Inland Fisheries Ireland Submission to the Independent Aquaculture Licensing Review - February 2017

The objective of the review is to identify changes required to the aquaculture licence process and its associated legal framework that will:

1. Deliver licence determinations in a timely manner, having regard to international best practice
2. Support achievement of the actions and priorities of Food Wise 2025 and the National Strategic Plan for Sustainable Aquaculture Development
3. Facilitate enhanced transparency in the licencing process for all stakeholders
4. Ensure legally robust licence determinations having regard to EU and National law

Introduction

Inland Fisheries Ireland (IFI) is the statutory authority tasked with the responsibility for the conservation, protection and development of the inland fisheries resource and recreational sea angling. It is important to note that protection and conservation of the inland fisheries resource includes the important migratory species in the sea in particular the Atlantic salmon and sea trout. Recent legislative changes (SI: 477/2011) has strengthened the requirement to protect wild salmon, pollan, shad, smelt and lamprey. IFI are the responsible agency in respect of the licensing and management of commercial and recreational fishing for salmon, with protection responsibilities at sea out to 12 miles from baselines. IFI also has a research function which conducts extensive research on migratory species in both fresh water and at sea; this includes research into the impacts of salmon farming on wild salmonids.

IFI Comment on Objective 1:

Deliver licence determinations in a timely manner, having regard to international best practice

IFI welcome the objective of delivering licence determinations in a timely manner. However, this should not override the necessity to have robust environmental impact assessment of proposed projects in place before a licence determination is made. If further information is sought, the licensing mechanism should be capable of pausing the timeframe of licence determination until an adequate response is forthcoming.

IFI Comment on Objective 2:

Support achievement of the actions and priorities of Food Wise 2025 and the National Strategic Plan for Sustainable Aquaculture Development

IFI previously made a submission on the National Strategic Plan for Sustainable Aquaculture development in July 2015 and the relevant points made in that submission to the current review are covered in the following paragraphs.

Reform of Aquaculture Licensing in Ireland

IFI supports the sustainable development of the aquaculture industry. The area of particular concern to IFI is the need to ensure that any aquaculture development does not have a deleterious effect on other industries such as the valuable commercial salmon and recreational salmon and sea trout tourist angling industry. IFI would welcome reform to the aquaculture licensing process. Where existing licences are in place and where these have an effect on the wild fisheries the reformed licence process must also be capable of addressing the short comings of these licenses and where necessary identifying alternative sites. It is therefore the view of IFI that this current review of aquaculture licencing also consider existing licences when they come up for renewal as well as new licence applications.

Separation of licensing and regulation

A second important consideration in the reformation of the licensing system is to separate the processes of licensing and regulation. It would be preferable if these responsibilities were not within the same Government department. The licensing section should remain under the parent Department (DAFM) and the regulation / enforcement remit should be under a different state agency – for example the EPA. The regulatory agency should be appropriately mandated to transparently enforce licence conditions. This would also help the licence operators and wild fish interests know the rules within which the industry operates. Similarly in the view of IFI it is unwise for the state to be the licence applicant in a commercial aquaculture venture.

Licensing time frame

Any review of the aquaculture licensing process must address the issue of the time period between the application and the granting or refusal of a licence. Similar to other licensing processes where additional information or environmental impact studies are required,

additional provision should be made to allow sufficient time for such information to be acquired.

Incremental penalties for breaches of Protocols

The current system of licensing includes a series of protocols. Protocol No. 3 for offshore finfish farms, sea lice monitoring and control is not, in the view of IFI, adequately robust to ensure the protection of wild sea trout and salmon smolts from lice emanating from marine salmon farms. Non-compliance with sea lice protocols should lead to a series of actions and incremental penalties as set out in the management cell approach in the '*Strategy for improved pest control on Irish salmon farms, 2008'*. There have been instances where the ovigerous lice threshold was breached throughout the spring period and no action was taken to require early harvest of fish as set out in the management cell approach. It is not acceptable that salmon farms that have failed to control sea lice persistently are permitted to continue to rear and harvest without the implementation of the sanctions that are in place. In summary, the control of sea lice in spring has not been consistently enforced.

