This document is one in a series of attempts over many years to substitute aquaculture in Ireland's marine strategy for traditional pursuits. Those who have observed Ireland's aquaculture sector over the decades have noted the policy shift among Ireland's primary state agencies engaged in the marine sector to favour aquaculture at the expense of fishing, tourism, and generally, any competing interests. It is our contention that the apparent conclusion among European and Irish marine policymakers and State agencies that aquaculture is the only, or the major, mitigating solution to the world's diminishing natural protein sources is both dangerous and self-serving.

The decline in pelagic and demersal fishing in recent decades is partly a function of over-fishing, climate change and global population growth. However, there are also more micro and regional factors, not least the treatment of Ireland in the European Common Fisheries Policy, the failure to regulate the fishing sector adequately, and to implement regulations effectively. The notion that the same process and the same marine governance structure which presided over the loss of sovereignty over Irish fishing rights will protect all stakeholders in the proposed official endeavour to more than double aquaculture output in less than a decade requires, at the very least, independent scrutiny.

Save The Swilly is not simply criticising any and all forms of aquaculture, and our starting point is to respect the good faith of the Irish government in embarking on this consultation process. Our concern is that aquaculture sites are appropriately sized and located, their cumulative environmental effects taken into honest consideration, and that verifiable attention to, and equitable sharing with, other legitimate stakeholders are taking place.

The concerns we have are the historic conduct of marine policy in Ireland, where State agencies have by their actions demonstrated compliance with a central theme that aquaculture is the future, and that any contradiction of this core principle should be swept away or silenced. Along with the aims of “openness, transparency and accountability” (page 75), the NSPSAD also says it endorses Vision for 2020’s policy of “equitable” (NSPSAD, page 84). Some might question this latest inclusion.

There has been denial or obfuscation of research into the impacts of aquaculture over the years. The impact of invasive species such as Pacific oysters (*crassostrea gigas*) on native species; the impact of salmon farming and associated proliferation of sea-lice on both wild salmon (*salmo salar*) and sea trout (*salmo trutta*) populations throughout Ireland; the decline in migrating wild salmon – all of these have attracted credible domestic and international research at various times, which in turn has been deliberately undermined by State agencies and/or suppressed.

While the breadth and depth of the NSPSAD document is welcomed, Save The Swilly believes a preliminary stage is required – restructuring the administration of Ireland’s marine sector to remove the conflicts of interest where the same Minister and the same chain of command is responsible for promotion, licensing, regulation and compliance within the industry. There is little evidence of “Chinese walls” between the State agency responsible for promotion and development, Bord Iascaigh Mhara (BIM), the research agency the Marine Institute, and the Department of the Marine’s Coastal Administration and Seafood Divisions.
For one department to be responsible for promoting aquaculture (and presumably incentivised for growing the output) while also responsible for regulating it (presumably by ensuring compliance with regulations) is self-evidently unsustainable, and requires reorganisation to separate these conflicting objectives.

REALISTIC PROJECTIONS?

We are very concerned about the apparently linear extrapolation of production targets, arriving at a figure of 81,700 tonnes by 2023, or 122.6% higher than the baseline output in 2012, of 36,700 tonnes. We believe the level of governance and compliance over the Irish aquaculture sector already leaves much to be desired, and projections to double output without reference to the upscaling of administration and effective management processes is a serious concern. The scale and pace of expansion is unrealistic and likely to produce negative consequences through rapid licensing and inadequate regulation/governance.

Increasing production by 45,000 tonnes (more than double current output) in eight years, and the suggested scenario "where all [licensees] achieve production levels at or near previous historic maxima simultaneously" (page 52) is excessive and not grounded in a balanced approach between the ambitions of the industry, regulators and promoters vis a vis the impact on the environment and other stakeholders. Such an increase in production will also increase any existing impacts from aquaculture, such as pesticides, feed ratio, escapees, eutrophication.

This seems to be a quantitative and linear projection of production possible based on the assumed "capacity", without acknowledging that the "capacity" is Ireland's own marine area, owned by its people, and not by Europe or by the multinational companies which dominate Ireland's finfish and shellfish aquaculture industries.

