EFF Axis 4 as being similar to the Leader programme and working in conjunction with it, but providing a new source of funding to underwrite the types of initiative the sub-Committee is focusing on:²³⁰

- “creating new and devolved opportunities in areas that are undergoing transition; and
- creating an interface between the fishing of the past, the marine skill-set and marine tourism.

There are many opportunities in these areas. Those who are familiar with many parts of the country, not least Dunmore East, Kilmore Quay or parts of Galway or Donegal, see that process taking place. The coastline is not all made up of Killybegs and Castletownberes; far from it. Axis 4 is something that will re-emerge during the next round of funding from Brussels and something that could be used in future to complement, not compete with, the work that has already been done by Leader, but with a much stronger focus on maritime and marine-related activities. That is something we would see as a positive outcome.”

²²⁹ European Commission fact Sheet on Cohesion Policy entitled *Community-led Development (p.5)* available online at: http://ec.europa.eu/regional_policy/sources/docgener/informat/2014/community_en.pdf

²³⁰ Mr Michael Keating, Fisheries development manager, BIM speaking to the sub-Committee on 30th April 2013.

3.5.4 The EU and State Aid rules for fisheries and aquaculture

Fisheries and Aquaculture are subject to EU State Aid law, which governs the use of financial and other forms of assistance from public authorities in Member States to support businesses. The EU State Aid framework is set out in the EU treaties, with secondary legislation (and guidelines) adopted to clarify how the basic principles in the treaties work in practice, including the circumstances when State Aid is not considered to exist, where it does exist the circumstances in which it can be permitted or where it is prohibited.²³¹

The Údarás brought to the attention of the sub-Committee a significant restriction they face in assisting commercial enterprises in the fishing and aquaculture sectors (as opposed to those applying in other sectors). The CEO of the Údarás explained that:

“it is currently critically important to maintain employment and the fishery policy would be flexible and innovative. In many cases EU state aid rules will preclude countries from grant aiding anything that will distort competition. In most other industries there is a *de minimis* get out clause and one is allowed to use up to €200,000. The maximum allowed in the fisheries sector is €30,000^[232], which puts it at a major disadvantage. I mentioned it as an example of something that could provide more flexibility. A sum of €200,000 per project would be substantial aid.”

The CEO was, in the above instance, referring to Cion Regulation (EC) No 1998/2006 of 15 December 2006 on the application of Articles 87 and 88 of the Treaty to *de minimis* aid the scope of which is:²³³

“The regulation does not apply to aid for fisheries and aquaculture, the primary production of agricultural products, export-related activities, the coal sector, the acquisition of road freight transport vehicles or firms in difficulty, or to aid tied to the use of domestic over imported goods. It applies to aid granted to firms in all other sectors, including transport and, on certain conditions, for the processing and marketing of agricultural products.”

Even allowing that a limited amount of State aid can however be given to fisheries companies (€30,000 per company over a period of three fiscal years) it:²³⁴

²³¹ Source: A paper prepared for the Environment and Sustainability Committee meeting of the Welsh Assembly of 11 July 2013 available online at: <http://www.senedd.assemblywales.org/documents/s19162/Paper%202.html?CT=2>

²³² Specific rules apply to the fisheries sector and they are set out in Commission Regulation (EC) No 875/2007 of 24 July 2007 on the application of Articles 87 and 88 of the EC Treaty to *de minimis* aid in the fisheries sector and amending Regulation (EC) No 1860/2004 available from the Official Journal of the EU and online at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:193:0006:0012:EN:PDF>

²³³ Update on the *de minimis* State Aid rule available online at: http://europa.eu/legislation_summaries/competition/state_aid/126121_en.htm

²³⁴ European Commission webpage entitled ‘Government subsidies to the fisheries and aquaculture sector’ available online at: http://ec.europa.eu/fisheries/state_aid/

- Cannot be given to companies in difficulty;
- Has to be managed in a transparent way;
- May not be used to construct or purchase fishing vessels;
- May not be used in such a way that it disrupts the common organisation of the market for fisheries products; and
- May not exceed the ceiling of €30 000 for any period of three fiscal years.

The Cion is carrying out a review of the existing regulations concerning State Aid to Fisheries and Aquaculture, with a view to publishing revised regulations in 2014. As part of this review the Cion recently undertook a public consultation, which closed on the 17th of June 2013.

The review being undertaken by the Cion is focusing on two main regulations covering the application of State Aid to the Fisheries and Aquaculture sector, as well as a set of 'guidelines' covering aid in this sector:

- Regulation (EC) No 875/2007 of 24 July 2007 relating to the application of Articles 87 and 88 of the EC Treaty to de minimis aid in the fisheries sector
- Regulation (EC) No 736/2008 of 22 July 2008 on the application of Articles 87 and 88 of the Treaty to State Aid to small and medium-sized enterprises active in the production, processing and marketing of fisheries products (hereafter "the Block exemption Regulation" or "BER")
- Guidelines for the examination of State Aid to Fisheries and Aquaculture (2008/C84/06) published 3 April 2008

The Guidelines set out the obligations on public authorities to notify use of State Aid within the Fisheries and Aquaculture sector, as well as the principles that the Cion will use to assess whether aid is compatible with the EU Treaties. The Guidelines also set out the types of aid that the Cion considers compatible.

The 'block exemption regulation' is primarily aimed at giving public authorities a simple framework whereby they can set up aid schemes for SMEs active in production, processing and marketing of fisheries products, without having to individually notify (and get approval) for such schemes from the Cion. The regulation sets out the types of aid covered by the regulation, requirements in terms of transparency, conditions for exemption, aid intensities, incentive effects and accumulation of aid. It also sets out requirements on monitoring and reporting by Member States to the Cion. The underlying rationale is, it is claimed, that experience shows the types of aid that do not have a distortive effect on the market, which are non-contentious, and which can go through a more 'streamlined' process (equivalent of 'self-declaration') without individual scrutiny and approval by the Cion

For the above guidelines and regulations one of the core principles underlying the provision of State Aid is that this is consistent with EU competition policy and the CFP. The review of the 2008 legislation will, therefore, look at how the legal framework needs to be adjusted in the context of the recent reforms agreed for the CFP, and in light of the experiences over the past five years of using the current legislation in the Fisheries and Aquaculture sector.

In addition, an economic analysis of the raising of this aid limit was previously (2009) conducted.²³⁵

Ireland (DAFM, BIM and Enterprise Ireland) made submissions in the context of this review.

Recommendation: 28 : In light of the fact that under the existing social welfare laws, share fishermen are considered self-employed, and due to the low take-up of the voluntary Class P PRSI contributions, the sub-Committee recommends that a re-examination of access to job seekers benefit, illness benefit and other welfare benefits for such fishermen should be undertaken.

3.6 The seaweed industry

Údarás na Gaeltachta cited to the sub-Committee the case of the state of Nova Scotia in eastern Canada, where the State leases out an area and the company²³⁶ that is awarded the lease is responsible for sustainable harvesting of the seaweed.^{237 238}

“In Canada, the practice is to cut one foot per annum, which is done from boats. Currently there is nobody here responsible for the sustainable harvesting of seaweed. People ... take the seaweed off the rock and then the plant is gone. The State has an obligation to regulate this resource for everybody’s benefit. ... 38,000 tonnes of seaweed is harvested annually ... However, if one goes to the Department of the Environment, Community and Local Government and inquires as to who has a licence to harvest seaweed, only the maerl harvester and one other harvester, which harvests

²³⁵ Final report ECONOMIC ANALYSIS OF RAISING DE MINIMIS AID FOR FISHERIES (MARE/2008/12) by FRAMIAN BV in co-operation with Symbeyond Research Group available online at:

http://ec.europa.eu/fisheries/documentation/studies/economic_analysis_minimis_en.pdf

²³⁶ See, for example, the website of Acadian Seaplants which operates in the Canadian states of New Brunswick and Nova Scotia. Available online at: <http://www.acadianseaplants.com/marine-plant-seaweed-manufacturers/resource-management>

²³⁷ For a discussion of the environmental aspects of seaweed harvesting and management and how species of fish rely upon this species of seaweed see, for example, *A new approach to seaweed management in Eastern Canada: the case of Ascophyllum nodosum* (2001) available online at: http://www.acadianseaplants.com/_mm_files/ckfiles/images/files/Full%20Report%20A%20new%20approach%20to%20seaweed%20management.pdf

²³⁸ Séamus Mac Eochaidh, Uasal, Bainisteoir – Rannóg Fiontraíochta agus Fostaíochta, Údarás na Gaeltachta speaking to the sub-Committee on 30th April 2013.

laminaria in Kenmare Bay, have licences. Although the laminaria harvester has a licence, which took two years to obtain, he is not harvesting. Therefore, how is it that 38,000 tonnes are being harvested if there are no licences? This seaweed is being harvested on a very simple basis. It is being done by individuals through a hand-cut process and is deemed to be for personal use.”

Having explained the *status quo* to the sub-Committee the Údarás posed the question as to how Ireland could expand the industry and quoted the example of Japan where approximately 43,000 people make their livelihood from seaweed processing. Údarás na Gaeltachta estimated that this would probably equate to a livelihood for 3,000 people in Ireland whereas no more than 100 people in Ireland are making a living from seaweed currently and there are no more than €50 million sales.

It was further contended that there is no reason Ireland should not have 1,000 people involved and €500 million sales. However to achieve this the State must regulate and sustainably harvest the crop:²³⁹

“I have seen French products that cost €100 per gramme because of the use of a little extract from a seaweed plant. That is where we need to be, rather than drying and milling stuff and sending it all over the world as a commodity product. The potential is enormous, but if we do not have regulation, we will not have investment to unlock that potential.”

The sub-Committee noted that BIM's Strategy for the years 2013 to 2017 specifies that seaweed production will be increased. However, in the context of the evidence that was presented to the sub-Committee it is unclear as to whether BIM will be able to action this unless the regulator / licensing issues are resolved by the DCELG.

Recommendation 29: The sub-Committee recommends that the Departments of Agriculture, Food and the Marine and of Environment, Community and Local Government resolve the regulatory licensing issues that pose an impediment to the development of the seaweed industry and that the research being carried out should be utilised in the introduction of a sustainable management plan.

²³⁹ Ibid.

Appendix 1- Orders of Reference

JOINT SUB-COMMITTEE ON FISHERIES

ORDERS OF REFERENCE

1. That a sub-Committee, to be called the sub-Committee on Fisheries, be established pursuant to Standing Orders [DSO 83(3); SSO 71(3)]²⁴⁰ to be joined with a sub-Committee to be established by the Joint Committee on Transport and Communications and a sub-Committee to be established by the Joint Committee on Environment, Culture and the Gaeltacht, to examine issues of common concern in relation to the fishing sector and sustainable fishing in inland waters, coastal (within a 12 mile limit) and island regions, including the experience of other jurisdictions, in respect of—
 - a. the development of Aquaculture,
 - b. Island and coastal (within the 12 mile zone) fisheries,
 - c. Inshore fisheries (specifically sea angling), and
 - d. Tourism

and to report thereon to both Houses of the Oireachtas.
2. Notwithstanding the generality of paragraph 1, the sub-Committee may consider, in respect of the Department of Agriculture, Food and the Marine, the matters comprehended by Dáil Standing Order 82A(4)(a) to (e), inclusive, and Seanad Standing Order 70A(3)(a) to (e), inclusive.
3. The sub-Committee shall have the powers defined in Dáil Standing Order 83(1), (2), (4), (5), (7), (8) and (9) and Seanad Standing Order 71(1), (2), (4), (5), (7), (8) and (9).
4. The sub-Committee shall consist of 5 Members of whom at least 1 shall be a Member of Dáil Éireann and 1 shall be a Member of Seanad Éireann;
5. The quorum of the sub-Committee shall be 3, of whom at least 1 shall be a Member of Dáil Éireann and 1 a Member of Seanad Éireann.
6. The Chairman of the Joint Committee on Agriculture, Food and the Marine, shall also be Chairman of the sub-Committee.

