BIM SUBMISSION TO THE AQUACULTURE LICENCE REVIEW GROUP

10th February 2017

Table of Contents

INTRODUCTION

The aquaculture licensing system in Ireland has been the subject of much contention since the 1997 Act was commenced in 1999 and subsequently. In particular, the salmon farming sub-sector of the Irish aquaculture industry was the subject of constant challenges due to the vehement opposition to the industry emanating largely from the sport angling community, who fish recreationally for wild salmon and sea trout.

This level of objection, [redacted] has meant that the licensing process has been minutely scrutinised at every step thus creating difficulties and delays. Despite these constraints, quite a large number of licenses for all species were issued in the period 1999-2003.

The system suffered a very major shock when Ireland was found guilty of an infraction by the EU Court of Justice in late December 2007 regarding the aquaculture licensing system's delinquency with regards to compliance with the Birds and Habitats Directives. This judgement threw the entire system into chaos and it remains deeply challenged to the present day. In the interim, further environmental legislation has also come to bear on the aquaculture licensing system in the form of the Aarhus Convention and the Access to Environment Information Directive. The EIA Directive has also been updated and modified placing greater responsibility on the licensing authority with regard to the evaluation of EISs accompanying aquaculture licence applications. A pilot complaint was also brought against the licensing authority by DG Environment with regard to the supposed negative impact that sea lice from salmon farms were having on wild salmonid populations.

Thus, the environment within which the Irish aquaculture system has to operate is very complex and deeply problematic. Significant backlogs have built up within the system with regard to applications to cultivate all species and it has not been possible to process any marine salmon farm licence applications through to determination for a period of more than 10 years. Administration of the system has also become exceedingly legalistic, which was understandable in 2008 and the years that followed due to the threat of fines being imposed by DG Environment on foot of the ECJ judgement. That highly conservative and risk averse approach may be less necessary now that the 'Roadmap to Compliance Process' has advanced to the point where any further threat of fines on foot of the 2007 ECJ judgement is very remote given the strength of the state's position. A streamlined system, proportionate to the size and nature of aquaculture operations, which continues to incorporate high levels of environmental protection, has to be achievable if there is a real and sustained determination that the sector should be allowed to reach its potential. .

Whilst the sector has been able to continue to operate using Section 19 (4a) the impact of the ECJ judgement has had a very long tail and has effectively blocked investment into the sector, either through grant aid or from the financial institutions, who do not have confidence that the farmers have secure access to their means of production and so view them as an unacceptable risk.

This submission to the Aquaculture Licensing Review Group aims to summarise the current position of the Irish aquaculture industry in terms of output, employment and market prospects in the near term. It offers analysis of each of the major sub-sectors and also discusses the particular impact that the difficulties with the licensing system have had on those sub-sectors.

The review also cites and discusses other more general short comings and possible areas for improvement within the licensing system, which could be introduced to streamline the process and reduce duplication and remove unnecessary administrative burden.

Having a full valid up-to-date aquaculture licence is the operator's most powerful manifestation of having the necessary official 'social licence' to carry out their business and to be able to demonstrate their legitimacy. Without such a licence, a cloud of uncertainty hangs over the operations eroding confidence and stifling development. Having an efficient, predictable, environmentally sound and commercially aware licensing system is vital if the sector is ever to reach its very considerable potential.

Having said all that it should be stressed that Ireland is not unique in having difficulties with its aquaculture licensing system The EU commission have recognised this as a community wide problem across all 27 member states. Extreme complexity, a heavy burden of administration and confusion arising from multiple agencies all playing a part in the licencing process are common features bedevilling the aquaculture licensing process all across the EU. This is recognised by the commission in Appendix 2 of this submission and the issues raised there are incorporated to a greater or lesser extent into the National Strategy for the Sustainable Development of Aquaculture (NSSDA) (in Ireland), which forms part of the EMFF. The key issues arising from the NSSDA are summarised in Appendix 3 and are reflected in the recommendations given throughout this document.

The current system is not without its strengths and we should beware of the phenomenon of 'throwing the baby out with the bath water'. It is very consultative and transparent and gives the public and other stakeholders every opportunity to have their views heard concerning an application. It also deals firmly with key issues such as navigational safety, visual impact, invasive alien species and beach access. These positive attributes should be maintained.

In this submission BIM makes a number of recommendations based on our extensive experience of interacting with the current aquaculture licensing system, we acknowledge that implementing these recommendations will pose a challenge and will certainly test the scope of the present 1997 Fisheries Amendment Act. It will be a matter for the Review Group to determine whether or not the present act can bear the weight of the urgent changes vitally necessary to reform the system as a whole.

SECTION 1 Production Statistics

Introduction

Overall the Irish aquaculture sector has enjoyed mixed fortunes over the last 5 to 7 years but is currently showing a modest, but sustained recovery in output volume. Figure 1 below illustrates this trend and also shows the level of sustained growth required if the sector is to achieve its output volume targets as set out in the FoodWise 2025 National Food Production Strategy.

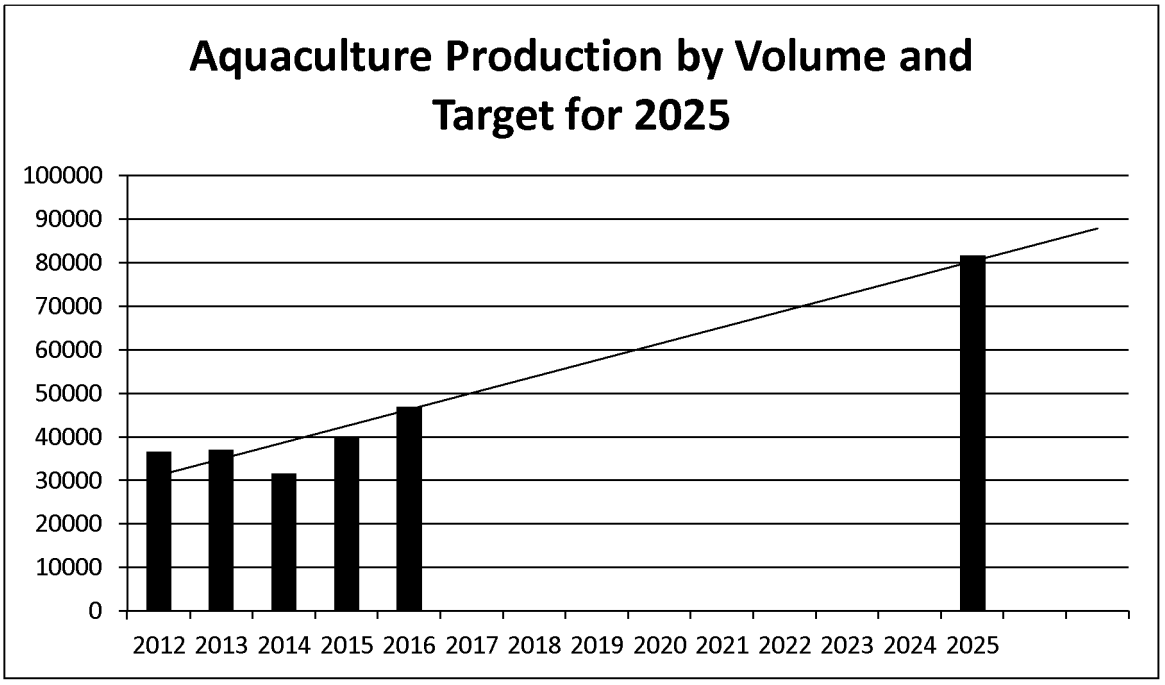

Figure 1 Aquaculture Production by volume

Actual data

Estimated production

Trend analysis

Summary of Current Aquaculture Data

The Facts

Total of ***292 individual companies*** on the 2015 database, 264 of which were producing via 276 production units in 2015
Total value at first sale ***€148.5 m***

Total employment ***1822*** (Full Time= 601 Part Time = 529 Casual = 692)

Data for the key sub-sectors

Finfish

Salmon & Sea Reared Trout
7 companies
Value = € 90.3m (60.8%)
Tonnage = 13213.8
Top 20% provide 75% of production by tonnage

Shellfish

Gigas (or 'Rock') Oysters
159 companies - 134 active
Value = € 35.27m (23.8%)
Tonnage = 9037
Top 20% provide 63% of production by tonnage

Rope Grown Mussels
68 companies - 61 active
Value = € 6.79m (4.57%)
Tonnage = 10251.4
Top 20% provide 65.4% of production

Bottom Grown Mussels
40 companies -25 active
Value = € 6 m (4%)
Tonnage = 5697
Top 20% provide 88.3% of production

SECTION 2 Overview of the Sector

Brief Description of the Irish Aquaculture Sector

Marine aquaculture can be divided into finfish and shellfish farming. Currently, aquaculture in Ireland is comprised of 850 licensed operations, occupying some 2,000 sites, most of which are engaged in shellfish production. The number of active enterprises engaged in marine aquaculture has remained stable at a total of 292 enterprises. In recent years, there has been an increase in salmon and gigas oyster production, while mussel production has decreased due to two factors, poor seed supply in the seabed grown sector and sluggish demand in the fresh (uncooked) segment which has impacted negatively on the rope grown sector.

The Broader Picture

Over the last 10 years aquaculture output in Europe has generally stagnated and there has been little or no net growth. According to the Food and Agriculture Organisation of the UN (FAO), aquaculture has been the fastest growing food sector globally, however the EU has not followed this worldwide trend. The EU has recognised this unsustainable position with regard to seafood supply and has targeted resurgence in growth in output from aquaculture under the EMFF. Ireland's long coastline, with numerous bays and inlets makes it well placed to increase its aquaculture output.

A Health Check on the Irish Sector

EU aquaculture takes place mainly in coastal areas but also occurs in inland freshwater areas and on land based recirculation systems. As such, it provides a vital source of employment and economic activity that contributes to the preservation of viable rural communities on a year-round basis. In Ireland it is a relatively diverse sector encompassing a substantial shellfish farming element combined with a significant finfish element. There are certain areas within Ireland that have higher concentrations of aquaculture such as in, Donegal, Carlingford Lough, Wexford, Waterford, West Cork, Kerry, Galway and Mayo. The area licensed for aquaculture in Ireland is 0.001% of the sea area and 0.01% of the land area.

Data from the BIM Annual Aquaculture Survey showed that 2015 saw a strong recovery in aquaculture production. Volume increased by over 25% to 40,000 tonnes. A similar upturn was recorded for aquaculture value increasing by €31m to a total first point of sale value of €148m. The primary driver in these results was a recovery of the salmon sector, largely attributable to the sector's coming to grips with developing a successful treatment regime for counteracting Amoebic Gill Disease.

Other sectors have remained stable or showed a modest increase in volume output. The employment level of 1,822 and the number of production units, sitting at 279 has not changed significantly since 2014. There have been a modest number of business start-ups in the oyster sector, offset by reductions/amalgamations in the rope and sea bed cultured mussel sectors, so that the overall number has remained steady.