Mollusc Aquaculture

IFI believes that small scale mollusc aquaculture activities best suit rural communities that have farming and fishing as part of their existing core skills. The further development of mollusc aquaculture has socio-economic potential while having low environmental impact and being labour intensive. In relation to Oysters, IFI notes that disease in the wild oyster oysters (*Ostrea edulis*) has reduced the wild oyster stock in many bays around the country. The development of farming the Pacific oyster (*Crassostrea gigas*) has unexpectedly led to this non-native species becoming feral in Lough Swilly. It is important to ensure that where an aquaculture stock has the potential to become feral that only triploid stock is used. Whilst acknowledging that the wild oyster stocks in most parts of the country remain in a poor state IFI recommends that any farming of *Crassostrea sp.* is done in an enclosed regime (bags and trestles) using triploid stock – this will prevent it becoming established elsewhere in the wild. In areas such as Lough Swilly where it has already become established in the wild, provision should be made to remove the pacific oysters. This must be done in line with the requirements of the National Parks and Wildlife Service. In addition IFI are of the view that all relevant local issues are considered when examining shellfish and other licence applications – for example the importance of beaches (which are suitable for tressels) but which may also be important tourism and bathing areas and adequate weighting be given to the importance of

these 'other users' of the resource.

The issuing of aquaculture licences in areas where established wild mollusc fisheries exist has also raised certain concerns. Any plan for the sustainable development of the industry should include provision for surrendering aquaculture licences where they conflict with wild mollusc beds to be replaced by a licence on a different unlicensed site.

Total sea lice production cap

While sea lice trigger levels or controls are in place, this may not result in compliance with these controls as evident from the MI annual reports on lice monitoring. From a wild fishery perspective the current control of sea lice levels on marine salmon farms is not adequate at some sites and the trigger treatment levels need to be based on total salmon farm production in the area. IFI have consistently called for this total bay sea lice cap to be introduced which sets a limit on the lice production level in a bay and this concept should be introduced in the new proposed strategy for sustainable aquaculture development reflected in any revised licensing system. Protracted harvesting of salmon has also been identified by IFI as a factor militating against effective sea lice control as sea lice treatment is generally not undertaken during harvesting and harvesting should be required to be undertaken over a more confined period.

Guiding Principles for the sustainable development of aquaculture

IFI have previously commented on the National Strategic Plan for Sustainable Aquaculture. The Guiding Principles for the Sustainable Development of Aquaculture set out on page 75 of the Draft National Strategic Plan for Sustainable Aquaculture Development are important in the context of this review of aquaculture licensing.

IFI supports the six guiding principles recommended by the Marine Institute for the sustainable development of aquaculture. Responsible planning to ensure that the overall development of aquaculture and the siting of individual farms are compatible with other uses and the responsible management of the marine environment, as set out in Principle 1, is an important guiding principle for the proposed future expansion of the salmon aquaculture industry. However, a number of existing sites, licensed during the 1980's, were located too close to sea trout river mouths and these sites should also be subject to assessment under the Guiding Principles in order to ensure the sustainable development of aquaculture.

It is intended that under Principle 2, Ecosystem Protection, that licensing and ongoing regulation of aquaculture operations will ensure compatibility with the goal of maintaining healthy, productive and resilient marine ecosystems. The aspiration is that this will ensure maintenance of good water quality and healthy populations of wild species, prevent escapes and avoid harmful interactions with wild fish stocks, protected habitats and species. Inadequate control of sea lice is a harmful interaction with wild salmon and sea trout stocks. Under the current licensing and regulation of salmon aquaculture, this guiding principle for sustainable development of aquaculture in not being met with regard to control of sea lice, particularly at sites in the West.

Under the Department of Agriculture, Fisheries and Food "*Strategy for Improved Pest Control in Irish salmon farms, 2008*", which is still in place, it was proposed that a feature of the strategy to enhance the control of sea lice infestations on Irish salmon farms should be the creation of a "real time" management regime. This regime was intended to vigorously deal with failures to control sea lice infestations on a case-by-case basis. It was designed to bring progressively tougher actions to bear on the sea lice infestation to ensure the highest possible level of compliance. Actions available include accelerated harvesting of salmon, followed by extended fallowing post-harvesting. In recent years there are instances, for example, Killary salmon farm over the January to June period 2015, where individual salmon farms having failed to control sea lice below the sea lice treatment trigger level over long periods and the sanctions available under the real time management cell approach have not be enacted. Guiding Principle 2 will need to take account of the inadequacies in the current regulation of sea lice levels on salmon farms.

Under Principle 3 - Science-based Approach, planning, licensing and regulation of the sector are founded on the best available, impartial and objective science, as delivered by the national and international science community. This provides the highest level of confidence in the decision-making process and allows for the adoption of a risk and evidence-based approach to determining monitoring requirements that are subject to continuous improvement. This is an important guiding principle with regard to the proposed future development of marine salmon farming as there has been significant advances in our understanding of the potential negative impacts of sea lice and escapes from marine salmon farms on wild salmonid stocks in recent years. Taking account of the best available science with regard to wild fish / farmed fish interactions will be important in ensuring the sustainable development of salmon aquaculture.