²⁴⁰ 'DSO' means Dáil Standing Order and 'SSO' means Seanad Standing Order

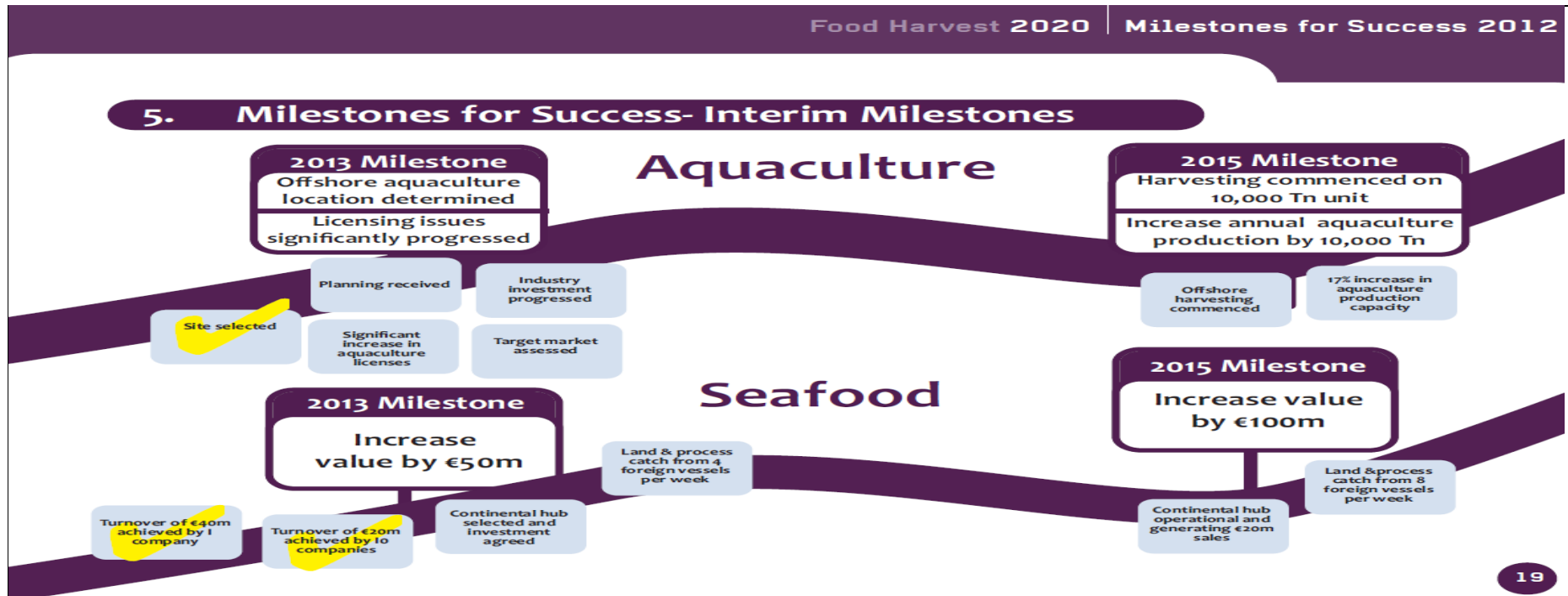
Appendix 2 - References: Links to Transcripts of Debates and relevant websites

- [20 March 2013](#) – Discussion with Officials from the Dept. of Agriculture, Food and the Marine.
- [21 March 2013](#) – Discussion with representatives from the Dept. of Communications , Energy and Natural Resources; Inland Fisheries; Dept. of Arts, Heritage and the Gaeltacht; and National Parks and Wildlife Service.
- [28 March 2013](#) – Discussion with Representatives from Federation of Irish Fishermen; Irish South and East Fish Producers Organisation, Irish Fishermen's Association; Comhdháil Oileáin na Éireann/Comhar na nOileán Teoranta; Donegal Island Fishermen; IFA Aquaculture; North West Shellfish and Irish Shellfish Association from IFA Aquaculture.
- [25 April 2013](#) – Discussion with Dr. Alyne Elizabeth Delaney and Dr. Stephen Hynes
- [30 April 2013](#) – Discussion with the Marine Institute; Sea Fisheries Protection Authority, Údarás na Gaeltachta and Bord Iascaigh Mhara
- [11 June 2013](#) – Discussion with Fáilte Ireland
- [25 June 2013](#) – Discussion with Iascairí Intire Cois Cladach na hÉireann.
- [10 December 2013](#) – Discussion with representatives from Bord Iascaigh Mhara

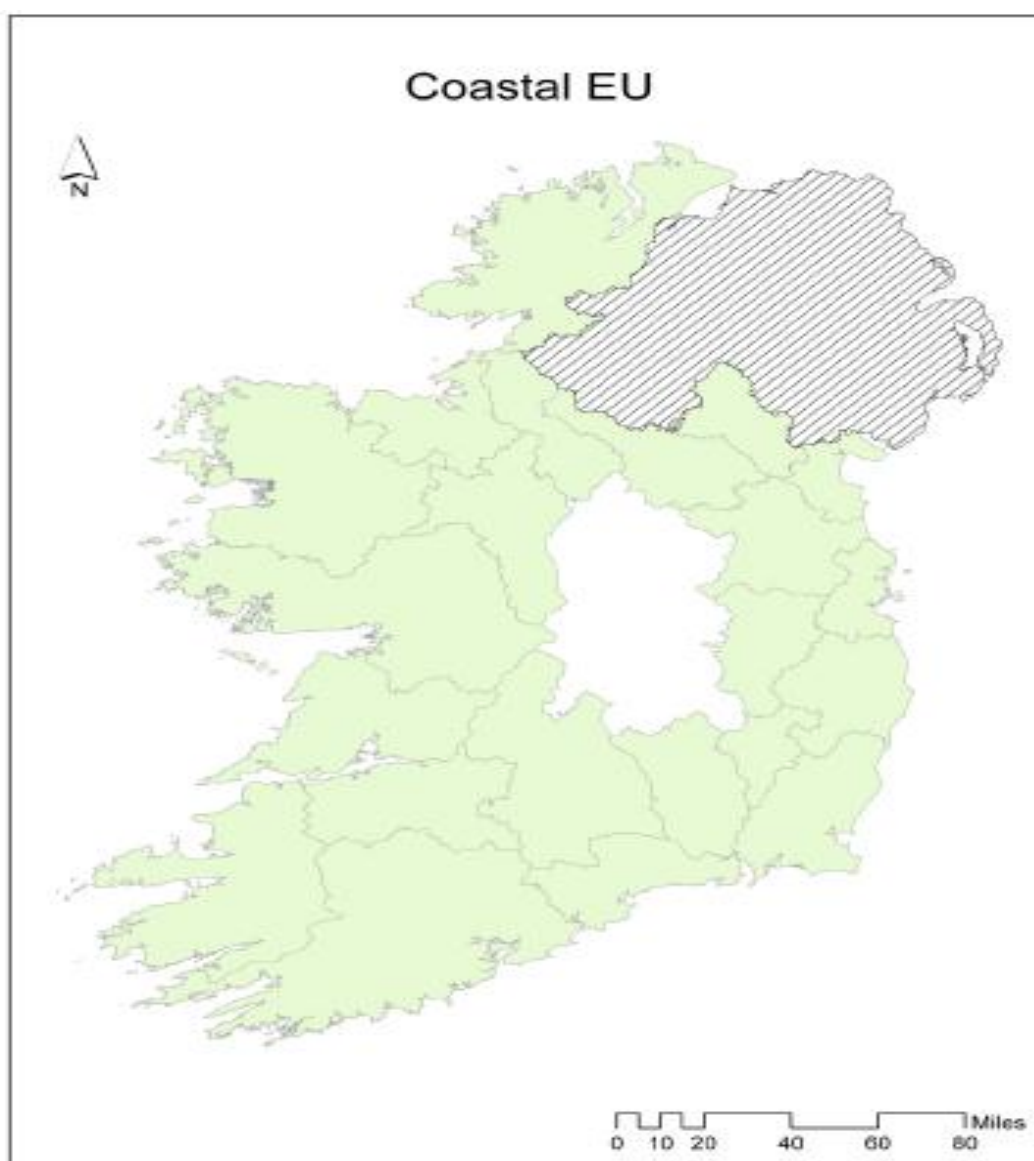
Link to Committee Debate Website:

<http://oireachtasdebates.oireachtas.ie/debates%20authoring/debateswebpack.nsf/committeebasebyyear/2013?opendocument>

Appendix 3 – Food Harvest 2020 Milestones



Appendix 4 - Ireland at EU NUTS3 level



Source: SEMRE presentation to the sub-Committee on 25th April 2013

Appendix 5 – Paper on Sea Lice



Briefing Paper - Joint Sub Committee on Fisheries

Background and issues relating to:

Sea lice, aquaculture and wild fisheries

in the context of the Sub-Committee's examination of the promotion of Sustainable Rural Coastal and Island Communities

The context to the drafting of this Briefing Paper

This paper aims to inform the Sub-Committee in relation to sea lice and the associated background of aquaculture and wild fisheries. This paper should be considered in the context of the Sub-Committee's overall analysis of how best Ireland can promote sustainable rural coastal and island communities.

This document is intended to be impartial and is mainly based on research from secondary sources. While every effort has been made to ensure that the document is error free, the L&RS cannot give an absolute guarantee as to the accuracy, definitiveness, or timeliness of any information contained within it.

It has, on a confidential basis, been provided only for use in relation to the parliamentary duties of the Committees of the Houses of the Oireachtas. It is not intended that this document should be reproduced for any other purpose or circulated outside the Houses of the Oireachtas.

Séanadh Dlíthiúil

Ní ghlactar le haon dliteanas i leith aon pháirtithe ag éirí as iontaoibh a chur ar a bhfuil sa pháipéar seo. Ní hionann aon ní sa pháipéar seo agus comhairle ghairmiúil de chineál ar bith. Is féidir teacht ar na sonraí uile maidir lenár bpolasai aitreabúideachta ach cuairt a thabhairt ar leathanaigh inlin na Seirbhíse Leabharlaine agus Taighde. Tabhair faoi deara, mar atá leagtha síos i Ráiteas Seirbhíse na SL&T 2012, gur gnách dúinn athúsáid a bhaint as taighde a tugadh faoi do Chomhaltaí aonaracha d'fhonn freagra a thabhairt ar cheisteanna ar éileamh ó Chomhaltaí eile nó d'fhonn faisnéis taighde a chur ar fáil do na Comhaltaí uile.

Legal Disclaimer

No liability is accepted to any person arising out of any reliance on the contents of this paper. Nothing herein constitutes professional advice of any kind. For full details of our attribution policy please go to the Library & Research Service's intranet pages. Please note as per the L&RS 2012 Statement of Service, the L&RS routinely reuses the research it has undertaken for individual Members in order to answer on-demand queries from other Members, or to provide research briefings for all Members.

© *Tithe an Oireachtais 2013 | Houses of the Oireachtas 2013*

Introduction

Worldwide, wild fish populations have shown no increase over the last two decades, with certain fish species in decline. Alongside this, the aquaculture industry is booming and in order to meet the rising demand for seafood, it must continue to grow (Jansen *et al* 2012).

The two principal finfish species farmed at sea around Ireland are Atlantic salmon, *Salmo salar* and Rainbow trout, *Oncorhynchus mykiss*. Salmon consistently accounts for 85-95%, by volume, of annual finfish production (*An Foras Mara* | The Marine Institute 2004).

Farming Atlantic salmon in Ireland involves rearing the fish in floating sea cages (or net pens) in salt water. Most salmon farms are located in bays and sea loughs. Salmon are typically grown in the sea cages for about 18 months. Stocking densities are higher than in the wild and the fish are held for months in the same location, a situation which does not occur in the wild. Infestation by sea lice has been identified as a limiting factor in the growth of salmon farming and also contributes to the on-going decline of wild salmonids²⁴¹ (Costello 2009).

The system used to farm fish, as outlined above, allows free movement of pathogens such as parasites (e.g. sea lice) and diseases between wild and farmed fish. Thus, should sea lice from wild populations infest a fish farm, the sea lice population may grow exponentially and release the parasite back into the same environment to infest wild salmonids (Murray 2008 [cited in Costello 2009]). Farms may contain millions of fish and, unless sea lice control is effective, may become significant reservoirs of sea lice all year round (Costello 2009). However, while fish farms represent a large source of sea lice, they are not an exclusive source. Potential wild sources of sea lice include Sea trout, Arctic char and spring-returning adult Atlantic salmon (Krkosek *et al* 2012).