Unit value overall has dipped in the oyster and sea bed cultured mussel sectors while marginally improved in the rope mussel sectors. The latter sector however remains critically marginal in profitability, with the principal product, fresh mussels only reaching between €700 and €750 per tonne. Other sectors remain relatively unchanged at primary production level, though an increasing

amount of value added activity and product differentiation combined with better marketing is paying dividends for certain companies, particularly in the oyster sector.
The harvest volume potential of gigas oysters in 2016 was curtailed by a combination of weather induced stress and mortalities that occurred through all of the age classes in 2015, into the mature stocks in early 2016.

Despite these and other challenges the overall picture for 2017 remains positive. There is a continual shifting within this primary production sector as growers strive to find more direct and profitable routes to market. The approach of continuous innovation, market development and collaboration through 'coopetition' is proving to be a successful combination for those farmers who diversify their businesses.

Commentary on the Current Status of the Main Species

Salmon

Sea production has recovered from under 10,000 tonnes worth €58 million in 2014 to over 13,000 tonnes, worth €90 million, in 2015. Virtually all production is now certified to the organic standard, with unit value increasing to € 7000 per tonne, (whole round), on average nationally in 2015. Within the salmon sector hatchery and on-growing facilities produced stock valued at €94.7 million and directly employed 191 persons. In addition to this a further 142 persons were employed in the primary processing of salmon and over 80 more were employed in associated specialised services such as sales, maintenance crews and commercial diving. Direct employment in the sector is provided from Donegal to Cork, on 15 production units, working more than 32 sites with a new production unit due to come on stream in 2016, if the determination from ALAB is positive. Significant further employment is also created in the secondary processing of this raw material and in the transport logistics associated with the sector.

Primary salmon production, while not the biggest employing sector in and of itself, does provide mainly full-time employment, and has the most diverse and lucrative economic knock-on effect of all of the aquaculture species. This feature manifests itself in terms of downstream employment creation, a very wide product range and value, and all of the services required to bring these high value products from production site to the tables of consumers all over Europe.

Discussion on the Specific Impacts of the Aquaculture Licensing Difficulties on the Salmon Sub-Sector

Problems with the licensing system, both in terms of the issuing of new licences and certain anachronistic terms and conditions associated with existing licences, have had a very direct impact on limiting production in this element of the Irish aquaculture sector. Quite simply, if there was more appropriately licensed space available to the key players then they would immediately use that space to produce more fish.

Theoretically, there would seem to be a significant amount of licensed but 'redundant' capacity within the national portfolio of licenced marine salmon sites, but on closer inspection it may be seen that this is actually not the case. The licences for the high capacity sites at the 'Macken Rocks' and 'Red Flag' off the mouth of Kilkieran Bay are in a legal limbo and not available for production and the other inactive higher volumes licences in the system, located in the south west, are similarly encumbered. Effectively these sites are not currently available for production and it may never be possible to bring them back into active use. Once the capacity of these locations are removed from the picture, then all that is left vacant are some low capacity close-inshore sites which would be

hopelessly uneconomic to operate by modern standards and it would be retrograde and undesirable from an environmental sustainability point of view to bring them back on stream. New biologically suitable, high capacity sites are urgently needed to allow this sector of Irish aquaculture to develop and grow sustainably.
A second key constraining factor attributable to a failure in the licensing system is the presence of anachronistic and sometimes contradictory terms and conditions related to stocking appearing on the marine licences. Some marine licences contain limitations in terms of permitted numbers of *'smolts'* and *'growers',* others cite *'harvest'* tonnages and some combine all three. These conditions all need to be excised as they are essentially meaningless in biological terms and are counterproductive in light of what is currently regarded as good farming practice. Their presence on the licences has given rise to unnecessary disagreements between the farmer and the regulator as both have struggled with the impossible task of 'squaring the circle' created by the contradictory terms and conditions attaching to some of the licences.

Maximum Allowable Biomass (MAB) should be the only stocking control related condition attaching to a marine salmon farm licence. In that way the coherence of the system would be restored. After all, the application EIS makes its findings in terms of MAB, MAB is easy to calculate, easy to inspect and enforce and the Benthic Impact Monitoring regime is entirely related to MAB. Yet currently the system does not use MAB at all in regulating stocking on marine salmon farms; a clearly delinquent situation.

Use of MAB has been universally accepted as being the best and only meaningful way of regulating stocking in marine salmon farm licences. It is used in all of the competitor countries which have salmon farming industries. A MAB for all existing salmon sites can easily be calculated by the MI based on the EIS submitted at the point of original licensing and incorporating the outcome of the Benthic Impact Monitoring records in the meantime. In fact the Minister has already accepted this point in principle and announced publicly some time ago that it was the intention of DAFM to move in this direction.

BIM Recommendation to the ALRG

MAB should immediately replace all other stocking conditions and should be the sole stocking control condition. On a pragmatic administrative basis, acting in the public interest to promote best farming practice and eliminate resource-wasteful conflicts caused by contradictory and anachronistic T&C's contained in the licences, all other stocking related conditions should be set aside and MAB immediately introduced (in conjunction with the results of the Benthic Impact Monitoring Protocol) as the sole effective control mechanism.

MAB should also be introduced into freshwater salmon aquaculture licences. This control point should be the only stocking restriction applied other than the need for the operator to comply with the terms of the local authority abstraction and discharge consents. In setting any MAB for a freshwater unit, cognisance needs to be given to the impact of modern recirculation technology, which allows for a much higher MAB that would have been the case hitherto.

The Perception of Salmon Farming

Arising from the actions of certain wealthy charitable foundations in the US (Pew, Packard, Suzuki and others) in funding dubious science and scaremongering campaigns the general perception of the process of marine salmon farming, especially within the Environmental NGO community has been negatively coloured by the disproportionate amount of bad press heaped upon it. Despite this,

demand for the product continues to soar amongst consumers who have firmly made up their own minds based on the positive qualities of the product.

In Ireland the sector has been the subject of intense vilification, especially from the sport angling fraternity who have set their faces against the industry as they have been led to believe that it has or may have a significant negative impact on the wild salmonid stocks that they wish to exploit through their sport. Despite having salmon farm industries which are, respectively, 100 and 16 times bigger than Ireland's, Norway and Scotland continue to have thriving wild salmonid angling sectors alongside their farming enterprises. The intensity of the opposition to the establishment of salmon farms has undoubtedly impacted upon the licensing system and made it much more difficult to process applications, despite the evidence that the activity is relatively benign from an environmental impact perspective. An example of how this pressure has manifested itself may be seen in the extent to which marine salmon farm EIS's have grown in complexity and scope to the point where they are now much more elaborate than those deemed appropriate to permit large waste water treatment plants discharging into the marine environment.

On the state side, Ireland has adopted a strong 'precautionary' approach towards its salmon farming sector through the introduction of a number of binding protocols to; monitor and control sealice infestations, monitor and control benthic impact (acting as an indicator of general environmental assimilative capacity) and most recently a protocol to minimise the likelihood of escapes. An overview of these mitigating measures together with a summary of the 'current state of the knowledge' review of the science behind wild and farmed salmonid interactions is offered as Appendix 1.

Oysters

Amongst the Irish aquaculture primary production sector, oyster farming creates the most direct employment. Approximately 1200 jobs were sustained in 2015 working on gigas and native oysters combined, with the vast bulk associated with gigas oyster farming. Although oyster production is conducted around the whole coast of Ireland the most concentrated production areas are in the southeast and northwest. Overall production volume marginally increased in 2015 to a little over 9000 tonnes (gigas) though overall harvest value and average unit value have dipped slightly, due to the shift in preference on the French market for smaller sizes of product.

Continuing diversification into markets outside France and product differentiation is gradually reducing a long-standing over-dependence on the French market. In fact, overall volume of exports to France has decreased by 10% in 2015 as evidence of this market diversification. The French market still remains the main market for Irish oysters accounting for over 81% of all exports.

Production growth has been limited to some extent by the effects of environmentally induced mortality, not just in juvenile but also in older to mature size classes throughout 2015 and into 2016.

Discussion on the Specific Impacts of the Aquaculture Licensing Difficulties on the Oyster Sub-Sector Difficulties with the licensing system have not had as direct an impact on oyster aquaculture as has been the case with salmon farming. Although now rapidly filling up, there was quite a degree of surplus licensed capacity lying redundant or under-utilized within the National oyster growing portfolio. The difficulties created by the delinquencies in the licensing system for the oyster sector were more secondary and revolved around demonstrable security of tenure, which in turn has led to difficulties in raising finance to develop and expand oyster farming businesses.

Banks and other financial institutions simply do not understand or trust the Section 19(4)(a) permitting arrangement and very often will not advance finance to oyster farming entrepreneurs as they are not satisfied that they have adequate security of tenure over their means of production. Also, the restrictions on eligibility for grant aid imposed on Section 19 (4)(a) licence holders has also starved the sector of much needed finance to expand and develop. This issue is dealt with in more detail in Section 4.

Other elements of licensing which have impacted negatively on the oyster farming sector include problems with regularising site boundaries on older licence sites which were granted and initiated before the availability of DGPS technology. This is also discussed in more detail in Section 4. Also, the ability to transfer licenses from private individual ownership to company ownership or to recognise long standing sub-tenancy arrangements in licence renewals, has also been problematic. This topic is further discussed in Section 5.

Technology for inter-tidal oyster culture is evolving. Trestles with hanging baskets or baskets suspended from tensioned wires and other innovations are appearing on the scene. It will be important to use the 'new licence template' effectively to retain sufficient flexibility within the licence format to allow these changes to be introduced (following appropriate consultation with DAFM and their advisors) without having to apply for a full scale licence renewal or formal modification. This issue is further discussed in Section 4

Mussels

Seabed Cultured

The Irish Sea seed mussel fishery has stabilised over the last three seasons and has yielded substantial volumes for relaying. This increase in seed stock to the licenced aquaculture plots in the producing bays around the country has now reversed the negative trend of recent years with production back to over 5,000 tonnes in 2015. We can confidently predict that this sector will continue to expand output for at least the next three years based on the inputs of the three years previous. Amalgamation of companies has been a feature of this sub-sector reducing from 46 in 2014 to 40 in 2015. Although operated on a unique 'all-island basis, production in the IE is now largely concentrated in three bays Carlingford Lough, Wexford Harbour and Castlemaine Harbour.

The Irish seabed cultured mussel industry is now in its third year of accreditation to the Marine Stewardship Council (MSC) certification. With the majority of these mussels exported to The Netherlands this accreditation has been vital in sustaining this export market. With further increases in seed collection in recent years a continued development in production is projected for this sector.

Discussion on the Specific Impacts of the Aquaculture Licensing Difficulties on the Bottom Grown Mussel Sub-Sector

The undefined status of Lough Foyle from an aquaculture licence perspective, as a contested waterway whose jurisdiction has long been disputed between the IE and the UK, has created difficulty for the sector, but that matter is probably outside the scope of the current review.

