

27 July 2019

Mr Michael Creed TD  
Minister for Agriculture, Food and the Marine  
Agriculture House  
Kildare Street  
Dublin  
DO2 WK12

Dear Minister Creed,

**Re: Appropriate Assessment Report on Aquaculture in Ballyness Bay Special Area of Conservation Site Code 001090**

I am an ecologist and in the 16 years I have been living on the shore of Ballyness Bay I have become very familiar with the Bay and its inhabitants. In recent years I have been guiding winter bird-watching trips around the Bay as well as Corncrake talk-and-tours in the summer months. So it was with shock that I heard of the proposals for licensing aquaculture here. Having read the above document I have two separate points of concern: the way the licensing process has been carried out; and the Appropriate Assessment document itself.

I believe the manner in which this process was carried out was not in line with the requirements of the Aarhus Convention. The EU states that *"The management of Natura 2000 sites is best done by **working closely with the landowners and stakeholder groups in or around individual Natura 2000 sites**"*. That did not happen here. Little attempt was made to inform or involve landowners or stakeholders, most of whom only learned about the proposed licences when the so-called "public consultation" phase had already concluded. A notice was published in The Donegal Democrat, but a newspaper with a lower circulation in this area would have been hard to find. The local Garda station, in which a notice was placed, is only open for a few hours each week and anyway who, in this day and age, regularly visits their local Garda station? No Planning Application Notices were posted on access points to the Bay, so it appears the State is not held to the same rules as its citizens. No announcements were made via local radio stations, parish bulletins or local newsletters. The much vaunted government portal for public consultations contains no reference to Ballyness Bay. So it appears to my jaundiced eye that a deliberate attempt was made to slip this process under the public radar.

I also question the suitability of a government funded semi-state body carrying out Appropriate Assessments on proposals being encouraged by that government. Such a body surely cannot be considered impartial or independent in any meaningful sense.

My second issue is with the inadequacy of the scientific data underpinning the Appropriate Assessment, as well as the number of errors, inaccuracies, inconsistencies and assumptions made within it. The authors' obvious unfamiliarity with the Bay and its inhabitants is also a cause for concern. The NPWS Conservation Objectives supporting document Marine states that *"The purpose of ... an Appropriate Assessment is to record in a **transparent and reasoned** manner the likely effects on a Natura 2000 site of a*

*proposed development.*” I do not believe this Assessment records the risks inherent in the proposed aquaculture activities in either a transparent or a reasoned manner. Assuming that “no spatial overlap” equates with “no negative impact” and using that assumption as a basis for excluding some habitats from consideration is simply not good science. Neither is concluding that activities are “non damaging” based on data that is acknowledged to be “low confidence”.

Ballyness Bay is bordered on both sides by Special Protection Areas but these were excluded from consideration on the basis of “no spatial overlap”. NPWS state that “below this threshold disturbance **is deemed to be non-significant**. Such disturbance may be **temporary** or **persistent**”. I do not believe that setting thresholds for damage of any kind, whether NPWS considers it significant, insignificant, temporary or persistent, is consistent with the spirit of Natura 2000 site designation and I consider their threshold of **15%** for **significant adverse impacts** is, with regard to a Natura 2000 site, both spurious and ecologically unsound.

The Appropriate Assessment states that it used the information contained within the Application Forms in its decision making process. Of the 13 application forms I examined I found four different versions of the form, each with differing questions, but all were alike in the paucity of detailed information required from applicants. Yet despite this, in many instances questions were not answered or were marked as Not Applicable.

The Criteria for Assessing Licence Applications states that “*applicants ... must be able to demonstrate that they are qualified to undertake ... operations in a professional way*”. While some applicants do have relevant qualifications, I don’t believe that “experience of winkle picking and seaweed harvesting” is any indicator of professionalism, particularly in view of how often I have found whole mesh bags of dead periwinkles discarded near Killult Pier (photos available). It also lists the various criteria that must be considered, which I address in turn below:

a) “**other beneficial uses, existing or potential**” There was no consultation with other users of the Bay, who include tourists, fishermen, walkers, swimmers, sailors, windsurfers, kayakers and birdwatchers, all of whom will be affected by these proposals. Only Fisheries was mentioned in the Appropriate Assessment, which incorrectly states that no fishery exists! The authors were also unaware of the activities of the Falcarragh Clean Coast group, whose members regularly clear litter from the eastern shores of the Bay.