According to Costello (2009):

“Sea lice are the most significant parasitic pathogen in salmon farming in Europe and the Americas and are estimated to cost the world industry €300

²⁴¹ Salmonids are fish belonging to, or characteristic of the family Salmonidae, which includes salmon, trout, and whitefish.

million a year and may also be pathogenic to wild fishes under natural conditions.”

The likelihood of infestations of sea lice on farmed salmon which then disperse into the sea and potentially infest wild salmon returning to their freshwater habitats is one of the most widely publicised environmental impacts from fish farms. However, how serious a threat sea lice is to wild and farmed salmonids is controversial.

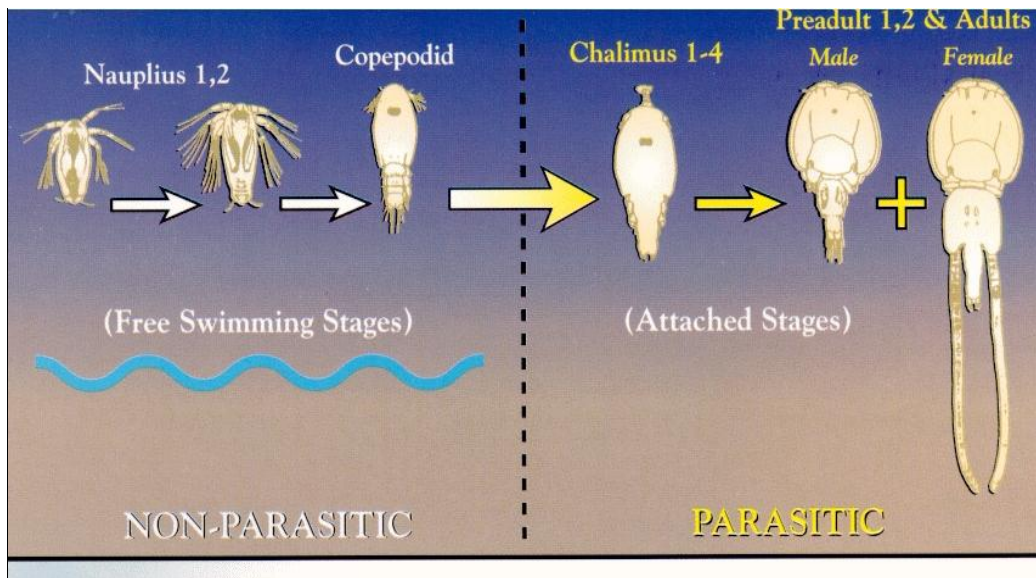
Sea lice live on the skin of fish and are known as ectoparasites. The two species of sea lice found on cultured salmonids in Ireland are *Caligus elongatus* Nordmann, a generalist species of parasite that infests over 80 different types of marine fish, and the specialist salmon louse, *Lepeophtheirus salmonis* Krøyer (*L. salmonis*), which infests only salmon and other salmonids. *L. salmonis* is regarded as the more serious parasite of the two species and has been found to occur most frequently on farmed salmon (Jackson and Minchin, 1992 [cited in O'Donohoe *et al.*, 2005]). Although where *L. salmonis* is absent, *Caligus* species can be a problem on farms and on wild fishes and can be a more difficult parasite to control (Costello 2009).

The focus of this paper is on salmon farming and *L. salmonis*

Impacts on the host's (the salmon's) skin from sea lice (*L. salmonis*) infestation include epithelium loss, bleeding and increased mucus discharge. The host is weakened causing loss of appetite, growth and food conversion efficiency, and the stress and wounds expose fish to secondary infections. Sea lice infestation contributes to increased mortality in salmonids.

The *L. salmonis* lifecycle consists of non-feeding planktonic larvae (nauplii), an infective planktonic copepodite, immature 'chalimus' embedded on the host skin and mobile pre-adults and adults that move freely over the host skin. The entire lifecycle is about 7-8 weeks at 10°C. Figure 1 (over) depicts the lifecycle of *L. salmonis*.

Figure 1: The life cycle for *L. salmonis*



Source: http://www.upei.ca/~anatphys/Sea_Lice/licecycl.htm

Review of scientific literature

This section briefly reviews a number of scientific experiments conducted to establish the considered threat of sea lice on wild salmonids and associated topics. The experiments and analysis were carried out by various independent researchers across different countries. More research is needed and the results are mixed so it is difficult to definitively say that sea lice originating in fish farms represent a significant threat to wild salmonids. However, the majority of the research reviewed here would indicate that sea lice can be a limiting factor for some wild salmonid populations at some locations.

The following scientific literature has been reviewed and important results and conclusions drawn are summarised:

- Costello, MJ., 2009. How sea lice from salmon farms may cause wild salmonid declines in Europe and North America and be a threat to fishes elsewhere, *Proceedings of the Royal Society B: Biological Sciences* (published online), rspb.2009.0771. Available at: <http://www.friendsoftheireishenvironment.net/cmsfiles/Library/Costello-letter-and-papers-12.05.13.pdf> [accessed on 28.05.2013]

- Whelan, K., 2010. *A review of the impacts of the salmon louse, Lepeophtheirus salmonis (Krøyer, 1837) on wild salmonids*. Perth, UK: The Atlantic Salmon Trust (online). Available at: <http://www.atlanticsalmontrust.org/assets/ast-sea-lice-impacts-review.pdf> [accessed on 28.05.2013]
- Jackson, D. et al., 2011a. *An evaluation of the impact of early infestation with the salmon louse, Lepeophtheirus salmonis on the subsequent survival of the outwardly migrating atlantic salmon, Salmo salar L., smolts*. Marine Institute [online]. Available at: <http://www.sciencedirect.com/science/article/pii/S004484861100247X> [accessed on 12.06.2013]
- Jackson, D. et al., 2011b. *Impact of early infestation with the salmon louse Lepeophtheirus salmonis on the subsequent survival of outwardly migrating Atlantic salmon smolts from a number of rivers on Ireland's south and west coasts*. Marine Institute [online]. Available at: <http://oar.marine.ie/bitstream/10793/749/1/Jackson%20et%20al%202011-Impact%20of%20early%20infestation%20with%20the%20salmon%20louse.pdf> [accessed on 18.06.2013]
- Jansen, A. et al., 2012. Sea lice as a density-dependent constraint to salmonid farming. *Proceedings of the Royal Society B: Biological Sciences* (published online), rspb.2012.0084. Available at: <http://rspb.royalsocietypublishing.org/content/early/2012/02/07/rspb.2012.0084.full> [accessed on 17.06.2013]
- Krkosek, M., et al., 2012. Impact of parasites on salmon recruitment in the Northeast Atlantic Ocean, *Proceedings of the Royal Society B: Biological Sciences* (published online), rspb.2012.2359. Available at: http://www.salmon.ie/files/121119_Proc_R_Soc_Sea_Lice_Paper_2012.pdf [accessed on 28.05.2013]
- Kristoffersen, A.B., et al., 2013. *Understanding sources of sea lice from salmon farms in Chile* [online]. Available at: <http://www.aqua-surconference.cl/mwg-internal/de5fs23hu73ds/progress?id=LgdyPoupVF> [accessed on 20.06.2013]

It is important to note that this is a vast and complex subject. It is not possible here to go into detail on the differing methodologies used across various studies, nor on all the details of the results and discussions arising therefrom. Rather this section provides a brief description of the experiments reviewed and the final conclusions based on the results and discussions of each study.

It is further worth noting that coinciding with this research, there has been a general decline in wild Atlantic salmon populations across its range over the past few decades. Reasons for the decline remain unclear and speculation over the causes includes climate change,

increased fishing pressure, sea lice infestation, pollution and changes in location of prey (Jackson *et al.*, 2011a).

Costello 2009

“Epizootics²⁴², characteristically dominated by juvenile (copepodite and chalimus) stages²⁴³, have repeatedly occurred on juvenile wild salmonids in areas where farms have sea lice infestations, but have not been recorded elsewhere”

The quote above, from Costello's (2009) paper identified the occurrence of sea lice infestations of wild salmonids in proximity to fish farms. Controversy as to whether: 1.) these infestations were originating in the farms; and 2.) their impact on wild populations was significant, prompted a series of papers on the subject from various independent researchers in different countries. The research used models and data to determine how lice infestations can occur for *L. salmonis*. Costello (2009) reviewed the research and his paper describes the various studies and experiments. Here we synthesise some of the results and provide the main conclusions he identified:

- Significant correlations between lice abundance on farms and wild sea trout repeated over several years in Ireland suggested that lice may disperse for up to 30km (Tully *et al.* 1999; Gargan *et al.* 2003 [cited in Costello 2009]).
- Plankton sampling discovered higher densities of *L. salmonis* copepodites in very shallow water along the seashore and in estuarine areas of Ireland and Scotland (Costello *et al.* 1995, 1998; McKibben & Hay 2004 [cited in Costello 2009]).... Since then, extensive plankton surveys in a Scottish sea loch supporting a wild salmon population have indicated that gravid²⁴⁴ *L. salmonis* on farmed salmon were the major contributor to sea lice larvae recovered from the plankton (Penston *et al.* 2008a,b; Penston & Davies 2009 [cited in Costello 2009]).
- In British Columbia, mobile *L. salmonis* have been found to increase on inshore juvenile salmonids coincident with the return of adult salmon from the ocean sea to spawn in rivers²⁴⁵, indicating that adult sea lice transferred from returning wild salmon to farm, and to wild juvenile, salmonids (Krkoske *et al.* 2007a; Saksida *et al.* 2007a; Gottesfeld *et al.* 2009 [cited in Costello 2009])

²⁴² An Epizootic is an epidemic outbreak of disease in an animal population.

²⁴³ Copepodite and chalimus are stages in the life cycle of *L. salmonis*.

²⁴⁴ Gravid meaning pregnant ('with eggs' in the case of sea lice).

²⁴⁵ Juvenile salmon migrate from rivers to the sea in spring (mainly April to May), whereas adults return to the coast during the summer (mainly June to October) before entering the rivers to spawn.

- The countries that produce most farmed salmonids have a problem with sea lice on farms whereas the minor producers do not, suggesting a relationship between the number of farms and/or farmed fish, and the development of sea lice infestations on farms. Persistent infestations on farms increase the risk of lice transferring to wild fish.

In 2009, when Costello was researching his paper, efforts to find indicators of whether juvenile lice on wild fishes had come from farmed sources had met with little success. However, indirect support from spatial transmission models indicate that farms can be a significant source of sea lice on wild fish (Krkosek *et al.* 2005, 2009b; Frazer 2008, 2009 [cited in Costello 2009]). Kristoffersen *et al.*, (2013) noted in their research into fish farms in Chile that, on average, neighbouring fish farms share lice up to 30km (weighted), did not take hydrology into account.

Costello (2009) concluded that “the evidence that salmon farms are the most significant source of the epizootics of sea lice on juvenile wild salmonids in Europe and North America is now convincing (Heuch *et al.* 2005; Costello 2006; Krkosek *et al.* 2006b, 2007a,b, in press; Todd 2006)”. However, Costello further stated that these are general patterns and not all salmon farms have sea lice problems and local hydrographic conditions vary and will influence larval dispersal. Epizootics will not always occur in areas with salmon farms but if one of a group of neighbouring farms is infested, then both the farms which have lice under control and the wild fish populations are at risk of infestation.

Whelan, 2010

According to Whelan (2010), infestations of juvenile sea trout with sea lice were first recorded along the west coast of Ireland in the spring of 1989. Sea trout had been in decline throughout the 1970s and 1980s due primarily to illegal netting and environmental problems. However, in the late eighties, a more dramatic decline took place resulting in a collapse of sea trout in many mid-western Irish fisheries (Whelan and Poole 1996 [cited in Whelan 2010]). In the summer of 1989, within weeks of migrating to sea, large numbers of post-smolts were found in the estuaries of Delphi and Erriff suffering heavy sea lice infestations. In 1991, the Government established the Sea Trout Working Group to examine the available evidence and to establish the likely causes of the sea lice infestations and the collapse in sea trout numbers.