Rope Grown Mussels

Concentrated in the southwest and to a lesser extent, the northwest, production volume is back to over 10,000 tonnes an increase of 21% on 2014 volumes. The low price of mussels in the European market has translated into a reduction in prices in the fresh mussel market for Irish producers who are only achieving unit values of between €700 and €750 per tonne. France and The Netherlands are

the primary markets for rope mussels with demand from The Netherlands increasing as processors there have developed techniques for handling and packaging of rope mussels. The decrease in volumes in the seabed cultured mussels has also contributed to this demand but unfortunately prices remain challenging for the sector.

Despite this the sector contributes to employment of over 240 persons in the primary production part of the business. Cork is by far the most important mussel production region in Ireland and over 55% of those employed are located in this county.
There is an urgent need to restore the added-value segment to this sub-sector but until such time as the persistent biotoxin problem can be more effectively managed the risk of having large product recalls remains high for any company and this is sufficient at present to dissuade them from re-engaging in large scale cooking and vacuum packing of rope grown mussels.

Discussion on the Specific Impacts of the Aquaculture Licensing Difficulties on the Rope Grown Mussel Sub-Sector

As with the oyster sub-sector, the delinquencies in the licensing system have had a more indirect than direct impact on the development of the RG mussel sub-sector. These impacts have included; the disqualification from grant aid whilst operating under Section (4)(a), (See Section 3), an inability to raise finance because of the uncertainty around security of tenure, difficulties with translating historic site boundaries into compliance following the introduction of DGPS, See Section 4.

A particular difficulty for this sector revolves around stocking density and the need to correct previous over stock causing near-field effects whereby neighbouring growers were negatively impinging on each other's operations by blocking water flow and reducing the availability of plankton to feed their stocks. This situation arose from an original error of over-licensing as this outcome had not been foreseen at the time, which was not surprising given the rather rudimentary state of knowledge at the time in comparison to our level of understanding now.

Other Sectors

The remaining aquaculture species such as abalone, urchin, scallop, perch, trout and seaweed remain relatively unchanged in output of *c.*1000 tonnes and employment sustained. Seaweed cultivation although at the early stages of development is showing some positive indications with doubling of production to 70 tonnes in 2015 as compared to 2014.

The need to generate and improve 'Social Licence'

Aquaculture in Ireland is, by and large, practiced on the state's foreshore and thus operates by temporarily 'privatising' what is an area of common ownership. It is also a relatively new form of food production and there is not an automatic public acceptance of it in the way that there is of agriculture or even traditional fishing.

Thus there needs to be a concerted effort to create what might be termed 'social licence' to complement the statutory licences that this review is primarily concerned with. The EU Commission is keenly aware of this conundrum and has engaged in an extensive PR campaign called 'Farmed in the EU' designed to raise public and consumer awareness of the process of aquaculture in the EU and the important foods the sector produces. A parallel exercise is urgently needed in Ireland to support our licensing regime and to build the trust of the Irish public that the system is balanced, transparent and responsive.

BIM Recommendation to the ALRG

Once this review is completed it is recommended that DAFM (either directly or via an agency under their aegis) urgently devise and execute a comprehensive communications strategy designed to give the public confidence in the Irish Aquaculture licensing system and the regulatory arrangements which underpin it. The possibility of deriving funding for such an exercise under the EMFF should be explored.

SECTION 3 The Influence that the 'Difficulties with Licensing' are having on the Provision of Grant Aid to Irish Aquaculture Operators

Introduction

The difficulty in issuing full valid aquaculture licenses to operators has meant that a large proportion of Irish fish farming companies have been rendered ineligible for grant aid for the last 7 years.

We estimate, based on our ongoing dialogue with industry on the question of grant aid eligibility, that at least 100 projects with an investment value in excess of €5million or more were deferred, sharply reduced or cancelled as a result of the current policy.

Initially, the view was taken by the Department that no grant aid whatsoever could be given to aquaculture operators who did not hold a full current aquaculture licence. This rather austere interpretation was deemed necessary following the 2007 European Court of Justice finding against Ireland's aquaculture licensing system and was seen as a means of avoiding the possible imposition of fines.

In the last 12 months this policy has been reassessed, insofar as the eligibility criteria for operators, carrying on their business under Section 19 (4)(a) of the act and also outside a Natura 2000 area, have been marginally eased. Investments in projects which do not impact on a Natura 2000 site, have on a case-by-case basis, been deemed eligible for financial assistance. Projects such as the installation of depuration facilities for oysters may be eligible for assistance. Although a little more liberal that the original position, this state of affairs restricts any increase in output from the sector as there are only limited numbers of operators outside Natura 2000 areas.

Self-evidently, the ineligibility of a very large proportion of the aquaculture operators up until now for receipt of grant aid has acted as a very substantial brake on investment. The targets set out in the *National Strategic Plan for the Sustainable Development of Aquaculture* and carried forward into *FoodWise 2025*, are based on the assumption that the EMFF provisions for financial assistance, together with private matching funding, will be invested in the sector to bring about the planned increases in output envisaged in the strategy. The chances of achieving the planned increases in output are made more remote if there is not a healthy flow of investment into the sector.

At present, the policy position appears to be that little or no grant aid, that will increase actual productive capacity, will be deemed eligible for distribution to the operators until such time as their site has been subjected to an 'Appropriate Assessment' (AA) in accordance with the Natura 2000 directive (following the so called 'Roadmap to compliance Process) and they are subsequently issued and are in receipt of a 'full current aquaculture licence', which action is the subject of full public and statutory consultation. Only thereafter, has the operator been deemed eligible for assistance. It should also be borne in mind that other government agencies (various elements within NPWS and others) have been objecting to elements of the collective AA's put forward for various bays during the consultative phase, which further slows down the process very considerably.

Exploration of the Legal Scope to Interpret the Situation in a more 'Commercially-Aware' Fashion

It is our understanding that more recent legal advice, supplied from a different advisor than previously has been received by DAFM, suggests, that in legal terms there is little difference between a "full, valid licence" and a Section 19 (4)(a) permit to operate whilst awaiting renewal. This alternative view may offer some scope for wider eligibility for financial assistance under the EMFF.

It should also be borne in mind that DAFM, as the authority issuing the aquaculture licence has advanced its processes and procedures very considerably since the low point of their credibility with DG Environment in 2007. Very significant amounts of fieldwork have been carried out, specific conservation objectives' have been set, detailed aquaculture activity profiles have been compiled and then all this data has been mobilised in the AA process, all overseen by experts in the MI and in other agencies. DAFM can now have a high degree of confidence in the robustness of their assessment process and are in a much stronger position to defend their decisions and if need be to 'push back' if challenged by national or EU bodies.

BIM Recommendation to the ALRG

That a review of the policy concerning the eligibility of aquaculture licence holders operating under Section 19 (4)(a) to be in receipt of grant aid under the aegis of the EMFF be carried out by an expert legal professional with experience in this area, including, if required, the provision of up-to-date formal legal advice exploring the scope which the Minister and DAFM may have to be as commercially flexible as possible with regard to this matter, consistent of course with maintaining high standards of environmental sustainability and without jeopardising compliance with the relevant environmental directives.

It may be, now that the prospect of EU fines has receded, following the huge effort made to bring the system into compliance with the NATURA 2000 Directives, that there is now scope for more flexibility in judging eligibility for grant aid, thus immediately opening the way for a renewed flow investment into the sector with a consequent up-lift in levels of output. A review of the legal position, as suggested above, might provide the means to achieve such an outcome, whilst protecting the Minister and the state.

If such an exercise were to be undertaken, BIM would also recommend that its scope be widened beyond just examining eligibility for financial assistance and that it should encompass other elements of the operation of the licensing system which appear to have become excessively legalistic. It would appear that much of the current understanding of the scope of action available to the Minister stems from limited pieces of advice which were sought to guide actions in very specific cases and which may or may not combine well in terms in terms of having a coherent overview of the situation as a whole. It may be that our legal view of the aquaculture licensing domain is more of a patchwork quilt as opposed to a clear coherent picture of the actual landscape.

The tone, tenor and content of legal advice can vary greatly depending on how a particular query is posed and whether the emphasis is on the complete avoidance of risk as opposed to a more flexible progressive approach, which would never the less be fully defensible, should the department or the Minister be challenged.

SECTION 4 Other Difficulties with the System which have Arisen in Recent Years

Adoption of the 'new' Licence Templates

After an extensive consultation exercise, involving the agencies and the industry, DAFM developed a set of aquaculture licence templates tailored to each of the sub-sectors. Part of the thinking behind these templates was that the core licence should be a short relatively simple document that only contained T7C's relevant to DAFM's core competencies. Other regulations, byelaws or statutes which were the responsibility of other organs of the state to regulate were to be omitted except for a catch all condition requiring the operator to comply with all other relevant legislation.

In addition there was to be an accompanying set of 'schedules' attached to but separate from the main body of the licence and its binding T&C's. The thinking behind this was to separate out elements of the permit which might be subject to change (to encompass technology advances or farming practices which were more environmentally friendly, add new equipment and other such pragmatic modifications) and were in the public interest during the lifetime of the licence, without the need to formally modify its core T&C's. The operator would be obliged to comply with the schedules but it was acknowledged and understood that these could be modified from time to time, with the assent of DAFM as long as the modification would pass the relevant public interest test.

BIM Recommendation to the ALRG

It is imperative that this approach be followed when the current salmon farm licences are being renewed so as to avoid the sclerosis gripping the system at present being repeated due to inappropriate, anachronistic and contradictory T&C's being incorporated into the main, legally binding, body of the licence.

Modification of the Site Boundaries of the Licence

With respect to the renewals of certain licences especially in the oyster and rope grown mussel sub-sectors there is a real problem with achieving compliance with modern boundary requirement. The mapped boundary of the licensed site may not match the position of the growing equipment.
Historically, this arose primarily due to two factors. The first was that 15 to 20 years ago there was no readily available accurate system for the positioning of sites at sea. Everything had to be done by line of sight and the use of triangulation from visual references ashore. These methods had limited accuracy even when diligently applied.

A further exacerbating factor arose due to the fact that the re-projection of Irish Grid licence positions on to Admiralty Charts (which were used for the actual deployment of the structures) could lead to considerable positional anomalies of up to 150m in any direction. In addition to this, in order to facilitate mapping by the Department, for a period of approximately 5 years, all licences were required to fit into rigid configurations that were orientated North South and East West. In recent years with the advent of highly accurate DGPS systems, this problem has been solved but it has highlighted the fact that in some cases the actual positions of the licences originally granted were not exactly where the licensee thought they were and as a result not where they had placed their growing structures, even though they had done so in good faith and with all due diligence within the limits of accuracy of the positional methods available to them at the time.