On the finfish segment, the pressure on wild fish resources to support the aquaculture sector is already an issue. We refer to the document Future Brief: Sustainable Aquaculture, issue 11, published by European Commission Science for Environment Policy, June 2015 [http://ec.europa.eu/science-environment-policy], wherein various sources are cited:

- "...with the expected expansion of aquaculture, there is an urgent need to further reduce the percentage of wild fish in feed and, most importantly, the total amount of wild fish consumed (should demand for feed rise significantly under aquaculture expansion)." (Welch, et al. (2012). They estimate that the amount of fish used in feed to produce one unit of output would have to be reduced by at least 50% from current levels for aquaculture to be sustainable in 2050.

- Tacon, Hasan & Metian (2011) write that the global supply of nutrients and feed will have to grow at a rate of around 8-10% per year to 2025, to match the aquaculture sector's growth rate. "Increased aquaculture production could help to contribute to increased food security and local production as a means of securing future supply in a way which is carbon efficient and suits local economies."

While the NSPSAD argues in favour of aquaculture meeting the protein needs of the population, it is important to note that the vast majority of Ireland's aquaculture output, by volume and value, is exported, so the argument supporting rapid expansion is an economic one. It is not based on Ireland's own food security requirements. We believe it is disingenuous to argue that the desired expansion of Ireland's aquaculture industry is based on altruistic motives.

With regards to employment, the dismissal of tourism in favour of sweeping expanses of aquaculture in remote coastal areas, has been exposed as flawed by the hugely successful Wild Atlantic Way initiative. This program has attracted large numbers of tourists to the natural scenery in areas such as County Donegal. Aquaculture, a comparatively small contributor to Ireland's economy, should not be allowed to threaten tourism, which contributed more than EUR6.5 billion to the economy in 2014, by comparison with an estimated EUR200m for all aquaculture.

Tourism employment also dwarfs aquaculture, with around 180,000 people directly employed in tourism, or 100x that of aquaculture. It is clear which is the more important sector, viz. tourism, and the idea presented in the document, that aquaculture sites can be a tourist attraction, is not deserving of serious attention. The association of aquaculture development with the Wild Atlantic Way tourism initiative is a crass and unrealistic attempt to suggest tourism and aquaculture are complementary.
AIMING FOR GROWTH – ENVIRONMENTAL COSTS

The premise (page 9) that Europe (and Ireland) must “catch up” as aquaculture production has “stagnated” is flawed. There is no pre- eminent obligation to achieve growth for its own sake. Ireland has competing demands for the resources required to produce farmed seafood, and the objective should be to achieve balance in resources, not tonnage for its own sake. “Ireland and other Member States through EU institutions have recognised the unsustainable position that the EU finds itself in with regard to seafood supply and has targeted resurgence in growth in output from aquaculture as a major priority over the remainder of this decade.” Why is this a natural conclusion?

We refer to the EU document, Future Brief: Sustainable Aquaculture, which states that “in its expansion, aquaculture must continue to respect environmental legislation” and refers specifically to a series of important European directives and initiatives:

- **The Marine Strategy Framework Directive (MSFD) requires EU Member States to achieve ‘Good Environmental Status’ for their marine waters by 2020, as judged against a range of 11 so-called ‘descriptors’. Thus, national aquaculture strategies must ensure that aquaculture does not have negative impacts in terms of non-indigenous species, eutrophication, seafloor integrity, concentrations of contaminants (both in the water generally and in seafood specifically), populations of commercial fish or marine litter.**

- **The Water Framework Directive (WFD) addresses pollution and biodiversity concerns in inland, coastal and transitional waters (e.g. estuaries and fjords). It requires Member States to attain ‘good ecological status’ and ‘good chemical status’ in these waters. Pollution by ‘priority’ chemical substances, some of which are used in aquaculture, must be progressively reduced and, in some cases, phased out completely.**

- **Aquaculture operations must respect wildlife protection requirements under the Birds and Habitats Directives. In particular, they must comply with the conservation objectives of sites included in Natura 2000, the EU network of protected areas, and be subject to an Appropriate Assessment prior to authorisation in line with Article 6 of the Habitats Directive.**

- **The Regulation on the use of alien and locally absent species in aquaculture addresses the movement of alien species for aquaculture purposes. Operators must conduct prior risk assessments and obtain permits to transfer alien aquatic species. The newly adopted EU Regulation on the prevention and management of the introduction and spread of invasive alien species will also apply to aquaculture.**