Research concluded that farmed salmon contributed 95% of the total production of nauplius I in the mid-west region (Tully and Whelan 1993 [cited in Whelan 2010]). There was also evidence of a correlation between the presence or absence of fish farms and the presence or absence of sea lice on wild sea trout. The temperatures of the bays in the west coast of Ireland had also increased during the 1980s and this had an impact on sea lice populations (fecundity and generation times are temperature dependent in sea lice- higher temperatures lead to shorter generation times).

It was concluded that the collapse of the sea trout populations in the mid-west of Ireland was impacted upon by *inter alia*, sea lice infestations and increased temperature in the bays (Whelan 2010). By the mid-late 1990s evidence of similar problems, i.e. prematurely returning lice-infested Sea trout and Arctic char, had been identified in Norway and Scotland (Whelan 2010). A field experiment supported the hypothesis that sea lice infestations at sea caused the early return of Sea trout to rivers and estuaries (sea lice cannot survive in freshwaters and therefore an early return to freshwater enables the infested fish to shed the sea lice).

Research referenced in Whelan's report (2010) supports the view sea lice originating on fish farms can have a significant impact on the mortality of wild salmonid populations. Butler (2002) [cited in Whelan 2010] concluded that in Scottish waters less than 1% of the sea lice on returning wild salmonids originated from wild sources.

The relationship between sea lice infestations and distance to farms has also been examined with highest infestations and variation in infestations at less than 20km, lower infestations at sites 20-30km from farms and very low mean lice levels beyond 30km.

Although the research synthesised above indicates that sea lice infestations from farmed fish can have a significant impact on wild salmonids, results of some other studies (Jackson *et al*, 2011a and 2011b) indicate that while sea lice does affect salmonid mortality, it does not represent a **significant** impact. Varying results from different experiments may be due to the difficulty in determining definitively the origin of the sea lice on the wild fish, their distribution patterns etc.

Whelan (2010) echoed this sentiment; that there is no definitive conclusion but the weight of evidence is that sea lice of fish farm origin can be a significant threat to some wild fish populations in some locations.

Jackson et al (2011a and 2011b studies)

Jackson et al., 2011a

Two reports were published by Jackson *et al.*, in 2011 (2011a and 2011b) on behalf of *An Foras Mara* | the Marine Institute on the potential impact of sea lice infestation on outwardly migrating Atlantic salmon smolts. The larger study (2011a) was set in Burrishoole, County Mayo, ran over nine years and investigated the impact of sea lice infestations on outwardly migrating Atlantic salmon smolts by treating populations of ranched²⁴⁶ salmon with a prophylactic sea lice treatment conferring protection from sea lice infestation for up to nine weeks. The treated and control (untreated) groups of experimental ranched smolts were then released at Burrishoole, over a number of years (2001-2008). Their subsequent survival and return rates were recorded.

There were a total of 10 releases over nine years (2001-2008 with two releases in each of 2006 and 2008). The study resulted in a higher percentage return of treated smolts over the untreated control group. However, with the exception of the early release group in 2006 which showed an “extremely significant” difference in percentage survival, across all other release dates, difference in return rates between treated and control batches was not significant. There was a highly significant trend across both treated and control smolts of a decline over the years in percentage values. This was independent of whether the fish were treated or not.

The report concluded that:

“The results to date show a strong and significant trend in increasing marine mortality of Atlantic salmon originating in the study area. They would also point to infestation of outwardly migrating salmon smolts with the salmon louse (*L.*

²⁴⁶ ‘Ranched’ salmon stocks are hatchery reared salmon deliberately released into the wild as smolts with the intention of harvesting all of the returning adults at or near the point of release

salmonis) as being a minor and irregular component of marine mortality in the stocks studies and not being implicated in the observed decline in survival rate.”

Jackson et al, 2011b

A further study using the same methodology as in Jackson *et al* 2011a, was conducted where five sets of treated and control groups of salmon were released at four locations. This was to investigate if the findings from Jackson *et al* 2011a held true at other locations and for other stocks. The results were presented and compared with the time series of releases from Burrishoole (Jackson *et al.* 2011a). Of the five experimental releases at four locations, two releases resulted in significantly higher returns of treated groups. When examined in context of the results from Burrishoole (Jackson *et al* 2011a), the results of the study supported the view that:

“Infestation of outwardly migrating salmon smolts with salmon lice has a negative impact on fitness and can contribute to increased marine mortality. However, the results of this study and the Burrishoole time series would also point to infestation of outwardly migrating salmon smolts with the salmon louse (*L. salmonis*) as generally being a minor component of the overall marine mortality in the stocks studied.”

However, the study further stated that:

“analysis of a time series of data from the location studied similar to that available for Burrishoole stock (Jackson *et al.*, 2011a) would allow a more definitive conclusion to be reached or for observations to be extrapolated to other rivers and stock”.

Krkošek et al., 2012

“Parasites may have large effects on host population dynamics, marine fisheries and conservation, but a clear elucidation of their impact is limited by a lack of ecosystem-scale experimental data”.

To fill this knowledge gap Krkosek *et al* (2012) conducted a meta-analysis of replicated manipulative field experiments concerning the influence of parasitism by crustaceans on the marine survival of Atlantic salmon and published their results in a paper entitled *Impact of parasites on salmon recruitment in the Northeast Atlantic Ocean*. The team assembled and analysed all the published large-scale, pair-wise experiments of the marine survival of Atlantic salmon in the Northeast Atlantic Ocean. The experiments were conducted mostly in Ireland but also in Norway. Some of the field experiments had identified significant impacts

on salmon survival (Gargan *et al.*, (2012), Hvidsten *et al.*, (2007) and Skilbrei OT, and Wennevik V. (2006)) while others had claimed no significant effect at the population level (Jackson *et al.*, 2011a and Jackson *et al.*, 2011b – previously described).

Having analysed the data from the experiments specified above (Gargan *et al.*, 2012; Hvidsten *et al.*, 2007; Skilbrei OT, and Wennevik V., 2006; Jackson *et al.*, 2011a and Jackson *et al.*, 2011b), the paper concluded that:

“The results provide experimental evidence from a large marine ecosystem that parasites can have large impacts on fish recruitment, fisheries and conservation”.

Krkosek further concluded that:

“While it is apparent that parasites have potential to be a significant source of mortality in wild fish populations, it is difficult to measure marine mortality associated with disease, and furthermore to evaluate whether such mortality scales up to a limiting or regulating factor of recruitment.”

Jansen *et al.*, 2012

This paper assessed whether sea lice infestation can act as a limiting factor for sustainable levels of aquaculture. Its results indicated that parasitic sea lice can indeed act as a “potent negative feedback mechanism that may limit sustainable spatial densities of farmed salmonids.” The focus behind the study was to determine whether the continued expansion of the Norwegian salmon aquaculture industry would comprise an ever-increasing challenge to control sea lice on farmed fish. The study concluded that an increase in the density of fish farms leads to an increase in sea lice infestations on the fish farms and a subsequent increase in the use of chemotherapeutic control and hence the risk of development and spread of chemical treatment resistance by sea lice.

Chemical control of sea lice

According to Jansen *et al.*, (2012), the Norwegian Food Safety Authority reports increasing incidences of reduced sensitivity and/or resistance to medical treatments, as well as changes in the composition of the active substances used in chemotherapy and increasing quantities of drugs applied to farmed salmon to control sea lice. Jansen *et al.*, (2012) further

states that the efficacy of treatments has also been shown to decrease over time and is suggested to depend on the frequency of treatments by a given drug.

Marine Scotland Science (2002) undertook research into the potential impacts of chemical treatment for sea lice on other marine life. The research concluded that there is insufficient information available on the long-term effects of sea lice medication. In the short-term, if the medication is used according to regulatory guidelines, environmental impacts are considered low. However, regulations are not always complied with as reported by Severin Carrell (2013) in *The Guardian* on 13th May when Marine Harvest, a large fish-farming company was investigated for polluting a Scottish loch with chemicals used to treat sea lice hundreds of times above the recommended limit.

Solutions

As wild fisheries production has been static for a number of years, the aquaculture industry is likely to continue to grow to feed our demand for seafood. However, there are a number of ways which may help to alleviate the potential impacts of sea lice from farmed fish sources on wild salmonid populations:

- Consider moving existing fish farms to more appropriate sites (e.g. away from salmon migratory paths and estuaries used by salmon) to reduce the risk of sea lice transmission;
- Establish management areas large enough to deal with disease outbreaks on fish farms, and improve the practice of fallowing²⁴⁷ (of appropriate sized management areas);
- Reduce stocking densities in fish farms by reducing the number of fish per farm (larger fish farms are more difficult to manage when using e.g. bath treatments against sea lice);
- Adoption of appropriate treatment triggers²⁴⁸ - as recommended by Jansen *et al.* (2012), consider moving to a threshold based on a measure of spatial sea lice density;

²⁴⁷ After all the salmon have been harvested from a particular farm site, the cages will be left empty for a time. This helps break the cycle of disease, and also interrupts the breeding cycle of sea lice. For a detailed description of this practice see the World Organisation for Animal Health website at: http://web.oie.int/eng/normes/fcode/en_chapitre_1.4.5.pdf

²⁴⁸ Salmon farmers treat their fish with anti-sea-louse medicines at various stages during the marine production cycle, to keep the infestation levels down to an agreed number of adult female lice per fish. This agreed 'trigger level' normally varies according to the time of year; the levels are designed to minimise the number of breeding adult female lice on farmed fish at the time of salmonid smolt

- Biological control – Wrasse species and lumpsuckers are natural predators of ectoparasites on fish and their use as a biological control for sea lice on farms is being actively investigated by the aquaculture industry. Wrasse breeding and production is being developed to provide a regular and sustainable supply for biological control (Marine Scotland 2012);
- As sea lice can disperse up to 30km, consider the requirement that all fish farms are >30km from known migratory paths of wild salmon and important salmon rivers;
- Consider farming other species of fish which are vegetarian (carnivorous fish such as salmon put pressure on stocks of fish used to feed the salmon. Although according to Marine Scotland (2009), “an increasing proportion of fish feed now originates from vegetable sources, helping to reduce the pressure on wild fisheries”;
- Continued research on the impacts of sea lice from fish farms on wild salmonid populations and on ways to reduce the sea lice burden in fish farms is needed;
- As in Scotland with the new introduction of the *Aquaculture and Fisheries (Scotland) Act 2013*, introduce legislation to ensure that growth of the aquaculture industry is carried out in a sustainable manner;
- Rotate sea lice medication to avoid build-up of resistance in sea lice.

Case study: Scotland

In Scotland there have been a number of policy changes to ensure the production of healthy fish from farming while protecting wild fisheries and other interests. This includes:

- *A Fresh Start: The renewed strategic framework for Scottish aquaculture* (Marine Scotland 2009);
- *Code of good practice for Scottish finfish aquaculture* (Scottish Salmon 2011);
- *Aquaculture and Fisheries (Scotland) Act 2013*.

Strategic Framework

Following a broad consultation with stakeholders, the Scottish Government published *A Fresh Start: The Renewed Strategic Framework for Scottish Aquaculture* (2009). This document set out a vision for the further development of Scottish aquaculture which is fully integrated into the Scottish Government’s main purpose and the wider national strategic

migration (normally April to early June). Source: Atlantic Salmon Trust, available at: <http://www.atlanticsalmontrust.org/assets/files/ast-sea-lice-policy.pdf>

policy objectives. The five main objectives under the strategy to achieve growth of the aquaculture industry sustainably are:

1. Wealthier and fairer – growing a profitable and competitive aquaculture sector which is seen as a good neighbour;
2. Smarter – maximising the best use of technology and training;
3. Healthier – producing and promoting high quality farmed fish as a part of a healthy diet;
4. Safer and stronger – helping the industry grow sustainably and building and supporting communities; and
5. Greener – minimising the environmental impacts associated with aquaculture.

Ways to achieve these objectives include:

- Ensuring the health of fish by operating to, as a minimum, the husbandry recommendations set out in the Code of Good Practice for finfish Aquaculture, such as the establishment of management areas big enough to deal with disease outbreaks on fish farms, fallowing of appropriate scale management areas;
- Developing the right sites at the right locations through transparent, streamlined and proportionate regulation;
- Minimise fish escapes through improved containment systems or facilities. Reducing escapees decreases the potential negative impact on wild stocks and also increases profitability by limiting stock loss;
- Provide robust and bio-secure arrangements for the satisfactory disposal of waste and mortalities.