The secondly factor was that the early licenced sites were designed to accommodate only the visible surface structures such as longlines and did not make provision for enough space within their

mapped boundaries to include the anchoring systems underwater. Hence the true total operating area was not considered or applied for. Present policy demands that all structures, including anchors and mooring ropes, are to be kept within the mapped boundaries of the licence.

BIM Recommendation to the ALRG

BIM recommend that this situation be corrected at the renewal of a licence by the simple redrawing of the mapped boundary. We believe that the Minister can do this as the boundary of the licence is a condition of the licence (Fisheries (Amendment) Act, 1997. No. 23 of 1997) Section 7 (3) (a) and it is possible for the Minister to modify conditions of a licence at renewal or to review the conditions of a licence under the above act and associated regulations if it is in the public interest to do so. We suggest that modifications to the mapped boundary, to take account of the historic anomalies described would pass a public interest test. On that basis no structures on the site (within reason) would have to be removed before the application for renewal could be considered, which is the current very unwieldy and commercially unrealistic approach being adopted.

Administration of the Licensing Process

The current paper based licensing process urgently needs to be modernised. Very good work has been done by the engineers in MED in respect of the database associated with the mapping of sites. However what is needed is a transparent computerised tracking system, where receipt of an application is logged and thereafter every subsequent milestone is also logged (with an automatic flagging feature if no action has been taken and logged to progress the case within a certain specified period of time) so that the system can be easily interrogated on line by the applicant and administrators to see what stage a particular licence has reached within the overall process. Such an arrangement would save administrative time in answering routine queries and would also help to address situations which have arisen in the past, where files have not been processed further because officers responsible were not aware of the case due to staff changes or the loss of corporate memory due to decentralisation.

BIM Recommendation to the ALRG

BIM recommends that the aquaculture licence system be modernised as a matter of urgency so that applications can be made on line and the progress of the application through the process can be tracked on line by the applicant and the administrators. Such a modification would be in line with overall government initiatives to digitise as much of the administrative burden as possible.

Leveraging of the Expertise of the Staff within the Agencies and the Department

A major advantage of the digitising of the application process would be the ability to leverage the expertise that is resident within the staff cadre of BIM, the MI, the SFPA and MED. With an electronic system a far more effective consultative and scrutinising process could be put in place which would ease the burden currently borne by the 'generalists' in AFMD.

Applications have been delayed and unnecessary postal based requests sent out to applicants to deal with nonsensical queries raised by the public concerning certain applications. On one particular occasion an applicant was written to by DAFM seeking their response to a query from a member of the public worried about the impact of the 'feed to be given to the oysters'.

A loop could easily be put into an electronic system which would allow a subject expert in the agencies to quickly deal with matters of this kind and render assistance to their administrative

colleagues. Such advice could concern matters of considerable complexity or simple issues as set out above. A protocol could be put in place guiding which areas of expertise reside within which agency and therefore which agency would address the particular query. For example, queries about mapping and structures would be clarified by MED; biological queries would be addressed by the MI; technological, farming practice, marketing and business queries would fall to BIM to address.

BIM Recommendation to the ALRG

That the aquaculture licensing process be brought on line and digitised as a matter of urgency.

Further, that a system be built into the digitised process that can quickly and efficiently leverage the value of the specialist expertise currently 'locked' within the state agencies and technical wings of the department. Such an arrangement would greatly improve the resources available to AFMD to process applications swiftly and coherently.

Appendix 1: A Review of the 'State of the Knowledge' concerning Interactions between Farmed and Wild Salmonids in the Marine

Status of Salmon and Sea Trout Stocks

Salmon

Stock levels of Atlantic salmon in Ireland and the northeast Atlantic have been declining since the 1970s, with threats in both the freshwater and marine environment thought to contribute to the current status of the stocks.

This established trend pre-dates the inception of salmon farming in Ireland, Scotland or Norway and occurs both in areas where salmon farms are present and in areas where salmon farms are not present.

Freshwater factors such as river damming, temperature increases, pollution and habitat deterioration have been identified as having a negative effect on salmon populations.

In 2015 the Standing Scientific Committee on Salmon in Ireland reported that "In the marine environment, return rates of adult salmon have declined through the 1980s. The current estimates, which are amongst the lowest in the time series, suggest that based on recent years just over 5% of the wild smolts that go to sea from Irish rivers are surviving (i.e. five adults returning for every 100 smolts migrating)" (Anon, 2015).

The 2013 National Parks and Wildlife Services (NPWS) Atlantic salmon Article 17 Species Assessment (Habitats Directive) described Atlantic salmon population in Ireland as stable from 2001 to 2012(Anon, 2013). This report also describes the long term trend from 1988 to 2012 as decreasing.

Seatrout

Declines have been noted in rod catches of seatrout as long ago as the turn of the last century with a well described decline in the study area in the later 1980's attributed to low marine survival (Poole et al., 1996; 2006). Gargan et al. (2006) reported that levels and marine survival in the majority of mid-western seatrout stocks were low relative to historical records. However recent reports from the statutory authority are more favourable, "Though not as numerous in some of their traditional areas as in the past overall the stocks of Irish seatrout are healthy" (IFI, 2015).

Data on seatrout rod catches in Ireland for the period 1993-2012 as reported by ICES are presented in Figure 1 (Gargan, 2013). The data show a wide range of year on year variability across all regions (with and without the presence of salmon farms). ICES reported that rod fishery seatrout data is also underestimated for fish > 40 cm and poorly recorded for smaller seatrout (Gargan, 2013). This issue is further exacerbated by the reduction in angling effort in the western region post 1990 when catch and release was introduced.

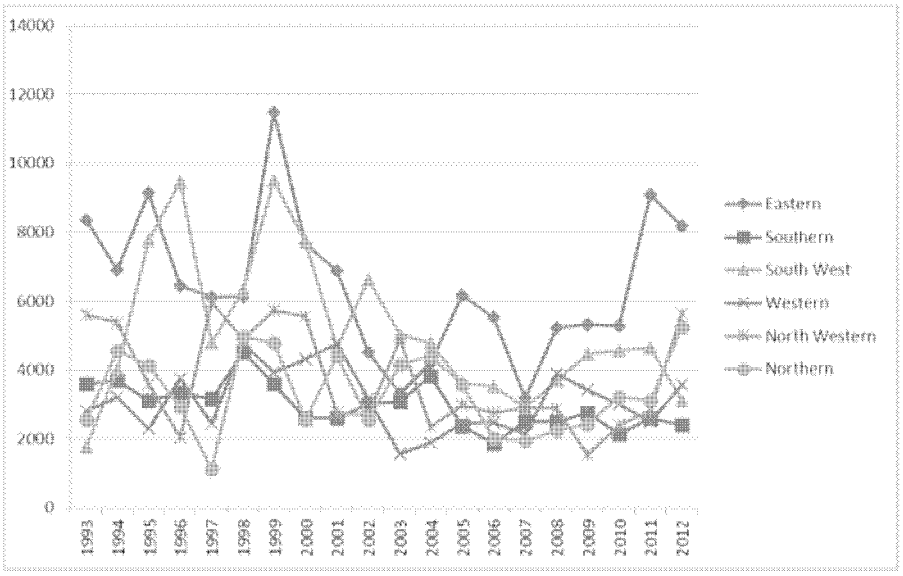

Figure 1: Selected Seatrout rod catches by fishery District in Ireland 1993-2012 (Gargan, 2013)

Impacts of Salmon Farming on Wild Salmonids

There are a number of ways that salmon farming can potentially impact the populations of wild salmonids, principal among these being the transmission of sealice from farmed stocks to wild stocks, genetic impacts associated with escaped stock breeding in the wild and disease transfer from farmed to wild stocks. These issues and the control measures in place to mitigate these risks are discussed below.

Atlantic Salmon and Sea Lice

Whilst it is clear that no single factor is responsible for the decline in the marine survival of Atlantic salmon and seatrout stocks (Jackson et al., 2013a; Todd et al., 2005; Aas et al., 2005) one of the possible factors postulated as contributing to this is the influence of sea lice on wild populations with sea lice infestations shown to affect the physiology and pathology of salmonids in experiments (Boxaspen, 2007; Finstad and Bjørn, 2011; Finstad et al., 2010).

The ecological consequences of salmonids being infested with salmon lice while migrating through regions with salmon aquaculture and the impact on wild populations has long been debated (Costello, 2009). As a result, concerns have been raised on the potential for sea lice dispersal associated with salmon farms to contribute to reduced marine survival of wild salmonids and ultimately to a further decline in wild stocks.

There are limited methods available for examining the ecological consequences of salmon smolts being infested with salmon lice, but one approach that has been widely used is treatment of hatchery-reared smolts with an anti-sea lice medicine giving them immunity from infestation for a period of at least six weeks, then releasing them to compare their returns as adults with untreated controls.

A total of 28 release groups have been reported from western Ireland (Gargan et al., 2012; Jackson et al. 2011a, 2011b). Jackson et al. (2011a, 2011b) released smolts at eight locations from 2001 to 2009 and concluded that sea lice were 'a minor and irregular component of the marine mortality of outwardly migrating smolts'. Gargan et al. (2012 conducted experimental releases from three other

locations from 2004 to 2006 and reported a much clearer advantage to smolts which were treated for salmon lice. Krkošek et al. (2012) also conducted a meta-analysis of all the published data from Ireland and Norway and estimated the overall effect size (odds ratio) to be 1.29 in favour of the treated smolts. However subsequently the statistical approach used by Krkošek et al. (2012) was found to be "inappropriate" by an expert group which included two authors of the Krkošek paper (Vollset et al., 2014). All reports demonstrate that the effects of treatment vary greatly across years, release sites and release dates.

The Irish data was then further analysed by the Marine Institute (Jackson et al., 2013b). This included 352,142 migrating salmon from 28 releases, at eight locations along Ireland's south and west coasts covering a nine year period (2001 to 2009). Jackson et al. (2013b) concluded that while sea lice induced mortality on outwardly migrating smolts can be significant, it is 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. Similar results have been reported from a series of experiments conducted by Norwegian researchers (Skilbrei et al., 2013).

Experimental work also indicates that there is no correlation in terms of increased or decreased return rates in rivers where salmon farms are present at the mouth of rivers, or indeed in circumstances where salmon farms were present and were carrying a significant sea lice infestation or not (Jackson et al., 2013c).

Krkošek *et al*., (2014) contended that there was "methodological errors" in the Jackson *et al*. (2013b) study, and published a 'short communication' in the Journal of Fish Diseases. The contribution of Krkošek *et al.* (2014) was subsequently downgraded to the status of a non-peer reviewed 'commentary' and the Journal apologised to Jackson and his group for not affording them an adequate right to reply prior to the publication of the Krkošek criticisms. The statistical approach used by Krkošek *et al.* (2014) was again found to diverge from the standard approach (Jackson *et al.*, 2014).
These matters were also the subject of a complaint to the EU (pilot file 764/09ENVI). Following consideration of the evidence including the rigorous sea lice management regime in Ireland, DG Environment accepted the Irish Government's position and closed the file.
Wild Atlantic salmon returning to Irish coastal waters are subject to naturally occurring sea lice infestation. Prevalence of infestation regularly approaches 100% in samples of hosts recovered from the offshore drift net fishery. Abundance is variable both within and between years with a maximum mean abundance of 25.8 lice per fish recorded in 2004 (Jackson *et al*., 2013d). Returning adults may transfer lice to both farmed stock and outwardly migrating smolts particularly when they congregate in river estuaries prior to entry into freshwater.