b) “**The suitability of the ...waters ... for the activity in question**” Some of the Licence Applications stated that Ballyness Bay is a “Designated Shellfish Area” and quoted Ref DL-BH-BH. However, it does not appear on either the list or map of Designated Shellfish Areas in County Donegal as published on the government website. Some applicants stated their reason for selecting the site was “good clear unpolluted waters near freshwater source” but made no mention of the raw sewage inflows in the vicinity. Some applications refer to water quality assessments carried out in the 1990s and said “more sampling will take place”. The results of any such sampling depend on the timing and location of sampling sites – a sample taken far from the sewage outflow on an incoming tide will give a very different result from one taken near the outflow just after a discharge. There are plans to build sewage treatment schemes for both Falcarragh and Gortahork but no consideration was given to their impact on the Bay.

c) “*The particular statutory status ... of the place*”. *In relation to a European Site that hosts a priority natural habitat type or priority species, the **only imperative reasons of overriding public interest that may be considered** are those relating to –*

- (a) human health,
- (b) public safety,
- (c) beneficial consequences of primary importance to the environment, or
- (d) subject to paragraph (5), and having obtained an opinion from the European Commission, other imperative reasons of overriding public interest.

Clearly there is no matter of overriding public interest here and, as this is purely a matter of private profit, these applications should never have been considered at all.

**d) “the likely effects of the proposed aquaculture ... on the economy of the area”**

Most of the applications would provide full-time work only for the applicants themselves; other workers would be mainly part-time casual labour. In the case of the two companies, Northern Shores Shellfish and Tully Shellfish, these would probably not even be jobs for local people. No consideration is given to the aesthetic impact of aquaculture on the Bay and the likely economic consequences of its despoliation, which would surely result in a subsequent reduction in tourism, on which the local economy is highly dependent.

**e) “the likely ecological effects ... on wild fisheries, natural habitats and flora and fauna”** This section raised several alarms with me and I address these in order below:

**Wild Fisheries:** The authors of the Appropriate Assessment seemed ignorant of the existence of the Cloughaneely Angling Association’s salmon and trout fishery and failed to examine the likely impacts on wild fish and shellfish populations – this despite the widely acknowledged risks inherent in the introduction of an invasive non native species!

In the Guidance Notes for Licence Applications, The Pacific Oyster is exempt under Annex IV to EC Council Regulation 708/2007 from the rules regarding the introduction of non native species. However, in view of recent research and in line with the precautionary principle I agree with An Taisce that *C. gigas* should be banned in Ireland and classed as an Invasive Non Native Species and I also believe that this issue needs to be addressed at a European level. It has now become clear that **“triploid oysters cannot be considered non reproductive”** (Normand et al 2009).

In the USA, a trial in which “certified triploid” oysters were used was halted when it was found that 20% had a “dual cell state” containing both triploid and diploid cells (Gottlieb & Schweighofer, 1996). In another study (Allen et al, 1999) investigating chromosomal stability of triploid populations, it was found that over 2 years there was a progressive reversion with more diploid cells accumulating over time. Also, **“In parts of continental Europe and in temperate regions elsewhere, the proliferation of wild *C. gigas* is now regarded as an ‘invasion’ as *C. gigas* is spreading rapidly and is displacing native species and habitats”** (Ruesink et al. 2005; Smaal et al. 2006; Cardoso et al. 2007; Wrangé et al. 2010) and **“there are now established self-sustaining populations in at least 17 countries”** (Diederich et al. 2005; Ruesink et al. 2005; Smaal et al. 2005; Cognie et al. 2006; Lejart and Hily 2005). **“Moreover the species is listed as ‘one of the worst 100 alien species in Europe”** (DAISIE 2016). **“It is also necessary to undertake field studies due to the context dependency of some impacts. Clearly the impact on sublittoral biodiversity also requires further investigation.”** (Herbert et al, 2016).

Feral populations have already been reported from Lough Swilly, Lough Foyle and Strangford Lough. **“*C. Gigas* is definitely able to reproduce in Strangford Lough. Distribution is not limited by substrate availability and is influenced by hydrology.”** (Guy & Roberts, 2009). I notice that one of the applicants, M. F. Richez, was previously employed by BIM and is currently a director of Sardini, a company involved in shellfish aquaculture in Strangford Lough.

The Appropriate Assessment states “The risk of Pacific oysters naturalising in Ballyness Bay **cannot be discounted**” but then goes on to discount it! It states “*oyster culture may present a risk in terms of the introduction of non-native species*” and this is absolutely incorrect and should read “**does** present”. It also states “*C.gigas appears to have become naturalised in two locations*” and again this is incorrect, as they have **been proven** to have done so in **17 countries**. The following photographs illustrate exactly what could happen to Ballyness Bay.