Code of Good Practice

The Code of Good Practice for Scottish Finfish Aquaculture (CoGP) was produced by Scottish Salmon in response to the recommendations of the *Strategic Framework for Scottish Aquaculture* (2003). Since its implementation in 2006, the CoGP has been widely adopted as an industry production standard in Scotland and has become recognised both nationally and internationally. In 2010-2011 the Code of Good Practice was reviewed in parallel with the renewed strategic framework for Scottish aquaculture (Marine Scotland 2009) and published in 2011.

It is the intention that the CoGP be adopted by every finfish farmer operating in Scotland. Over 95% of Scottish salmon production is undertaken by farmers who have adopted the CoGP and who are independently audited (Scottish Salmon 2011).

The CoGP for Scottish Finfish Aquaculture sets out the responsibilities of the farmer in dealing with the fish under his care; in managing the environment in which he operates; and in producing high quality food for the consumer (Scottish Salmon 2011). It requires individuals, farmers and organisations involved in the industry to do the following:

- Plan and operate aquaculture sites in compliance with all appropriate Scottish, UK and European legislation;
- Plan, develop and manage aquaculture sites in a manner that ensures the economic, social and environmental sustainability of the operation;
- Consult and collaborate with Scottish, UK and European authorities and relevant stakeholders in the development and implementation of future policies, practices and regulations to enhance the achievement of economic, environmental and social sustainability of the aquaculture production sector;
- Operate fish farms in a manner that ensures the highest standards of fish health;
- Operate fish farms in a manner that provides the fish with conditions that are consistent with the best available advice on welfare;
- Co-operate with, and participate in, appropriate research, technological development and training activities focused on enhancement of the economic, social and environmental sustainability of aquaculture. (Scottish Salmon 2011).

Aquaculture and Fisheries (Scotland) Act 2013

The *Aquaculture and Fisheries (Scotland) Act 2013* was passed on 15th May 2013 by the Scottish parliament and received Royal Assent on 18th June 2013. The reason for the Act's introduction was due in part to the Scottish Government's commitment to achieve a 50% increase in current aquaculture production by 2020. This prompted them to review the regulatory framework to ensure that the proposed increases in aquaculture could be environmentally sustainable. Debate on the Bill covered the potential impacts of sea lice from farmed sources on wild salmonids.

Conclusions

As already identified, wild salmonid populations have been in decline over the past few decades. The reasons for this are varied. However, Costello (2009) states that "the most likely cause of the global decline in wild salmonids in areas with farms was sea lice transmission from farms".

The review of a number of scientific papers has identified sea lice originating on farmed fish as a contributor to marine mortality in wild salmonids. Intensive fish farming practices can also cause pollution, escaped fish have negative impacts on wild stocks and farming of carnivorous species puts pressure on wild fish populations used as feed. The impacts from sea lice not only lead to increased mortality among affected fish but the use of parasiticides to try to control sea lice infestations may lead to evolving resistance in the sea lice population towards commonly used drugs.

The Committee could consider:

- Whether there is a need to introduce primary legislation (as has been done in Scotland), to ensure that the aquaculture industry can grow in an environmentally sustainable manner; and
- What are the best ways to control sea lice on farms and are chemical treatments effective – review the current management practices and identify improvements such as the use of biological treatment, the rotation of sea lice medicines used, thresholds for initiation sea lice control etc.

References

Marine Scotland Science, 2002. *Review and synthesis of the environmental impacts of aquaculture* [online]. Available at: <http://www.scotland.gov.uk/Publications/2002/08/15170/9409> [accessed on 24.06.2013]

O'Donohoe et al., 2005. *National survey of sea lice (*Lepeophtheirus salmonis*) Krøyer and *Caligus elongatus* Nordmann on fish farms in Ireland – 2004* [online]. Available at: <http://www.marine.ie/NR/rdonlyres/1D6D8C2D-E10C-47BD-99D5-592FE9A725EB/0/B22.pdf> [accessed on 29.05.2013]

Skilbrei OT, Wennevik V. 2006 Survival and growth of sea-ranched Atlantic salmon, *Salmo salar* L., treated against sea lice before release. ICES J. Mar. Sci. 63, 1317–1325. (doi:10.1016/j.icesjms. 2006.04.012)

Hvidsten NA, Finstad B, Kroglund F, Johnsen BO, Strand R, Arnekleiv JV, Bjørn PA. 2007 Does increased abundance of sea lice influence survival of wild Atlantic salmon post-smolt? J. Fish. Biol. 71, 1639–1648. (doi:10.1111/j.1095-8649. 2007.01622.x)

Costello, MJ., 2009. How sea lice from salmon farms may cause wild salmonid declines in Europe and North America and be a threat to fishes elsewhere, *Proceedings of the Royal Society B: Biological Sciences* (published online), rspb.2009.0771. Available at: <http://www.friendsoftheireishenvironment.net/cmsfiles/Library/Costello-letter-and-papers-12.05.13.pdf> [accessed on 28.05.2013]

Marine Scotland, 2009. *A Fresh Start: The renewed strategic framework for Scottish aquaculture* [online]. Available at: <http://www.scotland.gov.uk/Resource/Doc/272866/0081461.pdf> [accessed on 31.05.2013]

Whelan, K., 2010. *A review of the impacts of the salmon louse, Lepeophtheirus salmonis (Krøyer, 1837) on wild salmonids*. Perth, UK: The Atlantic Salmon Trust (online). Available at: <http://www.atlanticsalmontrust.org/assets/ast-sea-lice-impacts-review.pdf> [accessed on 28.05.2013]

Gargan P, Forde G, Hazon N, Russell DJF, Todd CD. 2012 Evidence for sea lice-induced marine mortality of Atlantic salmon (*Salmo salar*) in western Ireland from experimental releases of ranched smolts treated with emamectin benzoate. *Can. J. Fish. Aquat. Sci.* 69, 343–353. (doi:10.1139/f2011-155)

Jackson, D. et al., 2011a. *An evaluation of the impact of early infestation with the salmon louse, Lepeophtheirus salmonis on the subsequent survival of the outwardly migrating atlantic salmon, Salmo salar L., smolts*. Marine Institute [online]. Available at: <http://www.sciencedirect.com/science/article/pii/S004484861100247X> [accessed on 12.06.2013]

Jackson, D. et al., 2011b. *Impact of early infestation with the salmon louse Lepeophtheirus salmonis on the subsequent survival of outwardly migrating Atlantic salmon smolts from a number of rivers on Ireland's south and west coasts*. Marine Institute [online]. Available at: <http://oar.marine.ie/bitstream/10793/749/1/Jackson%20et%20al%202011-Impact%20of%20early%20infestation%20with%20the%20salmon%20louse.pdf> [accessed on 18.06.2013]

Scottish Salmon, 2011. *The Code of Good Practice* [online]. Available at: <http://www.thecodeofgoodpractice.co.uk/publish> [accessed on 20.06.2013]

Jansen, A. et al., 2012. Sea lice as a density-dependent constraint to salmonid farming. *Proceedings of the Royal Society B: Biological Sciences* (published online), rspb.2012.0084. Available at: <http://rspb.royalsocietypublishing.org/content/early/2012/02/07/rspb.2012.0084.full> [accessed on 17.06.2013]

Marine Scotland, 2012. *Sea lice: Control & Regulation (Topic Sheet No. 91 VI)* [online]. Available at: <http://www.scotland.gov.uk/Resource/0039/00399444.pdf> [accessed on 24.06.2013]

Carrell, S. 2013. Fish company investigated after salmon farm polluted Scottish loch. *The Guardian*, 13 May [online]. Available at: <http://www.guardian.co.uk/environment/2013/may/10/marine-harvest-salmon-farm-scottish-loch> [accessed on 24.06.2013]

Kristoffersen, A.B., et al., 2013. *Understanding sources of sea lice from salmon farms in Chile* [online]. Available at: <http://www.aqua-surconference.cl/mwg-internal/de5fs23hu73ds/progress?id=LgdyPoupVF> [accessed on 20.06.2013]

Appendix 6 – Food Harvest 2020 recommendations

Aquaculture growth is currently constrained due to licensing and funding difficulties arising from challenges in meeting EU environmental requirements.

Recommendations:

Supporting Innovation, Restructuring and Added Value

- The twin development and research strategies for seafood, "Steering a new course, a Strategy for a Restructured, Sustainable and Profitable Seafood Sector 2007-2013" and "Sea Change, a Marine Knowledge, Research and Innovation Strategy for Ireland 2007-2013" supported by DAFF, BIM, Marine Institute, Bord Bia, EI and industry should continue to guide immediate priorities, consistent with available resources.
- The share of catch being processed by Irish companies should be progressively increased, adding value in Ireland. While seeking to maximise landings from Irish vessels, sourcing additional supply for Irish processors from non-Irish vessels should be encouraged.
- The development of innovative, consumer oriented seafood products should be supported by BIM Seafood Development Centre and Teagasc Ashtown Food Research Centre.
- The R&D programmes on marine biotechnology development and marine functional foods underway by the Marine Institute should be continued and intensified.

Competitiveness

- While recognising the place of specialist processors serving niche markets, restructuring and enhanced co-operation within the production, sales, marketing and processing areas should be supported by specific programmes.
- The skills levels in the sector should to be augmented by focused technical training and boosting of management competence through the introduction of training, mentoring programmes and Graduate Placement programmes.

Marketing

- There should be a greater integration of the seafood sector into the Irish food sector and treatment of it as such.
- The implementation of quality and traceability labelling including voluntary labelling and certification for Irish fish products should be accelerated by the sector with appropriate supports from BIM and Bord Bia to differentiate Irish products on domestic and export markets.
- At EU level, Ireland should press for amendments to the Common Organisation of the Markets (CMO) to make it mandatory to give full details of origin of product to the consumer to differentiate Irish seafood from imports.

Appendix 7 – General overview of aquaculture in Scotland

In Scotland, finfish aquaculture dominates with Atlantic salmon the most commonly produced fish. Marine salmon farming takes place almost entirely in floating net cages, usually in sea lochs. Juvenile salmon are produced in fresh water, either in tanks or floating pens in freshwater lochs. Blue mussel is the main shellfish produced. There is interest in developing seaweed cultivation, including its potential use as a biofuel. Marine aquaculture is concentrated along Scotland’s west coast and the Western and Northern Isles as shown by Map 1. Rainbow trout farming also occurs, principally in fresh water but also to a limited extent in the sea.