Seatrout and Sea Lice

Sea lice infestations can debilitate or kill host seatrout, and may also cause premature return to freshwater (Wells *et al.*, 2006; Birkeland & Jakobsen, 1997; Tully *et al*., 1993; Bjørn and Finstad, 1997). However the link between infestations, premature return to freshwater, increased marine mortality and the presence of salmon farms remains uncertain. Studies in Norway and Scotland have examined the pattern of lice infestation in relation to proximity of salmon farms with varying results; Walker (1994) documents a decline in seatrout numbers in the western highland prior to the development of fish farming and in areas without farms; MacKensie *et al.,* (1998) sampled sea trout at 15 locations in Scotland and found no clear pattern in relation to the proximity of the nearest salmon farm; Bjørn *et al.*, (2001) found significant higher lice infestations in the vicinity of Vikbotten where salmon is farmed intensively; Butler and Walker (2006) found that changes in seatrout stocks

structure in the Ewe system were related to declines in marine growth and survival which were at least partly caused by lice epizootics emanating from salmon farms in loch Ewe (Scotland).

In Ireland sampling of rivers began in 1990 to determine whether the phenomenon of prematurely returning seatrout smolts with heavy lice burdens was widespread, this was conducted under the auspices of a Ministerial group known as the Seatrout Management and Advisory Group (STMAG). This research was known as the 'wild seatrout sampling programme'. Seatrout post-smolts and some seatrout kelts were recorded in all rivers sampled with infestations of sea lice, predominantly juvenile lice, indicating recent transmission (Tully *et al.,* 1993). At that time a number of authors suggested a correlation between increased lice levels on the seatrout with proximity to salmon aquaculture sites (Tully *et al.*, 1999; Gargan *et al.*, 2003). It should be noted, however, that the integrity of the base data of Tully *et al.* (1993) and Gargan *et al.*(2003) research was called into question in 1996 and 1997 and the Minister commissioned two independent reviews (Cowx, 1997; Rothschild, 1997), which were followed by a further review of the dataset (Poole *et al.*, 2001). These reviews concluded that the wild seatrout sampling programme historical datasets were unreliable and that any conclusions or models based on this data should be treated with caution.
There are limited methods available for examining the hypothesis that early infestation of outwardly migrating seatrout causes mortality and/or premature return to freshwater, but the use of paired releases comparing the return rate of a group of seatrout treated with an anti-sea lice medicine and untreated control groups has been used. A review of all the available literature identified a dataset of such paired releases in Norway, Scotland and Ireland. The findings are summarised below:

- Sivertsgard et al. (2005) found no effect of sea lice infestation or protection in seatrout in the first weeks of a fjord migration and also suggested the seatrout possess the practical capability of mitigating the negative effects of lice by returning to freshwater where the lice cannot survive.
- Gargan et al. (2005) used SLICE to protect seatrout from sea lice infestation and released them into two rivers in Connemara (Gowla and Invermore) from 2003 to 2005. Large numbers of seatrout smolts were tagged yet few were subsequently recorded in the upstream traps. In 2005, however sufficient fish returned from the control and experimental group to allow statistical analysis. The authors reported that there were no statistical differences between treated and control groups in terms of growth weight, chalimus abundance, total lice level or days spent at sea.
- Wells et al. (2005) conducted paired releases in the Manse Loch system and the Shieldaig River in Scotland in 2003-2005 and found that the treatment had no significant effect on survival, length or weight but did find a significant effect in condition factor between the treated and control groups, with treated groups having a better condition factor.
- Skaala et al. (2014) conducted paired releases in the Hardangerfjord in 2004 and 2005, a fjord which has one of the highest densities of salmon farms in Norway (17,000 tonnes in 1997, 80,000 tonnes in 2011). Results from these releases found a statistically higher recapture rate in treated seatrout smolts, indicating that sea lice are an important contributor to seatrout mortality in this area.
- Gjelland et al., (2014) subsequently tracked a small number (30) of treated and control seatrout in the Etnefjord, which is located in the southern region of the Hardangerfjord in Norway and found neither behavioural association with treatment nor any support for lower mortality associated with treatment.
- Thorstad et al. (2014; 2015) undertook a literature review of the effects of salmon lice on seatrout and reported that salmon lice in intensively farmed areas have negatively impacted wild sea trout populations by reducing growth and increasing marine mortality. However the authors rely heavily on data concerning impacts of sea lice on salmon rather that seatrout in reaching their conclusions. The authors of this review have concluded that such extrapolation may not be justified and therefore the conclusions presented need to be treated with caution.

- Dawson (1998) investigated the physiological impact and pathological effect of salmon lice on wild seatrout in 10 rivers in western Ireland and found that that the attached copepodid and chalimus stages of the parasite did not reduce the physiological performance of the seatrout.
- Shepard et al., (2016) analysed a 25 year infestation dataset from Scotland and Ireland and concluded that sea trout sampled close to salmon farms carry more lice and are of impaired condition. Unfortunately this study relied heavily on the historical datasets previously found to be unreliable (Cowx, 1997; Rothschild, 1997) and thus these results must be treated with caution.

Control Measures for Sea Lice

In the context of this review it is important to note that as a result of the concerns raised in the late 1980's about the possibility of sea lice from salmon farms adversely affecting wild salmonids, stringent controls are in place on all Irish salmon farms to ensure that any potential for wild salmonid – farmed interactions are mitigated against or eliminated in so far as is possible and practicable. Through the targeted control of lice levels on salmon farms during the spring wild Atlantic salmon

and seatrout smolt migration period, the possibility for the transfer of sea lice of farmed origin to outwardly migrating salmon or seatrout smolts has been effectively reduced.

The effectiveness of this protocol in managing the risk to wild salmonids has been assessed twice by the European Commission's Directorate-General responsible for EU policy on the Environment (DG Environment). DG Environment in its response to a complainant, Friends of the Irish Environment, stated that "the Irish sea lice monitoring and control system is unique in the world in terms of its comprehensive nature, the fact that all results are made publicly available and that all inspections are carried out by independent state inspectors".

The principles of the control system are also in line with those recommended in risk assessments of other salmon growing areas (Serra-Llinares et al., 2014).

Knowledge Gaps in relation to Sea Lice

A recent ICES review identified the following knowledge gaps in relation to impacts of lice:

- Natural mortality. In order to put mortality from lice into context, there is a need to better understand the causes underlying the current approximate 95% natural mortality of wild salmon and their interactions.
- Transfer of lice. In order to understand better the variation in infestation rates in wild salmon, there is a need to further explore the temporal and spatial variability in the mechanisms underlying the transfer of lice from farmed fish to wild salmonids.
- Long-term effects. There have been few studies of long-term effects of lice on wild salmon populations.
- Distance effects. Little is known on impacts in areas further away from salmon farming concentrations (applies also to escapees).

Reduced Fitness of Wild Salmon Stocks as a Result of Escapees

The concern over Atlantic salmon escapes in their native range is based on the concept that individual rivers have 'evolved' a unique strain or population of wild salmon over time and that this population may have survival advantages over other strains. This hypothesis was tested in large-scale whole-river experiments undertaken in Ireland (Burrishoole) and Norway (Imsa), which although conducted under different conditions, gave similar results. Both released farm strain and/or wild x farm strain fish to rivers, and found highly reduced survival and lifetime success of farm and hybrid salmon compared to wild salmon (Thorstead et al., 2008). However it has been shown that for escapes to have a genetic impact on wild stock, escapes must be significant and repeated (Crozier, 1993; Hindar and Diserud, 2007; Hinder et al., 2006; Milner & Evans, 2003).

In Ireland there is a large body of work including McGinnity et al. (2003) and McGinnity et al. (2009) documenting the potential of undesirable genetic interaction between farmed and wild stocks, studies here have primarily focused on the experimental release of ranched hybrid fish rather than documenting an actual impact of escapes emanating from salmon farms. However, there is no evidence of any significant impact on the genetics of Irish wild salmon having occurred as a result of escapes from salmon farms (McGinnety et al., 2009; McGinnety et al., 2003).

In the event of persistent escapes from salmon farms in the vicinity of a particular river interbreeding with native stocks, it has been shown that the genetics of the stock can become 'diluted' potentially leading to decreased fitness of subsequent generations. Glover et al. (2012) conducted a

spatiotemporal analysis of 3,049 fish from 21 populations throughout Norway and found that despite the fact that farmed escapees have been recorded on the spawning grounds for all of the populations studied, outnumbering wild conspecifics in some years in some of the populations, only weak to moderate changes in among-population genetic structure have been observed in the time period studied, and in most rivers, statistically significant temporal genetic changes were not observed.

Indirect genetic effects of farm escapes have been presented by a number of authors; Farm derived females may destroy redds of wild salmon (Webb et al., 1991) and may compete for resources with wild fish (McGinnity et al., 2003). Hindar and Diserud (2007) recommending that intrusion rates of escaped farmed salmon in rivers during spawning should not exceed 5% to avoid substantial and definite genetic changes of wild populations. These levels of escapes have never been approached in Irish circumstances. The level of escapees detected nationally over the years 2002 – 2006 were consistently less than 0.5% (Marine Institute, pers comm). Further, in recent studies the Irish salmon farming industry have been shown to have the best record with respect to escapes in a major European study (Jackson at al., 2015).

Another critical factor is the state of sexual maturity of farmed stock at the point at which an escape occurs. Farmed fish have been derived from stocks with very late maturation in their genetics to maximise carcass size at harvest. Thus they would have to survive for a prolonged period in the wild environment after the escape event before they would be ready to attempt to breed. Escaped farmed tend to remain close to the point of escape (Hansen, 2006) and be poor at avoiding predators (Fleming and Einum, 1997) sharply reducing their chances of interfering with the breeding of wild stocks.

Control Measures for Escapees

Stock escapes from marine salmon farms represent a financial loss to the operator. It is therefore in all stakeholders' interest to take all possible mitigating actions to prevent the occurrence of escapes. The design characteristics and the layout of modern salmon farms are considered with a view to minimising the risk of escapes arising from any cause. The moorings and grid systems are designed to withstand extreme weather conditions and the enclosures and net structures are of the highest specifications. Thus the inherent design of salmon farms mitigates strongly against escapes.