- **Planning and development of new aquaculture sites fall under the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) directives. These allow environmental concerns to be taken into account very early on in planning processes, thus avoiding or minimising negative impacts. In addition, the recently-agreed Directive on Maritime Spatial Planning (MSP) aims to promote sustainable development and use of marine resources, including for aquaculture, through Maritime Spatial Plans to be established in each Member State by 2021.**

The premise for the National Strategic Plan for Sustainable Aquaculture seems to be that “sustainable” applies exclusively to economic sustainability. In fact, the suite of applicable European policies is more far-reaching than this, and the requirement for compliance with the five areas listed above is at least as important as the economic sustainability objective.

These EU requirements are NOT optional, but obligatory, and the tone of the NSPSAD, suggesting Ireland’s responsibilities to the environment under European directives are non-binding or voluntary, is incorrect. The failure to comply adequately with the requirements under NATURA 2000 are not indicative of problems with NATURA 2000, but refer to the inherent resistance of Ireland’s marine management to observe environmental obligations.

It is of extreme concern to us that measures such as NATURA 2000 should be designated as a “threat” under the SWOT analysis on page 23: “Spatial restrictions on aquaculture activities to protect NATURA 2000 designated species and habitats.” We do not accept that these are “threats” to aquaculture, but essential preconditions to its operations. In our view, this demonstrates the presumption that any obstacle to aquaculture,
even protected habitats, are “threats” to be removed. After all, the aquaculture industry is the only industry we specifically allow to pollute our waters.

KNOWLEDGE, INNOVATION, TECHNOLOGY – AND TRANSPARENCY?

It is curious that Chapter 5 seems to overlook the impact of invasive species on indigenous species -- for example, Pacific oyster (crassostrea gigas) proliferation on native oysters – as well as the cumulative impact of treatments for disease and parasites in finfish on other species, and the impact of these diseases and parasites themselves.

Research by the former Central Fisheries Board into the impact of sea lice on migratory wild salmon, for example, has been intentionally suppressed, although Description of the Licensing Process, a 13-step programme (page 94-96) includes Step 4 “... with particular reference to ensuring scientific agreement...”. And NSPSAD claims ‘impartial and objective science’ in “Principle 3 of Sustainable Development: Science-based approach ... best available, impartial and objective science ...” (page 75).

A National Sea Lice Monitoring Plan has been introduced, which requires fish farms to “treat”, i.e. apply anti-sea lice pesticides, when the sea lice reach a particular concentration. This is clearly aimed at supporting the fish farms in dealing with their own problems, but gives no reference to the impact of the sea lice or of the treatments beyond their own cages. This is NOT a control plan, but merely a monitoring plan, and experience over many years leads us to conclude that the regulators and the industry are determined to deny the environmental impact of sea lice – and pesticides - on the wider marine environment, and on wild salmonids especially.

At the ‘Sea Lice 2014’ conference held in Maine (USA) in early September 2014, the Marine Institute admitted to “persistent difficulties in achieving sea lice control targets at certain locations” but claimed “a downward trend of mean sea lice levels on Irish farms”. There were, however, 39 reported incidents of sea-lice in the first 10 months of 2014, versus 19 in the previous year.

There is not only fudging of statistics, but a secrecy around the monitoring results, data which should be available to the public. This concern is reinforced by the extraordinary decision to close the investigation into sea lice management and control in Ireland due to “lack of evidence”. The “lack of evidence” is almost entirely due to the fact that the data held by the Marine Institute is inaccessible to the general public.

The Marine Institute publishes annual reports but monthly data is marked private and confidential - with the following warning attached to reports:

This data is supplied for the information of the recipient only and is not to be used, cited, or conveyed to third parties without the prior permission of the Marine Institute.
Published data for 2013 is available at http://hdl.handle.net/10793/555
Marine Institute, Rinville, Oranmore, Co. Galway, Ireland. Tel:+353 91387200  www.marine.ie
ENSURING SUSTAINABILITY

"Vision for 2020: ‘An aquaculture industry that develops in harmony with nature, and with the confidence of stakeholders.’" (NSPSAD, page 74)