Map 1. Locations of shellfish and marine finfish production sites

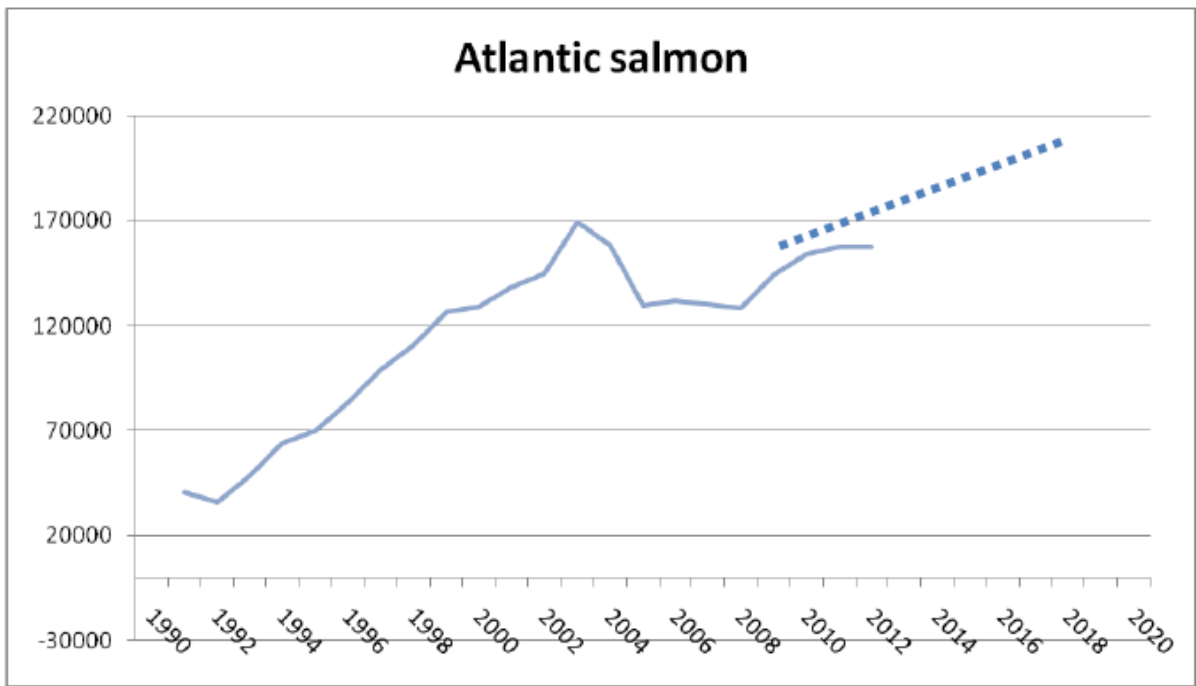


Economic and social effects

Scotland’s Atlantic salmon production has grown significantly in recent years (with a dip in the early 2000s) and the industry has aspirations to increase sustainable production by 4-5% per annum until 2020 (see

graph 1). 158,018 tonnes of Atlantic salmon were produced in 2011 with an estimated value of £584.7 million at farm gate prices (net value on leaving the fish farm and before processing) (Marine Scotland Science 2012c). Scotland is the largest salmon producer in the EU and the third largest in the world after Norway and Chile. Salmon is Scotland’s largest food export accounting for over one-third by value of all food exports. Scottish salmon is exported to over sixty different countries with the EU and US markets being particularly important. A new market opened in China after an agreement with the Chinese government was reached in 2011 (Scottish Government 2011).

Graph 1. Annual production of Atlantic salmon (tonnes) 1991-2011 and projected production in 2012 (Marine Scotland Science 2012c). The industry target for 2020 (adopted in the pre-consultation Draft Marine Plan) is shown.



The Scottish Salmon Producers' Organisation (SSPO) members employ over 2100 people directly in the salmon production industry (SSPO 2012b). SSPO calculates that salmon farming supports around 4000 upstream and downstream jobs including in feed production, equipment manufacture and world class academic research. Marine Scotland Science collects figures for the number of people employed directly on fish farms. Salmon farming employed over 1300 people (full and part time) in 2011. Around 300 of these were employed by the 28 companies producing eggs and young fish (ova and smolt) in fresh water (Marine Scotland Science 2012b).

Most fish farms are located in remote rural locations where there may be a lack of other employment opportunities. For salmon farms, the majority of jobs are located in the Highlands and Islands with (91%) based in Argyll & Bute, Highland, Orkney, Shetland and the Western Isles. In the Highlands and Islands, SSPO estimate that the wages paid locally (£46.7 million) generate economic benefits of £214 million when income multipliers are taken into account (SSPO 2012b). There has been a slight decline in the number of people employed in the salmon industry with consolidation of the industry (see below) though wages have gone up. SSPO carries out an annual survey on the salmon industry's plans for the future. The 2012 survey demonstrated high confidence in the industry with 86% of companies planning to expand in the next five years (SSPO 2012b).

There were 27 companies involved in marine salmon farming in 2011, a reduction from the 87 registered companies in 2001. 5 companies account for 94% of production (Marine Harvest 2012):

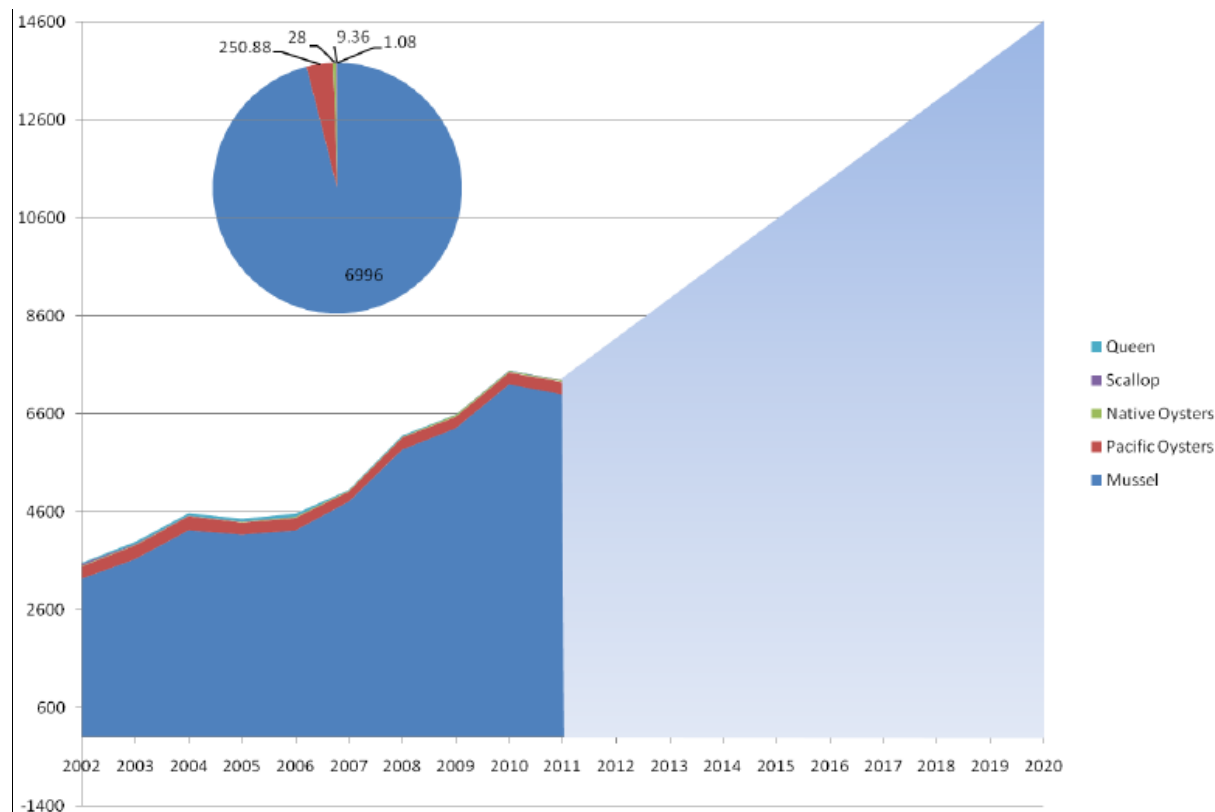
- Marine Harvest (Scotland) Ltd.
- the Scottish Salmon Company (including West Minch Salmon)
- Scottish Sea Farms Ltd.
- Morpol (Meridian Salmon Group and Uyeasound Salmon Company)
- Greig Seafood (Hjaltland Seafarms UK Ltd)

The largest companies are Norwegian-owned, however, 86% of jobs with SSPO members (which include these companies) are held by UK citizens (SSPO 2012b). Scotland also produces more than 50% of the UK's farmed trout. In 2011, 5319 tonnes of rainbow trout and 53 tonnes of brown trout were produced. Other fish include 139 tonnes of halibut and 1.5 tonnes of Arctic char. Close to 300 people were employed in rainbow trout production and around 40 people employed on fish farms producing species other than salmon and trout in 2011 (Marine Scotland Science 2012b).

Scottish shellfish production has also grown quickly and is worth an estimated £9.8 million with farmed blue mussel production at 6,996 tonnes in 2011 (worth £8.4 million). Scotland also produces 251 tonnes (3,136,000 shells) of Pacific oysters; 28 tonnes (350,000 shells) of native oysters; 1 tonne (27,000 shells) of queen scallop; 9 tonnes (78,000 shells) of king scallop (Marine Scotland Science 2012c). There are ambitious targets for increases in shellfish production in the pre-consultation draft marine plan, a 100% increase by 2020.

Shellfish farms tend to be smaller scale businesses. There were 335 active sites in 211, 161 of which were producing. These were run by 153 individual businesses. A total of 343 people were employed on shellfish farms (Marine Scotland Science 2012c). 7

Graph 2. Annual production of shellfish (tonnes) 2002-2011 Marine Scotland Science (2012b) including the target for 2020. Pie chart shows tonnes of shellfish in 2011.



Appendix 8 – Paper on Ban on fishing for mixed stock salmon using drift nets



Briefing Paper - Joint Sub Committee on Fisheries *Background and issues relating to the ban on fishing for mixed stock salmon using drift nets.*

The context to the drafting of this Briefing Paper

In line with global trends, wild fisheries in Irish waters have been in decline over the past few decades. Stocks of Atlantic salmon (*Salmo salar*) whose habitat includes Ireland's marine, estuarine and freshwaters peaked in the 1970's and have been in retreat since.

This paper focuses on the decline of Irish Atlantic salmon and the ban on fishing for mixed stock salmon at sea using drift nets. This ban was introduced in 2007 and remains in force. This paper should be considered in the context of the Sub-Committee's overall analysis of how best Ireland can promote sustainable rural coastal and island communities.

This document is intended to be impartial and is mainly based on research from secondary sources. While every effort has been made to ensure that the document is error free, the L&RS cannot give an absolute guarantee as to the accuracy, definitiveness, or timeliness of any information contained within it. It has, on a confidential basis, been provided only for use in relation to the parliamentary duties of the Committees of the Houses of the Oireachtas. It is not intended that this document should be reproduced for any other purpose or circulated outside the Houses of the Oireachtas.

Séanadh Dílíthiúil

Ní ghlactar le haon dlíteanas i leith aon pháirtithe ag éirí as iontaoibh a chur ar a bhfuil sa pháipéar seo. Ní hionann aon ní sa pháipéar seo agus comhairle ghairmiúil de chineál ar bith. Is féidir teacht ar na sonraí uile maidir lenár bpolasaí aitreabúideachta ach cuairt a thabhairt ar leathanaigh inlín na Seirbhíse Leabharlainne agus Taighde.

Legal Disclaimer

No liability is accepted to any person arising out of any reliance on the contents of this paper. Nothing herein constitutes professional advice of any kind. For full details of our attribution policy go to the Library & Research Service's Intranet pages.

© Tithe an Oireachtais 2013 | Houses of the Oireachtas 2013

1. Introduction

Background

According to Edward Fahy's recently (2013) published book, *Overkill!* official statistics indicate:

"Since 1995 the total weight of annual sea fish landings recorded has trended down, as have pelagic species, their largest contributor. Shellfish landings have been declining annually since 2001 and demersal landings have had a more or less level trend since 1981."

Fahy 2013 pg. 257

From this it is clear that, across species, wild fisheries in Irish waters are in decline. The reasons are complex and include over-fishing, pollution, habitat destruction and changes in oceanic conditions.

In line with this trend, populations of Atlantic salmon (*Salmo salar*) whose habitat includes Ireland's marine, estuarine and freshwaters peaked in the 1970's and have been in retreat since. A major contributor to their demise was the exploitation at sea of mixed stock salmon using drift nets. Concerns over the depletion of Irish salmon stocks led to a ban on their use by the government in 2007 which remains in force.

Due to the complexity of the subject surrounding the decline in fisheries, this paper focuses solely on the demise of Irish Atlantic salmon and the impacts of the drift net ban on fishing for mixed stock salmon.

Mixed stock fishing using drift nets

Mixed stock fisheries are defined by the North Atlantic Salmon Conservation Organisation (NASCO) as *any fishery exploiting a significant number of salmon from two or more river stocks*.

In Ireland's case, up until 2007, salmon stocks were generally exploited at sea through the use of drift nets. A drift net is a gill net used in a particular way. Using gill nets is a passive way of catching fish. Gill nets are curtains of meshing stretched vertically just under the surface or on the sea bed, in which fish become jammed or gilled (a single mesh grips the

body behind the gills) as they attempt to swim through the obstacle. Gill nets are fairly selective – the smallest fish get through and the largest bounce off them. Species sought by gill net include spurdog, mullet and gadoids (members of the cod family). Gill nets can perform anchored or they can be left to move with the tide in which case they are referred to as **drift nets**. Species captured by drift nets have included Atlantic salmon, herring and albacore tuna (Fahy 2013).