Wild *C. gigas* reef that has established on intertidal mud on the Blackwater estuary at Brightlingsea (UK) in 2008 (Photo: M Gray)



Hand removal of *C. gigas* by volunteer workers on a protected chalk shore in Kent, south east England (Photo: W. McKnight)

**Natural Habitats:** The Appropriate Assessment states on page 36: “*The sensitivity of the community type Mobile sand community complex is **unknown**.... While some characteristics of this community type match those described in Forde et al (2015) ... others are quite different. In particular, areas where there are very soft mobile sands ... would appear to be sensitive to the placement of trestles and even foot traffic among the trestle rows. On this basis, it is assumed that intertidal shellfish culture **has the***

**potential to disturb this community type.**” Yet in Table 8.5 on page 43 this is contradicted: “*Published literature (Forde et al, 2015) suggests that activities occurring at trestle sites are not disturbing*”. The authors simply cannot have it both ways! It further states “*Clam culture may result in more chronic and long-term changes in community composition*” and “*the harvest method ... is considered highly disturbing to all sedimentary marine community types*”.

Some Applications described the substrates as “hard” or “firm”. Anyone who watches the Bay every day as I do will know that the entire system is dynamic and mobile and the geography of the sand and mudflats changes radically after storms. This is illustrated by the NPWS Conservation Objectives supporting document Coastal which states “*Dooney sand dunes are highly dynamic and ... contain what is probably the largest unvegetated sand dune in the country.*” Since that report was written that sand dune has all but disappeared, with the bulk of the sand having been relocated inside the Bay. A study of old maps of Ballyness Bay shows how the river channels and sandbanks change over time as they will continue to do in the future. The introduction of trestles and trays would affect both the hydrology and deposition/erosion systems but these impacts were not explored in the Appropriate Assessment despite the acknowledgement on page 25 that “**biodeposition can accumulate ... and can alter the local sedimentary habitat type**” and again on page 28 “**The structures used ... can alter the hydrodynamics of an area**”, “**bags and trestles ... on intertidal habitat ...can cause ... sediment compaction ... deep physical disturbance ... erosion compaction and damage**”. “**All aquaculture activities physically alter the receiving habitat.**” Regarding clams, “**dredging ... has been demonstrated to cause habitat and community changes**”. In view of this I simply cannot comprehend how the authors conclude that these activities would be non damaging!

With regard to Fixed Dunes (2130), the document Ballyness Bay Conservation Objectives states that “*Trampling, campfires, quad-biking, off-road driving by cars and activities associated with agriculture have resulted in damage to the habitat ... The most significant damage is associated with the unpaved track which runs through the centre of the site ...Trampling is most frequent in the southern part of the dunes, where visitors leave the track and take established routes to the shore. During the CMP, Future Prospects were assessed as Unfavourable-Inadequate (stable).*” Yet this already degraded area is now being proposed as an access route for heavy machinery and daily foot traffic!

Regarding access routes, the Appropriate Assessment recommends that “*the views of those with specific engineering expertise be sought in order to identify erosion prevention measures ... to mitigate the risks identified and/or re-routing of access routes to avoid overlap with feature 2130*” (Fixed grey dunes). Has this expertise been sought and where is the report?

On page 37 the Appropriate Assessment states “*The access routes used in intertidal areas ... are considered disturbing.*” It also states that “**the proposed routes will follow, for the most part, existing paths currently subject to vehicular and pedestrian traffic**”. Those existing footpaths have been considerably widened in recent years, in part due to vehicles travelling to and from unlicensed aquaculture sites. The report fails to mention that an area of fixed dunes at Keadew, just to the east of Magheraroarty car park, is regularly used for parking cars, vans and motor homes despite the fact that, according to their own Management Objectives, NPWS were meant to restrict vehicular access and undertake remedial work on the area some time ago.

The proposed access routes on the Eastern side of the Bay run directly through, or are contiguous with, the Falcarragh Corncrake SPA as well as the habitat of *Vertigo geyeri* (1013). They would then run along the foreshore itself, where no such routes currently exist, and directly beside fields regularly used by breeding Corncrakes. Such human and vehicular traffic would certainly cause disturbance to other wildlife such as nesting Eider and Shelduck as well as causing compaction of the substrates (Qualifying interest 1140 Mudflats etc.). Further research would have informed the authors that the suggested alternative routes are not actually viable access routes for heavy machinery or indeed for regular traffic of any kind.