IFI's is the statutory agency tasked with the protection and conservation of wild salmonids. These management responsibilities are supported by best scientific advice, and it would be important that IFI's scientific expertise is fully integrated into any science-based approach, for the planning, licensing and regulation of the sector. As a consequence, IFI should remain as a key consultative party in the licensing process.

Scaling and Phasing of the Development of Offshore Salmon Farms

The use of the concept of carrying capacity, in the national strategic plan, which considers environmental limits aimed at avoiding 'unacceptable change' to the natural ecosystem is important in ensuring sustainability of aquaculture. The concept of scale limits and phasing as proposed are important for the development of offshore salmon farms and are consistent with the previous recommendations made by IFI in this area. IFI's position on large scale aquaculture is to adopt the precautionary approach and only initially licence a modest smolt input. Subsequently, subject to the sites compliance with licence conditions and demonstration of environmental sustainability, a gradual increase in production should be permitted. This would allow an assessment of any impact of the salmon farm on the environment, flora and fauna and allow mitigation measures to be developed in a more sustainable manner.

While the general concept of scale limits and a gradual phased buildup of production as set out in Chapter 6 of the National Strategic Plan for Sustainable Aquaculture Development are consistent with the approach proposed by IFI, the proposed appropriate maximum for new individual offshore salmon farms of 5,000 tonnes peak biomass is too large without appropriate individual site environmental assessment. The scientific basis upon which this recommended limit of 5,000 t peak biomass, recommended by the Marine Institute, including the relevant scientific assessments, documents and scientific papers used to reach this recommended appropriate maximum tonnage needs to be made available. Such a peak biomass for individual sites cannot be recommended without provision of the scientific basis on how this limit was calculated. It is also likely that it will not be scientifically sustainable, based on local conditions, that one recommended peak biomass is appropriate for all new offshore sites.

There is a need to assess the environmental sustainability of offshore salmon farms at individual locations on a trial type basis and only after monitoring has shown that no adverse impacts are evident should a gradual buildup of production be licensed. This will take a

number of years and generations of salmon to adequately assess the sustainability of individual sites. It is therefore important that the initial licensed production tonnage be set at a lower level to demonstrate environmental sustainability. With regard to licensing additional tonnage beyond the initial licensed peak biomass, the recommendation in Chapter 6 that "Approval to increase the capacity above the initial allowable biomass should only be considered following a rigorous assessment of monitoring outcomes" is consistent with this view.

Biodiversity and Sustainable Development

The Strategic Plan for Sustainable Aquaculture Development notes that Ireland's second National Biodiversity Plan (2011–2016) includes a programme of measures aimed at meeting Ireland's biodiversity obligations including a commitment to halt biodiversity loss by 2020. Sea trout are listed in Ireland's biodiversity plan and the commitments in this national strategic plan for sustainable aquaculture development must include maintaining biodiversity with regard to sea trout populations.

Organic Salmon Production

The strategic plan for sustainable aquaculture development identifies the opportunity for increased production of organic salmon. While organic salmon production may be more profitable, there may be unforeseen environmental consequences. The Irish Organic Farmers & Growers Association (IOFGA) Standards for Organic Aquaculture state that regarding sea lice control, in feed treatments (SLICE) and bath treatments (EXCIS) can only be used twice in a twelve month period and not within one month of harvesting. The standards also note that if it becomes necessary to exceed the restricted treatments, then the treated fish lose their organic status. Therefore application of organic status to salmon production may hamper the ability to control sea lice on farms or may discourage farmers from undertaking treatments that are required under the licence conditions and directly impact on wild salmonids, contrary to the guiding principles for sustainable aquaculture.

Risk based approach to licensing

There is scientific evidence that the production of farmed salmon in Ireland has had a serious impact on wild sea trout and salmon stocks and this impact continues to occur at a number of sites where sea lice are not adequately controlled. IFI would propose the development of a risk based approach using best national and international scientific information to analyse potential

impacts on wild salmonids. This approach should not be confined to new developments but should also review existing fish farm locations. This risk based approach is being undertaken in the Norwegian salmon farming industry at present, Taranger et al. (2014). Consideration must also be given to designating areas free of aquaculture development similar to the concept of National Salmon Fjords in Norway (Serra-Llinares et al. 2014) and the existing salmon farm free zone in Ireland.

IFI Comments on the Appropriate Assessment of the Draft National Strategic Plan for Sustainable Aquaculture Development:

Comments on Section 3.4 (Aspects of the Draft NSPA which may interact with site Integrity and conservation objectives)

The Appropriate Assessment of the Draft National Strategic Plan for Sustainable Aquaculture Development assesses the effect of policies within the plan on the integrity of Natura 2000 sites. Under the section Aiming for Growth, 1. Building capacity and scale in the industry, increased productivity from the existing aquaculture licence portfolio is deemed to have no or insignificant effect associated with the measure with regard to achieving favourable conservation status of habitats and species. It is the view of IFI that increasing productivity from existing aquaculture licences does have the capacity to cause potential negative effects and that an appropriate assessment should be required. The second action, Establishment of new aquaculture enterprises, is deemed to have potential negative effects and would warrant an appropriate assessment and the same principle should apply to increased production at existing sites.