Drift netting is distinguished from other forms of commercial netting for salmon by the fact that each net intercepts streams of fish returning to many rivers, i.e. mixed stock fish. Other forms of commercial exploitation, for example draft netting in a particular estuary, are largely confined to catching salmon returning to a particular river, i.e. single stock salmon.

Consequently, drift netting does not distinguish between fish attempting to return to rivers with adequate numbers of spawning fish and those returning to rivers with seriously depleted stocks. It is this feature, added to the very large quantities of salmon taken by this method which makes drift netting so damaging to conservation measures (Stop Salmon Drift Nets Now 2004).

Ireland's obligations

Nationally, up until 2001, the Irish fishery for salmon was managed by a combination of effort limitation and the application of technical conservation measures relating to the size and type of fishing gear used. But these measures were not sensitive to the quantities of salmon available and allowed the same level of fishing regardless of the stock's vulnerability. In recognition of this and the growing evidence that there had been a catastrophic decline in Atlantic salmon stocks over the past few decades, a National Salmon Commission (NSC) was established in 1999 under the *Fisheries (Amendment) Act, 1999*. Under this Act a provision was made for the establishment of a Standing Scientific Committee. While the NSC was dissolved in 2008, the Standing Scientific Committee on Salmon (SSCS) remained and is now under the aegis of *Iascach Intíre Éireann* | Inland Fisheries Ireland (IFI). The IFI, under the aegis of the Department of Communications, Energy and Natural resources (DCENR) is responsible for salmon

fisheries.²⁴⁹ The SSCS provides scientific advice to guide the IFI in management decisions and policy development aimed at conserving wild Irish salmon stocks (SSCS 2013).

Internationally, Ireland also has responsibilities to conserve our wild salmon stocks.

These obligations include:

- **The North Atlantic Salmon Conservation Organisation (NASCO)** to which Ireland is a signatory. The primary management objective of NASCO is to “contribute through consultation and co-operation to the conservation, restoration, enhancement and rational management of salmon stocks taking into account the best scientific advice available” (SSCS 2013). In 1998 NASCO adopted the precautionary approach which proposes that when an action may lead to harm it should not be undertaken until it can be scientifically proven to be safe. To achieve this, NASCO specifies that management measures should be aimed at maintaining all stocks above Conservation Limits by the use of management targets (SSCS 2013).
- **The International Council for the Exploration of the Sea (ICES)** coordinates and promotes marine research on oceanography, the marine ecosystem, the marine environment and living marine resources in the North Atlantic. Both NASCO and ICES are inter-governmental organisations. ICES provides scientific advice to NASCO.
- **Council Directive 92/43/EC on the conservation of natural habitats and wild flora and fauna (the Habitats Directive).** Under the Directive, Atlantic salmon is a protected species and there are also 30 rivers designated as Special Areas of Conservation which host populations of salmon. All salmon populations, not just those present in SAC’s must be maintained or restored to favourable conservation status in their natural range to comply with the Directive.

²⁴⁹ Atlantic salmon spends approximately one-third of its life in marine waters and was always, to some extent, harvested there. However, it is classified as a freshwater fish by the Irish authorities and therefore it is the responsibility of the IFI, under the aegis of the Department of Communications, Energy and Natural Resources. Sea fisheries are dealt with the Department of Agriculture, Food and the Marine (DAFM).

2. Lifecycle of Atlantic salmon (*Salmo salar*)

Salmon are native to the world's two largest oceans, the Atlantic and the Pacific. Irish salmon are Atlantic salmon (*Salmo salar*) and spend their juvenile phase in rivers before migrating to the sea to grow. The salmon return to their river of birth to spawn. Fish with this lifecycle are called anadromous.

All salmon spawn naturally in freshwater. Spawning usually takes place in the tributary streams of rivers but can also take place in rivers if the substratum (gravel) is suitable. The female makes a nest or 'redd' with her tail, deposits her eggs which the males fertilise and buries them deep in the gravel to protect against damage and predation.

The eggs hatch in the spring. A female may lay up to 16,000 eggs but in Ireland less than 1% will survive to leave the rivers. The just-hatched fish are called alevins. After the first three-six weeks the fish begin to swim freely and are called fry. The survival of the fry is heavily influenced by the temperature of the river and can be impacted on by pollution, predation and competition for food.

Over the autumn the fry develop into parr. They remain in the rivers, feeding on insects and continuing to grow for one to three years. As they develop and grow, they undergo 'smolting', an adaptation phase which enables them to survive in saltwater and prepares them for their journey to the sea.

In spring, large numbers of smolts leave Irish rivers to migrate along the North Atlantic Drift into the rich feeding grounds of the Norwegian Sea and the greater expanse of the North Atlantic Ocean.

Grilse are salmon which mature after one year at sea (one-sea-winter [1SW] salmon) and return to their rivers to spawn. Some salmon take two or more years before they return to spawn and are known as multi-sea-winter (MSW) or spring salmon. Salmon have perfect homing precision and can locate their river of origin even after migrations of over 3,000km.

Having spawned, the salmon are referred to as kelts. As the salmon don't eat on their return to the rivers (focusing all their energy on spawning), they are weak and susceptible to

predation and disease. However, some kelts survive and go on to repeat their epic journey (Marine Institute n.d.).

History of decline

Increased mortality of Atlantic salmon at sea over recent decades and a lack of understanding of its causes prompted NASCO to establish an International Atlantic Salmon Research Board (IASRB) to promote cooperation and collaboration on research into the factors responsible for increased marine mortality. The IASRB developed and supported an international programme of cooperative research on salmon at sea, the SALSEA programme (NASCO 2012).

In October 2011, ICES and NASCO co-convened a Salmon Summit in France. It provided a platform for presenting the findings from the SALSEA programme and other recent research on salmon at sea. Presentations covered topics included the impact of warming seas, changes in ocean currents, predation and disease on marine mortality.²⁵⁰ Results from some of their findings are briefly described hereunder:

Reported catches from salmon in the North Atlantic from 1969 indicates that harvest peaked in the mid-1970's at about 12,000 tonnes but have declined to around 1,500 tonnes in recent years. This is due to a reduction in abundance and the restriction of certain fishing practices and other conservation measures. While marine survival and abundance of Atlantic salmon remains low, as a result of the various conservation measures in place, the decline in spawners has been less marked than the decline in pre-fishery abundance. However, many rivers across Europe and North America remain below their conservation limits. Most severely affected are the MSW salmon and especially those in the southern parts²⁵¹ of the species range (NASCO 2012).

²⁵⁰ Abstracts and presentations from The Salmon Summit are available at: <http://www.nasco.int/sas/salmonsummit.htm> [accessed on 20.08.2013]

²⁵¹ In providing management advice, ICES uses three different stock groups for the Atlantic salmon – North America, Northern Europe (Russia, Finland, Norway, Sweden [west coast], and the northwest regions of Iceland) and Southern Europe (Ireland, UK, France and the southwest regions of Iceland)

Changing oceanic conditions

A number of presentations at the Salmon Summit 2011 focused on climate change and in particular on the rising temperatures of the seas and the changes in ocean circulation. A northward movement of some fish species, including Atlantic salmon, and their prey, has been detected in the North Atlantic and appears to be linked to warming waters. This is most significant in the southern part of the salmon's range where predicted warmer climates may lead to the extinction of some salmon populations (NASCO 2012). Already, in North America, the southern edge of the range of Atlantic salmon is known to have shrunk by 2° latitude (approximately 140 miles). Environmental impacts associated with warming waters and changing currents pose significant challenges and uncertainties for management as these issues go beyond the powers of salmon managers and there is no short-term solution.

Over-fishing

As reported above, landings of salmon have been declining since their peak in 1970 across their Atlantic range. This is also true for Irish salmon. Salmon landings in Ireland have diminished to such an extent that, from the historic highs of the 1970s, by 2006 there were less than a third of that number returning annually (SSC 2006 cited in Collins et al., 2006).

Ireland traditionally operated a commercial offshore fishery, an estuarine draft net fishery and in-river angling (rod & line).

In recent decades the commercial offshore fishery fished for mixed stock salmon using drift nets. Drift netting is far more effective than the other traditional fishing methods. However, drift nets cause damage to stocks because they are dropped across migration routes and thereby catch mixed stock and in substantially higher numbers than other traditional methods (due to the length and type of nets and their location further out to sea). The synthetic materials used to make the drift nets since the 1960s are lighter and easier to handle and thus more effective at capturing salmon when laid across their migration routes.

In his book *Overkill!* Edward Fahy describes how the unregulated use of drift nets led towards the possible extinction of Irish salmon. The following quote from his book outlines the history of drift-net fishing for salmon in Ireland:

“Drift netting for Atlantic salmon at sea commenced in the nineteenth century. Up to 1968, 20% of the landings were harvested in this way but after that the figure rose to 80%, coinciding with the introduction of monofilament or multifilament plastic nets. Reports indicated that the length of drifting gill net in use were enormous; anecdotally, in excess of 20nm (37km) of net panels attached end-to-end were reported to be stretched across the migratory path of the returning fish by several vessels combining their efforts in Co. Donegal. In the late 1980s the problem of salmon drift net fishing ran out of control. Individual vessels, many of them unlicensed fished up to 10nm of net, 30-60 meshes deep. In 1987 a review group recommended that gill netting should be either strictly controlled or abolished altogether although it would be another twenty years before that happened.”

Fahy 2013, pg. 238

Other reasons for decline

Other reasons for the demise of Atlantic salmon over the last three to four decades include:

- Poor water quality;
- Loss of riverine habitat;
- Increasing loss of salmon to predators such as seals as fish stocks decline in general;
- Marine parasites and disease;
- By-catches in pelagic fisheries; and
- Aquaculture - the impact from sea lice and concerns over potential resistance to chemical treatments; and the impact from escaped farmed fish on genetic diversity of wild stocks.

3. History of the mixed stock drift net ban

Levels of salmon have been in decline since the 1970s and drift net fishing at sea for mixed stock salmon was identified by the scientific community as a major contributor to the possible extinction of Atlantic salmon in Irish waters. By 2006, intense pressure was being placed on Ireland to come into line with international best practice and end indiscriminate mixed stock fishing in order help conserve the species for the future. Furthermore, in 2006 the European Commission (Cion) found Ireland in breach of its obligations under the Habitats Directive 92/43/EC, specifically in relation to the management of salmon, mixed stock fishing and the continued licensing of drift-netting at sea. The Cion advised that if Ireland wished to avoid further infringements, it must comply with the Habitats Directive and curtail drift net fishing. As a result, the relevant Minister committed to following the recommendations of the SSCS to fully align the management of wild salmon fisheries with their advice for 2007.

In 2007, in order to comply with the Habitats Directive and align with the recommendations of ICES and NASCO, the Irish Government closed mixed stock fisheries using drift nets making Ireland the last country in the EU to ban drift netting (Fahy 2013). Harvest fisheries are now only allowed on stocks which are shown to have a surplus of fish over the conservation limit. Fisheries in estuaries are only permitted provided the stocks from individual rivers entering the estuaries are meeting conservation limits²⁵² (Central Fisheries Board n.d.). This is in line with the recommendations of the ICES and the NASCO.

²⁵² [The Conservation Limit for Atlantic salmon is defined by NASCO as, the spawning stock level that produces long term average maximum sustainable yield as derived from the adult to adult stock and recruitment relationship \(SSCS 2013\).](#)

4. Implications of the ban

Financial implications

Financially, wild Atlantic salmon fisheries are important for both commercial fishermen and to the angling community. The closure of mixed stock fishing for salmon at sea using drift nets and the related issues were very emotive. Each side argued their case by interpreting the evidence differently. The ban was heralded a success by anglers who felt it was necessary to the survival of wild salmon in the rivers but it was considered a disaster for some commercial fishermen who depended on the salmon as an important part of their livelihood.

The decline and closure of the salmon drift net fishery was a major loss to a number of coastal communities, but in particular the Gaeltacht Island communities depended on income from salmon fishing and were badly affected. Salmon was an important resource for fishermen on the Donegal Gaeltacht island of Árainn Mhór for example. Since the ban businesses have closed and the community has sustained major economic losses. The island population has dropped from 768 in 1988 to 487 in 2012 (Mills 2012).