While the language is to be applauded, we are skeptical that, without extensive reorganisation, Ireland’s marine management structure is capable of achieving the headline objectives in a way that any reasonable and neutral observer would describe as compliant. The “Guiding Principles for the Sustainable Development of Aquaculture” are all admirable, but there is little or no evidence that Ireland has paid considered attention to these principles in the past:

- Responsible Planning
- Ecosystem Protection
- Science-based approach
- Compliance
- Openness, Transparency and Accountability
- Industry Best Practice

For us, there is ample evidence from our own experience that in Ireland none of these principles has been well-observed, with perhaps the most egregious being “Openness, Transparency and Accountability”. Advertising of license applications in newspapers distant from those directly affected by licenses; control of information on operations of aquaculture operations; sub-leasing of licenses from indigenous operators to multinationals, all with no evident accountability, are some of the experiences in the operation of aquaculture in Ireland.

In this segment, an area worthy of consideration is the principle of appropriate siting of salmon farms, i.e. offshore. However, in a point which is typical of the aquaculture sector, definitions seem to be pliable, and “offshore” seems to mean what the regulator decides it should mean. In response to a written parliamentary question in June 2015, Minister Simon Coveney replied, “My Department has been advised by the Marine Institute that offshore aquaculture as referred to in the National Strategic Plan for Sustainable Aquaculture Development is considered to mean the execution of activities in sites that are subject to ocean conditions, with significant exposure to wind and wave action. This includes fully open ocean sites and sites that, although close to the open ocean, and subject to ocean waves, benefit from some shelter provided by local topographical features (e.g. headlands and islands).”

A key risk of offshore farming, as pointed out in the EU Future Brief document: “It is difficult to predict the exact environmental impacts of this, as scientific knowledge is lacking.” Also, “Troell et al (2009) caution that offshore farms are likely to be much larger than today's coastal farms, and produce more waste. Even in the open ocean, assimilative capacities can still be exceeded by nutrient pollution, they warn.”

It should be noted that while control of invasive species is regarded as a high priority, it is also a problem created by aquaculture.

- “Control of invasive species is a major challenge, and involves cross-sectoral and cross-border co-operation by a range of responsible bodies and sectoral interests.” (page 78)
- (quoting Article 19 report): “The majority of the known initial introductions of NIS to Irish waters have occurred via shipping (commercial and recreational) or through aquaculture.” (page 79)

Does this not suggest that a quick solution to the problem may be to stop growing non-indigenous species and importing broodstock/seeds? However, the Minister for the Marine continues to grant licenses for breeding non-indigenous oysters. How is this inconsistency reconciled?

For more than 10 years, wild oystermen in Lough Swilly have been told by the Marine Institute that the gigas oyster was not worth their concern as it was ‘sterile.’ The NSPSAD (pages 26, 31ff, 56) however, gives a slightly different version:

“...since 2010 Irish [oyster] operators have been building up a source of certified disease free sterile oysters. The first of these sterile stocks will be produced in spring 2015. Currently, one hatchery is carrying out this work, funded jointly by BIM and MI, and this stock will be made available to other Irish hatcheries. To exploit this properly, it is vital to invest in a full scale breeding programme run collaboratively with all Irish
hatcheries. There is an opportunity to use fertile stocks from different disease free sources around the coast to maintain genetic diversity, while selectively breeding for resilience and other characteristics in an Irish produced sterile oyster."

Once again, aquaculture is favoured over the traditional resource, supported by suppressed and/or incorrect information, to the detriment of the native species.

COORDINATED SPATIAL PLANNING

The idea of coordinated spatial planning cannot be faulted, and provided it is accomplished with comprehensive and appropriate consultation and genuine transparency concerning implications of the operations being planned, we would have no objection.

Spatial planning implies consultation with local communities. The launch of the Coordinated Local Aquaculture Management Systems (CLAMS) was a cynical attempt to present an aquaculture industry networking system as an objective consultation body. CLAMS is an aquaculture sector organisation, whose main objective is to advance the interests of the industry. From CLAMS' own handbook introduction: "Though CLAMS is integrated with these [marine] plans and the viewpoints of all interest groups are documented, the process is driven by the aquaculture producers." CLAMS is not an objective source or conduit of information, and the idea that the CLAMS network will provide unbiased bottom-up data on appropriate planning is ludicrous.