The Licensing authority regularly inspects sea enclosures installations for licence compliance, suitability and wear and tear. Marine finfish aquaculture operators are required to have an emergency plan providing for appropriate responses to mortalities, escapes and disease. The application process includes the requirement to provide comprehensive details of proposed structures, endorsed by a competent third party, to the Licensing authority's technical staff for approval. The technical standards and protocols are continually under review. The use of technical standards and protocols has precipitated a dramatic reduction in the number of major escapes in Norway, since their introduction (Jensen et al., 2010).

Further, in the event of an escape, all salmonid Operators must make an emergency application to the Department of Agriculture for a special licence under Section 14 of the Fisheries Act 1959 to deploy nets to recapture the escaped fish. The record of the industry with regard to escapes has been recently assessed by a pan-European project, 'Prevent escape', as part of which an audit of escapes from fish farming operations was undertaken. Of the 113 Atlantic salmon escapes reported during for the study period only one occurred in Ireland (Jackson et al., 2015). In addition, Inland Fisheries Ireland may take such action as it considers necessary to recapture stock which has escaped from a facility operated under a licence. Under 77(2), the Minister (DCENR), may authorise a licensee

or other person or body to take such action as is specified in the authorisation to recapture stock which has escaped from a facility.
There was a major fish loss in Bantry Bay in January of 2013 due to structural damage to a group of enclosures, after they were struck by a series of very violent storms in quick succession. Despite detailed investigations by the relevant statutory authorities there have been no substantiated reports of escaped farmed fish turning up in the rivers in the area after the incident.

Knowledge Gaps in relation to Escapees

A recent ICES review identified the following knowledge gaps in relation to impacts of escapees:

- Scale of introgression. Monitoring should continue in order to characterize changes in introgression through time. In addition, further characterization of aquaculture strains would better inform management decisions.
- Factors affecting introgression. There is uncertainty around the environmental and biological factors that influence levels of farmed salmon introgression.
- Consequences of introgression and escapees. There is limited knowledge of the ecological consequences of introgression and escapees. This particularly includes effects on the productivity of fish populations in rivers.
- Effects of escapes on the genetic structure of wild Atlantic salmon populations. There is a need for a better understanding of the underlying genetic differences between farmed and wild salmon and how these affect fitness.
- Timing and pace of escapes. There is conflicting evidence surrounding the long-term differences in impact between escapes resulting from major events and gradual leakage.

Reduction in Health Status of Wild Stocks - Communicable Disease Outbreak in Farmed Stock

The ability for escaped farmed fish to transfer disease to wild fish depends on the extent of mixing between the two groups, which in turn will vary with the life stage, timing and location of the escape. However, while escaped and wild fish are known to mix in certain circumstances, little direct evidence for disease transfer from escapees to wild salmon population has ever been documented (Thorstad et al., 2008; Dempster et al., 2013; Taranger et al., 2014). Similarly, research carried out in Norway has failed to detect any consequential impact on adjacent wild stocks in circumstances where large numbers of farmed stock testing positive for diseases such as ISA and PD have escaped from farms (Dempster et al., 2013).

The farmed salmon smolts are put to sea in a disease free state. They are tested and certified free of the main salmonid diseases before permission is given by the Marine Institute to put them into the farm enclosures. In addition they are vaccinated against the common bacterial and viral diseases of salmon (inter alia Vibriosis, Furunculosis and PD). The farmed salmon smolts are also free of sea lice. Thus the transmission of pathogens, at least in the first instance, is from wild stocks, which are known to act as reservoirs of pathogenic agents, to the farmed stocks. Therefore farmed stock cannot be considered as vectors for the introduction of disease into the marine environment.
Over time the farm stock may however contract certain pathogens or parasites. It is therefore theoretically possible that in such circumstances escapes of farmed stock could represent a transmission threat to wild stocks (Heuch and Mo, 2001; Bjørn and Finstad, 2002; Skilbrei and Wennevik, 2006).

Control Measures for Disease

Disease mitigation measures must be in place on all sites in compliance with the Fish Health Code of Practice and the Farmed Salmonid Health Handbook. The Handbook specifically aims to:

- Reduce the occurrence of disease in fish held within the culture facility.
- Minimise the spread of disease to stocks within and outside the facility.
- Maintain an environment that promotes the health of the fish.
- Maintain an environment that reduces the susceptibility of fish to disease.
- Prevent the introduction of exotic diseases or disease causing agents.
- Protect public health and minimize disease risks to cultured and wild fish through judicious use of treatments.
- Provide regulators with appropriate information and
- Provide an outline of the obligations in National and European Fish Health Legislation.

An essential part of the overall fish health plan is a written Veterinary Health Plan (VHP) which must be in place for each farm. This document is written in consultation with the farm's designated fish veterinary surgeon and updated at least once a year. This plan must take account of all fish diseases relevant to the farm and outline methods to detect and control them.
Considerable investment has also been made in vaccination programmes.

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Please note that this is a precis of a longer review carried out by BIM environmental scientists. All of the papers cited below were considered in the longer review but they are not all specifically cited in the shorter form offered above.

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Appendix 2 **Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions**

EUROPEAN
COMMISSION

Brussels, 29.4.2013
COM(2013) 229 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Strategic Guidelines for the sustainable development of EU aquaculture

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Strategic Guidelines for the sustainable development of EU aquaculture

1. INTRODUCTION

European aquaculture offers good quality products, respecting strict environmental sustainability, animal health and consumer protection standards. The excellent quality of EU seafood[1] should constitute a major competitive advantage for EU aquaculture; however, the EU aquaculture production is stagnating, in contrast with strong growth in other regions of the world.

In 2010, the value of EU aquaculture production was € 3.1 billion for 1.26 million tonnes of production. The EU seafood market is currently supplied for 25% from EU fisheries, 65% from imports and 10% from EU aquaculture.[2] EU total apparent consumption of fishery and aquaculture products reached some 13.2 million tonnes.[3]

Available data show a growing gap – estimated at 8 million tonnes – between the level of consumption of seafood in the EU and the volume of captures from fisheries. The Commission and Member States can help ensuring that this gap is partly filled by environmentally, socially and economically sustainable EU aquaculture.

Based on current labour productivity, each percentage point of current EU consumption produced internally through aquaculture would help create between 3,000 and 4,000 full-time jobs.[4] This figure confirms that, although aquaculture represents a relatively small part of the EU economy, it has the potential to boost growth and jobs in EU coastal and inland areas. A close cooperation with the processing industry can further improve job creation and competitiveness in both sectors. Aquaculture is one of the pillars of the EU's Blue Growth Strategy[5] and its development can contribute to the Europe 2020 Strategy.

2. AQUACULTURE IN THE COMMON FISHERIES POLICY REFORM

The proposal for the Common Fisheries Policy (CFP)[6] reform aims to promote aquaculture through an open method of coordination: 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

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1 For the purpose of this Communication, the word "seafood" includes all fisheries and aquaculture products

2 SEC(2011)883

3 DG MARE elaboration from Eurostat data

4 DG MARE elaboration from STECF data (STECF-OWP-12-03)

5 COM(2012) 494

6 COM(2011) 425

society. The proposed Aquaculture Advisory Council is designed to play an important role in this sense.

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.

Aquaculture is dependent on clean and healthy marine and fresh waters. EU environmental legislation – in particular the Water Framework Directive (WFD)[7], the Marine Strategy Framework Directive (MSFD)[8] and the Regulation concerning use of alien and locally absent species in aquaculture[9] – ensures that these preconditions are met. EU legislation also establishes the high health, consumer protection and environmental sustainability standards that EU aquaculture activities have to comply with. These have cost implications for producers, but can be turned into a competitive advantage if the attention of the consumers is drawn on quality, and can also contribute to local acceptability of aquaculture. The CFP reform builds upon these high standards.

The Commission intends to help national and regional administrations to implement EU environmental legislation without imposing unnecessary burdens on producers. To this end, Guidelines on the integration of aquaculture in Natura2000 sites have been published,[10] and the Commission intends to start working on similar Guidelines on aquaculture and the WFD and the MSFD.

3. STRATEGIC GUIDELINES FOR THE SUSTAINABLE DEVELOPMENT OF EU AQUACULTURE

This Communication is based on the outcome of consultations with stakeholders, and takes into account the analysis performed by the Joint Research Centre.[11] Four priority areas will be addressed in order to unlock the potential of EU aquaculture: administrative procedures, coordinated spatial planning, competitiveness and a level playing field.

Aquaculture can contribute to the overall objective of filling the gap between EU consumption and production of seafood in a way that is environmentally, socially and economically sustainable. To this aim, each Member State is encouraged to indicate in the multiannual national plan its own aquaculture growth objective (volume and value) in the period covered by the plan.

3.1. Simplify administrative procedures

Administrative costs and lead time play an important role in determining the overall competitiveness and development of an economic sector. At the moment, only limited information is available on time taken and the costs of issuing licenses for a new aquaculture farm, and the Commission is unaware of any comprehensive

7 Directive 2000/60/EC

8 Directive 2008/56/EC

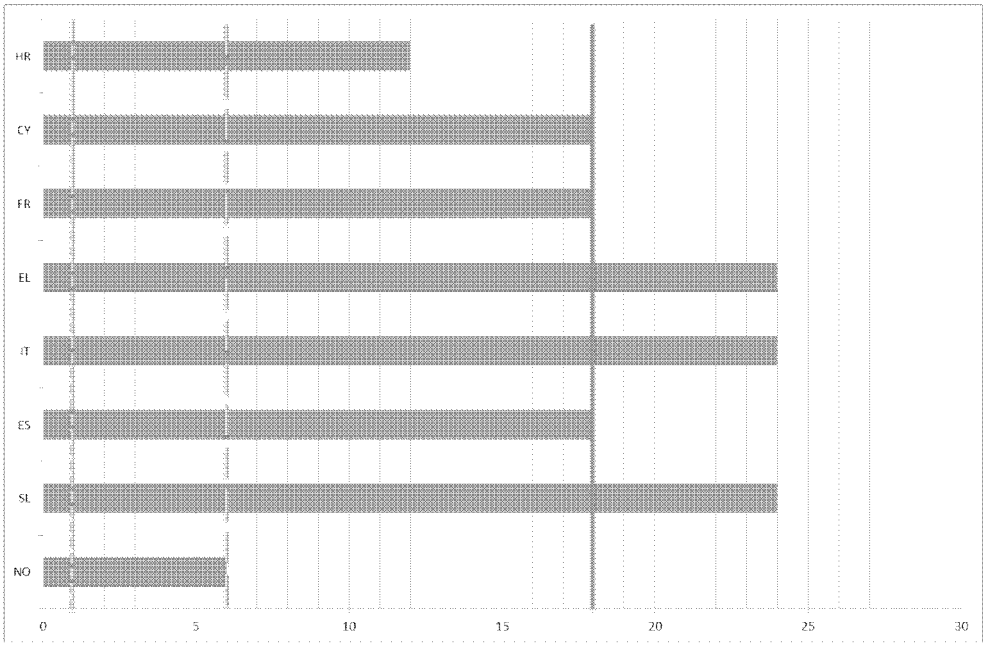
9 Regulation (EU) N°304/2011

10 http://ec.europa.eu/environment/nature/natura2000/management/docs/Aqua-N2000%20guide.pdf

11 JRC Technical Report "An approach towards European Aquaculture Performance Indicators"

mapping exercise of the main bottlenecks. Available information suggests that in several Member States authorisation procedures often take around 2-3 years to complete;[12] examples of substantially longer times have also been reported. For comparison, data reported in a European Parliament study suggest that the average licencing time for aquaculture farms in Norway used to be 12 months and has been reduced to 6 months with the introduction of a "single contact point".[13]

Licencing time for aquaculture farms in some Member States and Norway (months)



—— = licencing time for new aquaculture farms

I = average licencing time for offshore wind farms across the EU[14]

= reported licencing time for agricultural farms in two Member States

= target licencing time for new SMEs (Entrepreneurship 2020 action plan)

Sources: own elaboration based on data from SHoCMed, Windbarriers, European Parliament study IP/B/PECH/NT/2008 176 and information provided by producers associations and public authorities.