The relevant Minister then established an independent group (the Independent Salmon Group) to identify the implications for those affected in the commercial fishing sector for 2007 and beyond. Recognising that the ban would result in a loss of earnings a hardship fund for drift net fishermen but including all other commercial fishermen wishing to exit the fishery was introduced in 2007. This provided a financial package for affected fishermen (Central Fisheries Board n.d.).

For the anglers, the increase in the number of rivers with surpluses above their conservation limits since the ban means that more rivers are open either for harvest (harvesting is only allowed on stocks from rivers where there is a surplus above the conservation limit identified and no more than this surplus can be harvested) or for catch and release. This has positive economic impacts on the recreational and tourism industry associated with angling.

Exploitation of other species

The decline in various fish species and the ban on drift net fishing for salmon has meant affected fishermen needed to turn to other species to make a living. This in turn puts pressure on the 'replacement' species. For example, due to the ban on drift net fishing in 2007 and the closure of waters around the Donegal islands as part of European cod conservation measures, the fishermen of Árann Mhór can only fish for lobster and brown crab. The restrictions on salmon and cod and subsequent increased focus on shellfish fisheries to enable island fishermen to continue fishing for a living puts the replacement species populations under pressure and may possibly lead to over-fishing.

The majority of the edible brown crab fishery was concentrated along the Atlantic, northwest of Donegal. An important inshore fishery, brown crab landings peaked in 2004 and then dropped off significantly in 2005. Over the previous years, progressively larger portions of the landings were being made by off-shore super-crabber vessels (Marine Institute 2005). By 2010 the brown crab fisheries had collapsed. The collapse of the brown crab industry was not a direct result of the drift net ban on salmon. It is but another example of the results of over-fishing. In this instance, the crabs demise dates back to the 1980's when super crabbers began to fish outside of territorial waters, harvesting females as they made their migration to and from the continental shelf (males remained in coastal waters).²⁵³ Most of the inshore fishermen invested in bigger boats to participate in this fishery. These super crabbers caught larger quantities of crab, intercepting them on their migratory path back to shore to mate leading to the collapse of the brown crab fishery in northwest Ireland. The brown crab could have remained a more important seasonal inshore fishery with major socio-economic value to coastal and island communities had it been fished responsibly (Fahy 2013 pg 303-305).

²⁵³ The male edible crab sticks to the coastal waters, but the females, once mated, make long migrations to the edge of the continental shelf, carrying and incubating their eggs. When these hatch, the prevailing current carries the larvae back to make a landfall along the Donegal coast. The females, too, must return to the coast to mate, and the traditional inshore fishery was for these mature crabs in summer and autumn (Fahy 2013 cited in Vinney 2013).

5. Current populations of salmon

Since 2007 the SSCS has provided salmon status updates and precautionary catch advice on an annual basis. Their 2013 publication, *The Status of Irish Salmon Stocks in 2012 with precautionary catch advice for 2013* records the current levels of salmon in our rivers and gives precautionary catch advice for this year. The continued fall in overall salmon numbers is highlighted in the following paragraph (SSCS 2013 pg. 6):

“Despite the considerable reductions in catches, and increased runs to many rivers following the closure of the mixed stock fishery at sea, only 40% of Ireland's rivers are estimated to be meeting biologically based Conservation Limits. Marine survival values in the past 5 years are amongst the lowest recorded since the coded wire tagging commenced in 1980 and probably since the 1970's based on a longer time series of information available for the Burrishoole salmon census index site. Changes in oceanic conditions leading to poor recruitment of salmon have been implicated by the North Atlantic Salmon Conservation Organisation (NASCO) following international investigations into the decline of salmon stocks (e.g. SALSEA Merge). Recent stock forecasts from the International Council for the Exploration of the Seas (ICES) for stocks in the southern range of the North East Atlantic, indicate that this low stock situation will prevail at least until 2015. Given the current levels of poor survival, the expectation of large catches is unrealistic at present and priority should be given to conservation objectives rather than catch increases until there is a noticeable improvement in stock abundance.

A report on the status of salmon submitted to the European Commission in 2007 as a requirement under the 1992 Habitats Directive stated that: “the salmon population in Ireland has declined by 75% in recent years and although salmon still occur in 148 Irish rivers, only 43 of these have healthy populations”. Since then, salmon abundance has improved in some rivers and by 2012 some 57 rivers had healthy populations of salmon on the basis of attaining their conservation limits (SSCS 2013).

In conclusion, poor returns of salmon and high marine mortality prevail.

Despite the considerable reduction in catches since the 2007 ban on mixed stock fishing with drift nets, only 40% of Ireland's rivers are estimated to be meeting biologically based conservation limits.

Marine survival rates continue to fall – it is estimated that prior to 1996, survival rates were in excess of 15% (i.e. 15 adult smolts returning to the coast for every 100 smolts migrating).

Current figures suggest that just over 5% of wild smolts going to sea return as adults with survival rates for hatchery reared salmon even lower. The continuing decline in Atlantic salmon both in Irish waters and across its range (North America, Northern and Southern Europe) would suggest that there are wider issues at work such as climate change as was identified by the findings presented at the Salmon Summit in 2011.

The stock status and catch advice for the 2013 salmon fisheries is provided in the following section, *Current advice*.

6. Current advice

Scientific Standing Committee on Salmon²⁵⁴

The catch advice from the SSCS recommends that harvest of salmon should only be allowed on stocks from rivers where there is a surplus above the conservation limit identified and no more than the surplus may be harvested. Salmon fishing should not take place on rivers without an identifiable conservation limit or rivers not meeting their conservation limits. Mixed stock fisheries are a particular threat and to protect salmon populations, only fisheries which are targeting one stock which is exceeding conservation limits should be allowed. It is further recommended that to achieve this, all fisheries should operate only on the target stock close to the river mouth or within the river.

The Scientific Standing Committee on Salmon (SSCS) provides scientifically based catch advice for the year 2013 on 139 rivers. In addition, there are three upstream catchments on impounded rivers used for hydropower.

The stock status and catch advice for the 2013 fishery is that:

²⁵⁴ This section on stock status and catch advice for the 2013 fishery is taken directly from the SSCS 2013 publication, *The Status of Irish Salmon Stocks in 2013 with precautionary catch advice for 2013*, pg. 24-25. Available at: <http://www.fisheriesireland.ie/Salmon-management/salmon-management.html>

- 57 rivers have an advised harvestable surplus as they are exceeding their Conservation Limits
- A further 15 rivers could open for catch and release only based on exceeding a minimum fry threshold in catchment wide electrofishing surveys or based on IFI management criteria that they meet over 65% of their Conservation Limits.
- 71 rivers should be closed for fishing entirely as they do not exceed 65% of Conservation Limits and electrofishing thresholds have not been met.

There are 16 rivers for which a separate assessment is made for MSW (Spring) salmon where there are significant fisheries. Of these:

- 11 have an advised harvestable surplus as they are exceeding their Conservation Limits.
- A further 2 could open for 'catch and release only' based on exceeding a minimum fry threshold in catchment wide electrofishing surveys or based on IFI management criteria that they meet over 65% of their Conservation Limits.
- 3 should be closed for harvest as they do not exceed 65% of their Conservation Limits.

There are currently 30 Irish salmon rivers listed under the Habitats Directive. Of these, 25 are above their conservation limit.

Amongst the stocks being assessed are over 55 small river stocks where the most recent annual average rod catch has been less than 10 salmon, making a direct assessment difficult. Therefore, the majority are assumed to be failing to meet Conservation Limits. Although these are insignificant fisheries (accounting for less than 0.5% of the total national rod catch when combined), their stocks are important as spawning populations in their own right which must be maintained for biodiversity as required under the EU Habitats Directive. The Standing Scientific Committee advises that additional information should be made available to assess stock status relative to the Conservation Limits for these small rivers.

In addition, there are four assessments on rivers used for hydro power which have been assessed as being below their conservation limits i.e. Upper Liffey (Dublin), Upper Lee (Cork), Upper Shannon (Limerick) and the River Erne. Stocks in the areas above the impoundments are significantly below their Conservation Limits and following the scientific advice already provided for other rivers, there should be no harvest fisheries on wild salmon in these specific rivers.

ICES to NASCO

The advice from ICES to NASCO for the years 2012-2015 states:

ICES advise that fishing should only take place of salmon from rivers where stocks have been shown to be at full reproductive capacity. Furthermore, because of the different status of individual stocks within stock complexes, mixed stock fisheries present particular threats. The management of a fishery should ideally be based upon the individual status of all stocks exploited in the fishery. (SSCS 2013)

Salmon Summit

Implications for management from the findings presented at the Salmon Summit identified the difficulties in dealing with climate change and the challenges it brings such as warmer waters and changes in ocean currents. Climate change is a global issue and the management of salmon in the marine environment is limited. As such, it is important to maximise the number of healthy wild salmon that go to the sea from their home rivers (NASCO 2012).

The Salmon Summit referenced the link between the freshwater and marine habitats of Atlantic salmon and highlighted the fact that the freshwater environment is critical to marine survival, and is more amenable to management. Management of the freshwater environment includes improving water quality and protecting against habitat destruction, establishing new and maintaining existing bank-side vegetation which gives shade to the rivers keeping temperatures cool, ensuring excessive water abstraction is minimised to encourage maximum flow in warmer months etc.

The particular threat from mixed stock fishing was recognised in the findings from the Salmon Summit and it was recommended that exploitation of stocks that are below their conservation limits should not be permitted or should be limited to a level that will still permit stock recovery (NASCO 2012).

The benefits of catch and release fishing by rod and line to the economy for the recreational and tourist angler and the reduced mortality of salmon were noted.

7. Conclusion

In conclusion, despite the conservation measures in place, Atlantic salmon in Irish waters remains a threatened species and is protected under the Habitats Directive (92/43/EC).

The most recent scientific advice recommends limiting exploitation of salmon to single stocks which are at or exceeding their Conservation Limits.

Certain factors such as climate change are out of our control in the short-term. However, adhering to the latest authoritative scientific advice when determining how and where salmon may be fished and maintaining responsible levels of fishing which ensure that Conservation Limits are not negatively impacted upon should continue.

References

Central Fisheries Board, n.d. *Wild Salmon Management in Ireland* [online]. Available at: <http://www.fisheriesireland.ie/Salmon-Management/wild-salmon-management-in-ireland.html> [accessed on 22.08.2013]

Fahy, E., 2013. *Overkill! – the euphoric rush to industrialise Ireland’s sea fisheries and its unravelling sequel*. 1st edition. Ireland: Edward Fahy

Marine Institute, n.d. *Lifecycle of Atlantic salmon* [online]. Available at: <http://www.marine.ie/home/services/operational/stock/Life+Cycle+of+the+Atlantic+Salmon.htm> [accessed on 19.08.2013]

Marine Institute, 2005. *Brown crab on all coasts* [online]. Available at: <http://www.marine.ie/NR/rdonlyres/E316E822-2BCF-4ACC-9735-A1081F478611/0/BrownCrabs06.pdf> [accessed on 22.08.2013]

North Atlantic Salmon Conservation Organisation (NASCO), 2012. *Atlantic salmon at sea: findings from recent research and their implications for management* [online]. April/May. Available at: http://www.nasco.int/pdf/reports_other/Salmon_at_sea.pdf [accessed on 21.08.2013]

Scientific Standing Committee on Salmon (SSCS), 2013. *The Status of Irish Salmon Stocks in 2013 with precautionary catch advice for 2013* [online]. Available at: <http://www.fisheriesireland.ie/Salmon-management/salmon-management.html> [accessed on 21.08.2013]

Mills, G., 2012. Donegal fishermen seek easing of salmon drift net ban to save communities. *Inshore Ireland* [online]. Available at: http://issuu.com/inshoreirelandpublishing/docs/inshore_ireland_8.2_2012 [accessed on 22.08.2013]

Vinney, M., 2013. Follies and fraud that set science at naught. *The Irish Times* [online]. 23 February. Available at: <http://www.irishtimes.com/culture/heritage/follies-and-frauds-that-set-science-at-naught-1.1314345> [accessed on 22.08.2013]