**Fauna:** The Appropriate Assessment looked at the impact on Otters and Grey Seals which **might** migrate into the Bay from the Gweedore Bay & Islands SPA and the Horn Head SPA, but seemed unaware that otters are seen regularly and often in the Bay. It concluded that the main risk was from disturbance and that, as activities would be during daylight hours, this would not be a problem. This assumption is incorrect and obviously based on the behaviour of riverine Otters, as it is well known that coastal Otters often hunt in daylight. It did not mention any plans for dealing with a situation where either of these legally protected species might prey on the cultivated shellfish or how the operators would deal with that situation. Some applicants stated that they would deal with brown and green crabs by removing them, without indicating whether these crabs, an important food item for many of the Bay's wildlife species, would be returned alive to the environment.

The Appropriate Assessment mentioned that, apparently previously unknown to the authors, Grey seals use the Bay and concluded the work **may have a negative impact** on them. On page 5 it says "based upon **local observations** it appears that the seals are faithful to this one identified haul out location" and page 46, Figure 8.3 shows the location of "**observed seal haul-out**". The authors are obviously unaware that there are several such haul-out locations in the Bay and that the one shown is used less frequently than another closer to the pier. This begs the questions '**Observed by whom- when- and how often?**' The report also ignored the fact that both Otters and Grey Seals are regularly seen feeding within the Bay and did not explore the possible impacts of the loss of extent of their feeding habitat. Regarding seals, it concluded **that the risk of disturbance cannot be discounted**. In fact, the risk of disturbance **is certain** in view of the proposed increased human and vehicular activity over large areas of their habitat.

The report did not mention the effect on bird life, despite the fact that Ballyness Bay is a nationally important site for the shorebirds Ringed Plover and Sanderling; is widely recognised as an important habitat for wintering birds and is a first landfall for many Whooper Swans coming to Ireland. The Dooey peninsula is an important roosting site for several species including Golder Plover and Curlew. On page 32 the Appropriate Assessment states "this (spatial) threshold does not apply to the sensitive habitat **Zostera**" but then fails to mention the existence of the *Zostera* beds within the SAC or to comment on their decline in extent over recent years. These beds provide valuable feeding grounds for wintering geese from the nearby Inishbofin islands SPA. No consideration was given to the loss of feeding habitat for the many bird species regularly using the Bay that would be caused by the establishment of the trestles, nor was there any mention of the fact that the old boathouse at Ballyness Pier has recently been a Chough nesting site. Many bird species from the Horn Head SPA, the Inishbofin SPA and the Derryveagh SPA, including Cormorant, Shag, Barnacle goose, Peregrine, Merlin, Dunlin and Red-throated diver, use the Bay for feeding and/or hunting. The increased activity, noise, frequent human presence, vehicular traffic and associated substrate compaction would most certainly have a negative impact on the many forms of wildlife depending on the Bay.

Other examples of the Appropriate Assessment document's inadequacies are given below:

On page 2, it mentions "**ongoing and proposed aquaculture**" and again on page 3 it states "...the activities (**existing and/or proposed**)". On page 22: "**There is currently no aquaculture activity in Ballyness Bay**" and "**there were two operators in the 1990s**". On Page 32: "**ongoing and proposed aquaculture**". Page 36: "**current and existing aquaculture**". The authors appear to be unclear as to the current state of aquaculture activities within the Bay and unaware that unlicensed aquaculture was carried out, presumably unknown to NPWS, on several sites until about 2 years ago. It should be noted that some of the "**steel hooks**" mentioned here in relation to previous clam farming can still be found (and stepped upon) on the old sites.

In Section 2.5 on page 3 the Appropriate Assessment states that five "*habitat features and species {2110, 2120, 2190 & 1013} were excluded from further consideration*" as "*none of the aquaculture activities overlaps or **likely interacts with** them*". This seems to me a very sweeping assumption and once again begs the question where is the precautionary principle? Likely interactions were not explored and I believe it is quite possible that, within such a highly mobile estuarine area, the proposed establishment of trestles and trays could interact with the Embryonic shifting dunes (2110) on the east side and with Shifting dunes along the shoreline (2120). Certainly no evidence is offered in the Appropriate Assessment to prove they could not.

On page 4 the Appropriate Assessment states that "*based upon the ... **relatively high tolerance levels** of the habitats and associated species*" but does not give any data to support this statement. On page 5, Section 2.5.3 states "*the nature of ... Mobile sand community complex is such that there are likely to be locations where the sediments are extremely mobile (and soft) thus making them unsuitable for aquaculture operations*" and recommends that "**prior to a decision ... these areas be clearly identified within the Bay**". Has this been done? I fail to see how it could be done in view of the fact that what is firm ground this year could well be soft and mobile after the next big winter storm.