Most aquaculture producers are SMEs, and they are disproportionately affected by red tape: the relative weight of regulatory and administrative costs compared to turnover and number of employees can be up to ten times higher for SMEs than for

12 Data from FAO project SHoCMed, integrated with information from producers associations and public authorities http://www.faosipam.org/?pag=content/_ShowPortal&Portal=SHOCMED

13 http://www.europarl.europa.eu/committees/en/studiesdownload.html?languageDocument=EN&file=29819

14 http://www.windbarriers.eu/fileadmin/WB_docs/documents/WindBarriers_report.pdf

large companies in the general economy[15]. Reducing unnecessary regulatory burden remains on the top of the Commission's political agenda. As a follow up to the Small Business Act review of April 2011, the Commission has proposed an Action Plan to support entrepreneurship in Europe. The Action plan invites the Member States to reduce time for licensing and other authorisations necessary to start a business activity to one month by the end of 2015[16] provided that requirements of EU environmental legislation are met. As a first step, a comprehensive mapping and screening exercise needs to be performed:

- **Target for the Member States:** With the objective to identify possibilities to improve procedures and to reduce administrative burdens, Member States are encouraged to collect information by the end of 2013, on:

  Number of new licences granted in the period 2007-2013 (n.)

  Success rate of applications for licences (%)

  Number of applications currently being processed (n.)

  Average time to complete licencing procedures (months)

  Number of public bodies involved in authorisation procedure (n.)

  Average costs of licencing procedures for new business (€)

  Average duration of a licence (years)

- **Targets for the Commission:** On the basis of the data collected by the Member States, to work with relevant authorities to identify by summer 2014 best practices and margins for improvement including through the support of the Commission High Level Group on Administrative Burdens, whose mandate is to help Member States' public administrations to implement EU legislation in a way that is more efficient and responsive to the needs of stakeholders.[17] To prepare by second quarter 2014 guidance documents addressing the requirements of the WFD and the MSFD in relation to aquaculture, in order to assist Member States and the industry in the implementation of EU law and illustrate how environmental protection can be compatible with sustainable aquaculture.

- **Target for Aquaculture Advisory Council:** to perform by April 2014 a screening of administrative procedures and a mapping exercise of the main administrative burdens in terms of time and costs in different types of aquaculture in the Member States.

3.2. Securing sustainable development and growth of aquaculture through coordinated spatial planning

Different studies have shown that having spatial plans in place can help reducing uncertainty, facilitating investment and speeding up the development of sectors such

15 http://ec.europa.eu/enterprise/policies/sme/business-environment/administrative-burdens/

16 COM(2012) 795 final

17 For more information on the The High Level Group: http://ec.europa.eu/dgs/secretariat_general/admin_burden/ind_stakeholders/ind_stakeholders_en.htm

as aquaculture or offshore renewable energy[18]. The lack of space often cited as a hindering factor for the expansion of EU marine aquaculture can be overcome by identifying the most suitable sites amenable for aquaculture, as the current surface and coastline occupation by aquaculture activities appears to be limited[19].

Inland planning is usually more advanced compared to maritime planning, due e.g. to the existence of cadastre or rating systems making information easily accessible to all relevant institutions. The identification of the most suitable areas for freshwater aquaculture will help expanding production while enhancing landscapes, habitats and biodiversity protection. Spatial plans should take into account the environmental services provided by extensive pond-based aquaculture.

In many cases, the needs of aquaculture alone will not justify carrying out such a complex exercise for the marine environment. However, this approach was followed in the case of e.g. the Irish experience with CLAMS,[20] the Galician regional strategy for aquaculture[21] and the national aquaculture spatial planning project in Finland.[22] Existing planning exercises, such as e.g. offshore wind platforms siting plans,[23] can be used as a starting point. Guidelines on spatial planning in the Mediterranean[24] and in the Baltic[25] have been produced and can provide inputs to Member States. Furthermore, data collected in the implementation of existing legislation (e.g. the Renewable Energy Directive, CFP, MSFD, WFD, Habitats and Birds Directives) can also be used for aquaculture planning. The Commission has adopted in March 2013 a proposal for a Directive establishing a framework for Maritime Spatial Planning and Integrated Coastal Management.[26] The Member States will remain responsible for designing and determining the overall objectives and content of such plans.

Aquaculture may affect significantly the environment if not properly designed and monitored. Therefore, some environmental impacts of aquaculture (e.g. nutrient and organic matter enrichment, contamination by hazardous substances) are specifically addressed in EU legislation. The overall impacts of individual farms will also include other kinds of pressure (e.g. sedimentation, physical disturbance) and will be influenced by other factors, including e.g. the type of cultured organisms, the location of the farm and the vulnerability of the local environment. According to a European Parliament study[27], assessing these environmental aspects in the frame of the spatial planning process can reduce the administrative burden for private developers and limit uncertainty in the licencing procedures, thus making

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18 http://ec.europa.eu/maritimeaffairs/documentation/studies/documents/economic_effects_maritime_spatial_planning_en.pdf ; http://www.windbarriers.eu/fileadmin/WB_docs/documents/WindBarriers_report.pdf

19 JRC Technical Report "An approach towards European Aquaculture Performance Indicators"

20 http://www.bim.ie/media/bim/content/BIM_CLAMS_Explanatory_Handbook.pdf

21 http://www.intecmar.org/esga/

22 http://www.mmm.fi/en/index/frontpage/Fishing,_game_reindeer/Fisheriesindustry/aquaculture.htm

23 E.g. "Windspeed" roadmap http://www.windspeed.eu/

24 Res. GFCM/36/2012/1 http://www.faosipam.org/GfcmWebSite/docs/RecRes/RES-GFCM_36_2012_1.pdf

25 http://www.aquabestproject.eu

26 COM(2013) 133 final

27 http://www.europarl.europa.eu/committees/en/studiesdownload.html?languageDocument=EN&file=29819

investments more attractive. Several studies and experience in other industrial sectors[28] confirm that addressing this kind of issues in the early stages of the planning process minimises environmental impacts, reduces local opposition, prevents unnecessary delays and increases the chances of success of new projects. This kind of experience can provide valuable guidance to aquaculture producers and help increasing the sustainability, social acceptance and competitiveness of EU aquaculture.

As space and environmental carrying capacity in both marine and inland waters are limited, an ecosystem based approach should be applied. Special care should be taken when dealing with vulnerable and protected areas, through sound planning and assessment procedures; positive experiences with the integration of aquaculture in Natura2000 sites show the possible compatibility of a profitable commercial activity with the conservation of biodiversity. The environmental services provided by extensive pond aquaculture are a concrete example where an economic activity meets the conservation needs of a habitat or species.

- **Target for the Member States:** to put in place coordinated spatial planning, including maritime spatial planning at sea basin level, to ensure that aquaculture's potential and needs are taken into account and to secure an adequate allocation of space in waters and land for sustainable aquaculture development.
- **Target for the Commission:** to monitor the implementation of coordinated maritime planning, to disseminate studies and experiences to help Member States in their planning. To organise a best practice exchange seminar in summer 2014.

3.3. Enhancing the competitiveness of EU aquaculture

EU aquaculture enterprises are faced with different challenges and opportunities requiring tailored solutions,[29] but will all benefit from an improved market organisation and structuring of aquaculture producer organisations. These are a priority for the reform of the Common Market Organisation (CMO) and for the new European Maritime and Fisheries Fund (EMFF). Production and marketing plans, together with the EU Market Observatory should help aquaculture producers to identify business opportunities and to adapt their marketing strategies.

The growing expectations from consumers for quality and diversity of food products, especially if locally produced, offer new possibilities to give value to the assets of coastal and inland areas. Coordinated action at local level between entrepreneurs, public authorities, associations, research, education and training organisations can help stimulating local economies and meet the growing demand for locally, sustainably produced seafood.

Business diversification may provide additional sources of income for farmers. For example, the integration with angling and tourism, or the internalisation of some

[28] See e.g. http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm http://www.project-gpwind.eu/

[29] http://www.europarl.europa.eu/committees/en/pech/studiesdownload.html?languageDocument=EN&file=29823

upstream or downstream activities, can provide business opportunities for aquaculture producers.

Business development and diversification can also be promoted by market-driven research, innovation and knowledge transfer. To this end, the Member States should foster synergy between national research programmes and promote the participation of industry in research and innovation activities – including in particular to implement the European Aquaculture Technology and Innovation Platform's Strategic Research Agenda and the Blue Growth strategy.[30]

Extensive fish pond aquaculture supports biodiversity and is widespread in particular in Central and Eastern Europe, offers important services and business opportunities besides food production, which can result in higher competitiveness if adequately valorised. The impacts of the rules applying to biodiversity-rich areas such as Natura 2000 sites and income forgone due to protected predators such as cormorant as well as voluntary commitments to protect biodiversity or water should be recognised by public authorities. One important factor affecting pond-based aquaculture production in certain regions is related to predators – in particular cormorants. The Birds Directive[31] sets out a derogation system to protect fisheries' and aquacultures' interests. Member States can make full use of the derogation provisions to prevent serious damage by cormorants to fisheries or aquaculture. In order to assist the Member States, the Commission has recently published a guidance document[32] with the aim of clarifying the key concepts in relation to the implementation of the derogation system.

- **Target for the Member States:** To make full use of the proposed CMO and EMFF to support business growth through adequate allocation of funds to aquaculture including for production and marketing plans and to improve the links between R&D and the industry (especially SMEs). To support educational & vocational programmes covering the needs of the aquaculture sector.

- **Target for the Commission:** To coordinate and support research and innovation for aquaculture through all the relevant EU programmes and funds. To promote the transfer of knowledge, best practices and innovation, including EU research project findings. To deliver a user friendly EU market Observatory to provide market intelligence.