Cultivation of novel aquaculture species is deemed to have no or insignificant effect associated with the measure with regard to achieving favourable conservation status of habitats and species. This assessment should be revised as having potential negative effects, as has been seen with regard to farming the Pacific oyster (*Crassostrea gigas*) in Ireland.

Comments on Section 3.7.6 (DAFM Strategy for Improved Pest Control on Irish Salmon Farms)

This section sets out the sea lice monitoring programme undertaken by the Marine Institute on

marine salmon farms. The Minister for Agriculture, Food and the Marine is quoted as saying that the treatment trigger levels are set at a low level and these controls are widely accepted as representing best practice internationally. It is noteworthy that these trigger lice levels are considerably higher than the lice thresholds in place during wild salmonid run period in Norway and therefore not international best practice.

IFI Comment on Objective 3:

Facilitate enhanced transparency in the licencing process for all stakeholders

It is important for transparency in the licensing and appeals process that the assessment made on submissions received on any particular licence application and the decision reached are clearly articulated in writing and open to public scrutiny and be based on best international scientific advice. In this regard, it is important that any environmental impact assessment considers all relevant national and international scientific publications on the potential impact of salmon aquaculture on wild salmonids.

The foreshore licence permits aquaculture to operate in a designated location of the foreshore which is licensed to a third party. The conditions attached to such a licence need to be maintained for any future licences. In relation to the aquaculture licence, IFI are of the view that some of these conditions relating to husbandry and management need to be strengthened in new and renewed licences, (see comments under Objective 2).

IFI Comment on Objective 4:

Ensure legally robust licence determinations having regard to EU and National law.

IFI support a legally robust licensing system. In Ireland, salmon aquaculture has predominantly been developed in small bays, many of which are designated as SAC's under the EU Habitats Directive. Problems exist in and in proximity to these SAC's where appropriate assessment against conservation objectives have yet to be determined despite significant aquaculture licences being in existence and operation. IFI would welcome a concerted effort being made to rectify these anomalies within a short time frame.

General Comments

In the overall context of salmon aquaculture development and the targets set out Food Wise 2025 and the National Strategic Plan for Sustainable Aquaculture Development, IFI believe a greater focus should be placed on licencing salmon aquaculture at offshore sites distant from salmonid rivers where the impacts of sea lice and escaped farm salmon can be minimised. Should such a move not be practicable in the short term, IFI favours the development of closed containment re-circulatory land-based systems for the farming of Atlantic salmon, this ensures all outputs can be managed and controlled. IFI recommends that adequate funding should be provided to assist in developing this aspect of the industry. Over time IFI would welcome a gradual move towards on-shore recirculation sites and a phasing out of open pen facilities to ensure the protection of the wild salmonid stocks.

With regard to the current production of salmon at existing sites, the licensing process should consider placing problem sites in sensitive areas on a different production strategy, particularly in relation to inability to control sea lice. This would require a farm production strategy where large grower fish were harvested before wild smolt runs in spring or where these grower fish had close to zero levels of adult female sea lice. This concept involves rearing what are called 'super smolts', salmon smolts reared on land in re-circulation systems to a larger size before they are stocked into sea cages. By stocking salmon of a larger size into sea cages, this results in a reduction in the duration of the production-cycle at sea by months and potentially offers huge benefits in terms of sea lice impacts and greater flexibility with regard to timing of stocking sea cages and fallowing periods. This production strategy could be introduced at sites in Special Areas of Conservation where there are important stocks of salmon and sea trout.

References

Serra-Llinares, R.M., Bjørn, P.A., Finstad, B., Nilsen, R., Harbitz. A., Berg, M. & Asplin, L. (2014). Salmon lice infection on wild salmonids in marine protected areas: an evaluation of the Norwegian 'National Salmon Fjords'. *Aquaculture Environment Interactions* **5**, 1-16

Taranger, G.L., Karlsen, Ø., Bannister, R.J., Glover, K.A., Husa, V., Karlsbakk, E., Kvamme, B.O., Boxaspen, K.K., Bjørn, P.A., Finstad, B., Madhun. A.S., Craig Morton. H. & Svåsand, T. (2014). Risk assessment of the environmental impact of Norwegian Atlantic salmon farming. *ICES Journal of Marine Science* **72**, 997-1021.