On page 6 the Appropriate Assessment states "*The information upon which this assessment is based is ... fishery profiling information provided ... by Bord Iascaigh Mara*". In view of the fact that BIM were unaware of the existing fishery within the Bay this hardly inspires confidence in the remainder of their data. Page 10, Figure 4.3 shows the mapped Estuaries (1130) within the SAC. In my opinion the entire Bay is really a large estuarine system and should be treated as such.

On page 14 the Appropriate Assessment states "*a preliminary screening is carried out on the **likely interaction with aquaculture activities based primarily upon the likelihood of spatial overlap***" and goes on to conclude on page 17, Table 4.3 that with regard to Horn Head SAC "*grey seal **may migrate into Ballyness Bay***" when it is an established fact that they do so. It also excludes from consideration the Coastal Lagoons (1150) and Reefs (1170) on Gweedore Bay SAC while ignoring the risks of colonisation by triploid *C gigas*. Likewise on page 18 the authors state that "*otter **may migrate***" when a little local consultation would have told them that they definitely do so. These ignorant assumptions continue on page 20, where the authors seem unaware that Ballyness Bay is used as a feeding and/or roosting area for many bird species from the Horn Head SPA (Cormorant, Shag, Peregrine, Chough); the Inishbofin SPA (Barnacle Goose, Arctic Tern); the Derryveagh SPA (Red-throated Diver, Merlin, Golden Plover, Dunlin); the West Donegal SPA (Herring Gull, Shag) and the West Donegal Coast SPA (Cormorant, Peregrine, Chough).

On page 23, the Appropriate Assessment states “***There are a number of access routes for the operators***” as if such routes already exist and were in general use. The proposed route from Magheraroarty pier has been discussed above. The access road to Ballyness Pier is a narrow country lane that runs through the Falcarragh Corncrake SPA and is frequented by local dog walkers and visitors and is thus entirely unsuitable for heavy vehicles. Access to sites by boat from the pier could only take place at higher states of tide as at low tide the length of the pier dries out entirely. The ‘public road’ near Ranaghmore Island is in fact a single width lane with a very sharp, steep bend leading only to the community boathouse and car parking area at Killult pier. Access to the proposed sites could only be gained by driving down the boat slip and across the Glenna River. Killult pier is used by a large number of locals and visitors alike for sailing, kayaking, triathlon training, diving, swimming and picnics - boats are left above the slip, kayaks sit on the slip itself, sailboats are tied up at the pier and in warm weather people swim in the river. On any good summer day as many as 30 people, including small children, use the area around the pier.

On page 23 the text reads: “The calculation of area of the access routes is linear length in metres by a putative route width of 10m ... gives a total spatial overlap of 6.81ha (**see Figure 5.1**)” - this should read “see Figure 5.2”. On this page also it states “*There will be tractors and trailers in use for all applicants*” despite several applicants making no mention of heavy machines and one saying that he would harvest “by hand”.

On page 24 the map illustrating the proposed access routes does not accurately replicate the routes drawn on the various application forms. On page 29 I note that in Table 6.1 there is no treatment of Fixed coastal dunes (2130). On page 33 the Appropriate Assessment states “*NPWS have acknowledged that given the wide range of community types ... the application of conservation targets would be difficult. On this basis, NPWS have proposed broad community complexes as management units. These complexes ... are very broad ... and do not have clear surrogates. **On this basis, the confidence assigned to likely interactions of the community types with anthropogenic activities are by necessity relatively low***”. Clearly decisions affecting Natura 2000 sites should not be based on “low confidence” data so I question why these proposals were even given consideration in light of our current state of ignorance. On page 36 the Appropriate Assessment states “*The risk scores are derived from a range of **sources identified above***” but I was unable to find any list of sources. On page 45 there was an unexplained reference to “Harbour seal sites”.

In conclusion, and considering the number of errors, unknowns, gaps and assumptions contained within it, I believe this Appropriate Assessment to be “an incomplete Natura Impact Statement” and that, as such, it contravenes article 17 of the Habitat Regulations. Ballyness Bay was not designated as an SAC so that private interests could turn a profit there at great cost to both the wildlife and human populations. The overriding public interest here obviously lies in keeping the Bay just as it is for the benefit of local people now and for generations to come. So I urge you to refuse any licences for aquaculture within our beloved Bay now or in the future.

Yours sincerely

Alexandra Alcorn