3.4. Promoting a level playing field for EU operators by exploiting their competitive advantages

High environmental, animal health and consumer protection standards are among the EU aquaculture's main competitive factors and should be more effectively exploited to compete on the markets.

Existing sanitary checks of EU and imported products already ensure a high level of food safety. Societal concerns have also resulted in demand from consumers, NGOs and retailers for assurances that the food they purchase has been produced respecting very high environmental and social sustainability standards. If the level of sustainability of EU aquaculture products is correctly addressed and communicated

30 COM (2012) 494

31 Council Directive 79/409/EEC

32 http://ec.europa.eu/environment/nature/cormorants.htm

to the public, this can improve the competitiveness and societal acceptance of EU aquaculture and its products. New labelling provisions as proposed in the CMO Regulation may help better differentiation of EU aquaculture products; voluntary certification schemes can also play a role in this context. The development of short food circuits can also give additional value for proximity to high quality and extra-fresh local products.

Experience in the agricultural sector confirms that there is a growing demand for sustainable, high quality food. For instance, in the last ten years the growth rate of organic food retail sales in the four largest EU markets has outpaced the overall demand growth for food products in the EU, with average yearly growth rates of 7-15% for organic food against 2-5% for non-organic.[33] According to FAO, organic aquaculture production in Europe increased by close to 30% annually between 1998 and 2007. Some retailers play an important role in bringing certified fish products to the marketplace, and do so as part of their overall corporate social responsibility commitments; the entry of major retailers has been one of the decisive factors leading to the rapid growth of the organic food sector in the last decade.

The EU promotes high environmental, social, sanitary and phytosanitary standards across the board in the framework of trade agreements that it negotiates with third countries, including with regard to aquaculture.

- **Target for the Member States:** To support the development of producer and interbranch organisations including at transnational level. This would facilitate collective management and/or self-regulatory initiatives between producers, processors, retailers, in cooperation with consumer associations and NGOs where appropriate. To support, implement and control labelling requirements and provisions.
- **Target for the Commission:** To ensure that labelling rules, in particular as regards freshness, provenance and commercial name are fully implemented. To improve markets transparency and disseminate markets information on trends at local, EU and international levels. To launch by the end of 2013 a Communication campaign on the strengths of EU aquaculture.
- **Target for Aquaculture Advisory Council:** To support structuring of the aquaculture production and marketing including certification and labelling. To contribute to improved market intelligence of the sector. To facilitate self-regulatory initiatives and help communicating these characteristics to the consumer.

4. A NEW GOVERNANCE TO SUPPORT EU AQUACULTURE

The open method of coordination provides a framework for national strategy development and for coordinating policies between EU Member States. This voluntary process aims at giving practical answers to the challenges identified by the Member States and stakeholders. It involves concerted action between EU and national policies in full respect of the principle of subsidiarity.

[33] Eurostat data and http://ec.europa.eu/agriculture/analysis/markets/organic_2010_en.pdf

In order to facilitate exchanges of know-how and best practices, each Member State is invited to identify a national contact point; the Commission will refer to them i.a. when organising peer reviews and when identifying and disseminating best practices.

4.1. Multiannual national strategic plan for the promotion of sustainable aquaculture

In order to better coordinate actions to promote aquaculture, Member States are required, under Commission proposals currently discussed with Parliament and Council, to prepare a multiannual national strategic plan based on the EU Strategic Guidelines presented in this Communication. The Commission has prepared a draft outline of the structure of the plan (annex 1) in order to ease Member States' work.

The multiannual national plans should cover the period 2014-2020. Member States are encouraged to make a mid-term assessment of the implementation of their plan by the end of 2017.

4.2. Complementarity with European Maritime and Fisheries Fund

The proposed EMFF is intended to support the implementation on the CFP. Each Member State would be asked to draw up an Operational Programme (OP), identifying actions that it intends to fund through the EMFF. Where aquaculture is concerned, it would be important for the OP to be consistent with the above-mentioned multiannual national plan in order to foster the coherence of the whole policy.

4.3. Exchange of best practices

The open method of coordination aims also to develop a mutual learning process across Member States. A key tool in this respect are peer review seminars where Member States can share and assess the effectiveness of identified good practices in policies, programmes or institutional arrangements, including with respect to the assessment assessing and mitigation of environmental impacts. They provide learning opportunities throughout the EU about the implementation process or policy approaches.

Member States are encouraged to submit three proposals of good practice in their multiannual national plan. The Commission intends to organise at least on a yearly basis peer review seminars to present the selected good practices and exchange information between Member States.

4.4. Aquaculture Advisory Council

Dialogue with stakeholders has proven essential for the achievement of the CFP objectives. The creation of the Aquaculture Advisory Council (AAC) should enable the Commission and Member States to benefit from the knowledge and experience of all stakeholders.

The role of the AAC will be to provide recommendations to policy-makers, to help them adopt evidence-based decisions. The Commission encourages active participation of all relevant stakeholders: producers, upstream industry (feed suppliers, research organizations, veterinarians, equipment suppliers) downstream industry (i.a. harvesting, live transport, processing, exporting, distribution) consumer associations, environmental NGOs, trade-unions, etc.

4.5. Next steps

Member States are invited to send to the Commission their multiannual national plan at the latest together with the Operational Programme. By April 2014, the Commission intends to produce a summary report of all national plans with the objective of sharing information amongst Member States and for disseminating good practices.

Member States are encouraged to make a mid-term assessment of the implementation of their multiannual national plan by the end of 2017 on the basis of which the Commission intends to consider the opportunity to revise the strategic guidelines.

ANNEX

Draft outline for multiannual national plan for the development of sustainable aquaculture

1. National context and link with main national objectives

   - National situation and strategic approach towards the EU main objectives
   - Quantified national growth objective (2014-2020)

2. Response to the strategic guidelines

   (a) Simplify administrative procedures:

   Assessment of the national situation:

   Qualitative description of the administrative set-up (main bodies responsible for licencing, distribution of responsibilities between administrations, etc.)

   Quantitative data and explanations: see list in the main text

   Main elements of the intended policy response: planned actions to reduce the administrative burden

   If applicable, corresponding quantified targets and indicators (e.g. expected reduction in administrative costs and/or time, etc.)

   Securing sustainable development and growth of aquaculture through coordinated spatial planning:

   Assessment of the national situation: existing framework for spatial planning (marine and on land), distribution of competences, spatial plans already in place.

   Main elements of the intended policy response: how spatial planning will be promoted taking into account the needs of aquaculture

   Where applicable, corresponding quantified targets and indicators (e.g. number and surface of new designated areas for aquaculture, number of regional plans adopted)

   Enhance the competitiveness of EU aquaculture:

   Assessment of the national situation: strengths and weaknesses of the national aquaculture sector, existing R&D support, areas where increased competitiveness is most needed

   Main elements of the intended policy response: planned activities to support innovation and links between R&D and the industry; etc.

   Where applicable, the corresponding quantified targets and indicators (e.g. n. of partnerships between industry and R&D actors)

   Promoting a level playing field for EU operators by exploiting their competitive advantages:

   Assessment of the national situation: producers organisations, existing schemes to recognise sustainability (e.g. voluntary schemes used by major national retailers), perception of aquaculture by the general population

Main elements of the intended policy response (2014-2020): actions foreseen to improve the image of EU aquaculture products (e.g. communication campaigns, support to participation in voluntary schemes, support to organic aquaculture)

Where applicable, corresponding quantified targets and indicators (e.g. percentage of organic and/or certified aquaculture, etc.)

3. Governance and partnership

- Key contributions from the main actors involved (regional and/or local authorities, industry, stakeholders and NGOs)
- Link with the EMFF OP priorities and financial allocations (EMFF and other EU or national funds)
- Name and contact details of the National Contact Point for the promotion of sustainable aquaculture

4. Best practices

- Identification and presentation of 3 national best practices

Appendix 3. The National Strategic Plan for Sustainable Aquaculture Development (NSPA)

The National Strategic Plan for Sustainable Aquaculture Development (NSPA) sets out a vision for aquaculture licencing in 2020.

"A streamlined and efficient licensing system that provides greater business certainty to applicants, and transparency to the general public."

To achieve this 4 actions were proposed, including the review of process and revised legal framework. BIM welcomes the current licencing review process as the first step in achieving the vision for 2020 along with delivering on the agreed actions under the National Strategic Plan.

The Strategic Guidelines for the sustainable development of EU aquaculture[34] identified simplifying administrative procedures as one of the key areas to address in the reversal of the stagnation of aquaculture development in the EU. Administrative constraints in particular concerning licensing procedures are amongst the challenges to growth and administrative costs and lead time play an important role in determining the overall competitiveness and development of the aquaculture sector.

Along with the development of National Strategic Plans in each member state, the Commission proposed to use the Open Method of Coordination, to promote the exchange of best practice across the EU including in the area of aquaculture licencing.

To progress this process, a series of workshops were organised with representatives from each member state to discuss issues raised in the National Strategic Plans and to look at best practice with a view to exchanging knowledge and frameworks.

With regard to aquaculture licencing across the EU, the starting point was to look at quantitative data on administrative burdens as detailed in each NSPA.

This included:

- Success rate of applications
- Time to complete licencing procedures
- Costs of licencing procedures
- Number of public authorities involved
- Duration of licences
- Number or licences granted and ongoing procedures

The outcomes of this analysis showed that were substantial differences between member states in all areas. It showed that there was no clear correlation between number of authorities and time to complete procedures.

More important factors seem to be:
The importance of coordination and cooperation between public authorities
Interactions between different steps in the procedure
Presence of a front desk acting as "one-stop-shop"

[34] COM(2013) 229 final

The analysis also showed that it was important to differentiate between; "Processing time" – how long it takes the public administration to assess the application and; "Waiting time" –time spent waiting for applicants to provide information missing in the initial application.

Reducing "Processing time":

- Streamlining of procedures
- Capacity building and increased understanding of farming methods in public administrations
- Improve coordination between different public bodies

Reducing "Waiting time":

- Provision of clear guidance for applicants
- Online application system
- Platform for dialogue between licencing administration/industry/NGOs
- One-stop-shop

Potential impacts by type of measure

Measures	Reduce admin waiting time	Reduce processing time	Reduce costs (applicant)	Reduce costs (public admin)	Increase success rate	Reduce uncertainty
Review/ streamline procedures		✓	✓	✓		
Align procedures (e.g. in different regions)	?	?	?			✓
One-stop-shop	✓	✓	✓			
Online application	✓	✓	✓			
Spatial planning - dedicated aquaculture areas			?	?	✓	✓
Prolong licence duration			✓	✓		
Mandatory timeframe for procedural steps		?				✓
Guidance for applicants	✓			✓	✓	✓
Online portal / info	✓			?	✓	✓
Platform for dialogue between industry and public admin	✓			?	✓	✓
Strengthen public admin capacity		✓				
Improve coordination between administrations		✓		✓		