A second point of concern in the assessment of this element is the suggestion that effective planning is required to work around environmental obstacles such as NATURA 2000. This was expressed in Sunday Times, 5 July 2015: Department of Agriculture [Food and the Marine]..."called on the commission to take a flexible approach to enforcement because 'the complexity involved in achieving compliance generally in the marine environment appears to have been greatly underestimated.'"

It is our view that the European environmental policies have evolved from comprehensive investigation, research and debate, and are not trivial hurdles to be overcome. They set the bar for industrial and other activities, and any industry unable to comply must (a) adapt so that they do comply; or (b) cease their activities.

AQUACULTURE LICENSING

The implication in the statement on aquaculture licensing "...to progressively remove the current aquaculture licensing backlog" is perhaps the most disturbing aspect of this report. There is no doubt that the aquaculture licensing process has been slowed in recent years, but the reasons for this lie at the door of the Minister and the Department, rather than some technical anomaly which can be resolved by hurry-up dictat. The main reason for licensing delays has been Ireland's failure to observe European environmental directives.

If anything, this failure to have followed the regulations from the beginning should lead to a tightening of the licensing regime rather than some form of "blanket amnesty" which seems to be the Irish government's intention. Throughout the NSPSAD, there are frequent references to "overhaul" and "revision" of the regulatory/legislative framework.

The recent issuing of 70 mussel licences in Roaring Water Bay, and 120 mussel licences in Cronane, Co. Kerry alone, would suggest that cumulative effect is of little concern to those in charge of marine management. Each licence was signed off by the Minister with a document stating that "this application would not in itself have a significant impact on the environment."

There is some contradiction about the number of new licences expected: "...a limited number of new licences" (page 52), and "...the expected outturn for 2015 in respect of licence determinations is in the order of 150" (page 96) -- but given there have been 190 mussel licences issued alone this year, the tallying seems a bit fluid. Meanwhile, the ratio of aquaculture licences approved vs those refused (page 94) stands at a startling 244 : 4.

The establishment of a "Data management and information system, with online aquaculture licence application and tracking functionality, and spatial mapping of aquaculture sites" (pages 90,94,97 -- and
notably, without an ETA), seems to suggest a fast-track licensing approach. While we do not object to improved efficiency, if the intention is to circumvent or in any way diminish the public right to consider and object to license applications, it cannot be condoned. Public access to the network of aquaculture licenses through the ‘Public Viewer’ would appear to be after, not prior to, licences being granted. Where is the “openness, transparency and accountability” for the public in this?

Finally, fish farms license their sites. The marine resource belongs to the people of Ireland. The proposal (page 59) “[optimisation of existing licensed capacity] could be a case of an unused or underutilised licensed site being sold or sub-let to a better resourced or more ambitious operator” is, at best, questionable.

CONSERVATION


Save the Swilly applauds this principle, but seriously doubts whether this is also recognised as an obligation by the promoters/developers of aquaculture, let alone as a positive principle to embrace. Inclusion of NATURA 2000 compliance as a ‘threat’ in the SWOT analysis of the proposed industry expansion was surprising. More recently, there was the Sunday Times plea by the Department that it was just too hard to be compliant, and they were in need of a work-around.

This is most disappointing in that it reinforces our long-held view that the aquaculture industry, supported by policy-makers, sees environmental protection and Ireland’s unique marine habitats as hindrances to industrial development. We believe the integrity of Ireland’s habitats is a national treasure to be protected and enhanced, and not to be eroded by a global aquaculture industry colluding with politicians and civil servants intent on expanding an industry for sectoral interests, rather than for the greater national good.

Finally, it is almost inconceivable that Ireland has not implemented a policy of Marine Conservation Areas, given its location and the importance of its marine habitat, both to this generation and the next. We believe that certain areas should be designated free of aquaculture and commercial fishing for sustained periods to enable wild fish stocks to be replenished. This should be part of any ‘strategic policy’.

According to the Marine Strategy Framework Directive, enacted into Irish law in 2011, Ireland is required to achieve “good environmental status” for its coastal zone by 2021. The logical way to do this is to establish a network of Marine Protected Areas, which are common or under active development elsewhere in Europe and in other regions of the world. The fact that this concept is not even mentioned in this document is a serious shortcoming.

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