



Department of Agriculture, Food & the Marine,
Aquaculture and Foreshore Management Division,
National Seafood Centre,
Clonakilty,
Co. Cork

[12/08/2021]

Re: Submission on mussel aquaculture licence T05-614A in Roaringwater Bay and Islands SAC

To Whom It May Concern,

The Irish Wildlife Trust would like to make the following submission in relation to licence T05/614A located in Roaringwater Bay.

Roaringwater Bay and Islands Special Area of Conservation

The proposed aquaculture site is situated within Roaringwater Bay and Islands Special Area of Conservation (SAC). The SAC is designated for its marine qualifying interests Large shallow inlets and bay, Reefs, Submerged or partly submerged sea caves, Harbour Porpoise, Otter and Grey Seal.

There are several large seagrass beds within the SAC and good examples of kelp forest communities. Animal-dominated reefs in the bay are species-rich and include several rare species. The sedimentary communities in Roaringwater Bay are described as 'exceptional' due to an extensive bed of the calcareous free-living red alga *Lithophyllum dentatum*, called maerl, which is the largest in the country for this species¹.

Sadly, it has been shown that maerl beds within the bay are under threat. The qualifying interest Large shallow inlet and bay, which includes the maerl beds as part of its sedimentary communities, was classed as unfavourable-bad in Roaringwater Bay SAC². The cause of the bad status at this location is the observed direct smothering of rare and vulnerable maerl species due to pseudofaeces deposition and/or extensive algal cover in the vicinity of the mussel longlines³. It has been recorded that mussel longlines were located directly above the maerl beds⁴.

¹ NPWS (2014) Site Synopsis for Roaringwater Bay and Islands SAC

² NPWS (2019). The Status of EU Protected, Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill

³ Scally, L., Pfeiffer, N. and Hewitt, E. (2020) The monitoring and assessment of six EU Habitats Directive Annex I Marine Habitats. Irish Wildlife Manuals, No. 118. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

⁴ Ibid.

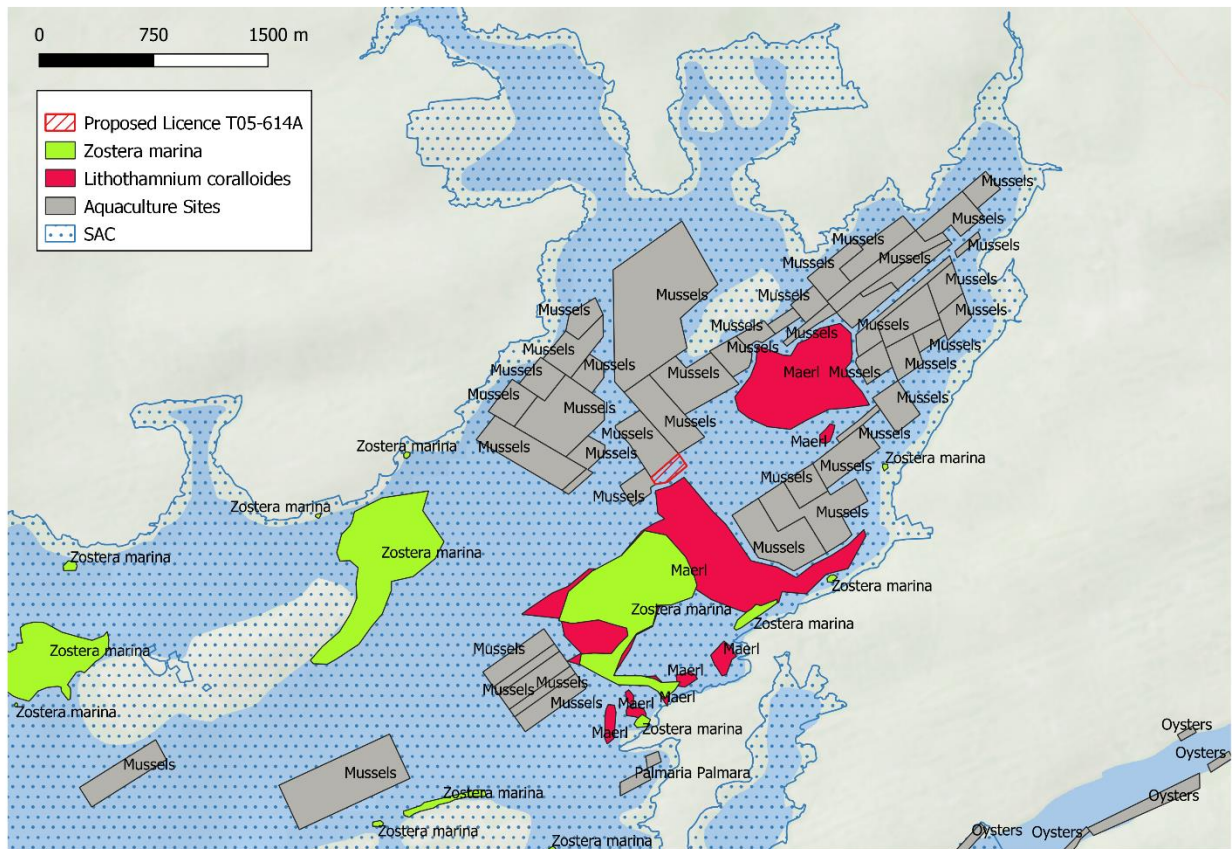


Figure 1: Locations of existing aquaculture sites and approximate location of new aquaculture site T05-614A with proximities to vulnerable maerl and seagrass beds.

Despite this negative assessment and the known impact of existing aquaculture on the benthic communities in the SAC, there is now a proposal to expand the mussel aquaculture very close to one of the maerl beds (see figure 1). While it is not clear from the application form whether the application is for mussel grow-out or spat collection, the maps provided in the Appropriate Assessment (AA) Report clarify that the licence application is for mussel grow-out.

As discussed in the AA, mussel grow-out represents a continuous disturbance to several of the habitats in the bay due to the year-round intensive culture of large mussels. The AA outlines the many negative impacts of mussel longline aquaculture, especially on sensitive maerl communities. This impact has to do with the dispersal and deposition of pseudofaeces (suspended particles which are expelled by mussels because the particles cannot be used as food). When these particles accumulate on the seafloor, they can cause smothering of the maerl because maerl needs light to survive.

Lacunae in the Appropriate Assessment Report

According to the AA, the speed at which pseudofaeces are assimilated or dispersed within the site depends on the hydrographic conditions, turbidity of the water and density of culture. **None of these parameters are described for the culture area and subsequently there is no way of determining the likelihood of smothering.** Since the writing of the AA report, mussel aquaculture has caused smothering of maerl in the bay, which shows that this impact was not properly assessed.

The report states that *“the activities are proximate to habitats of high conservation value (Maerl and seagrass beds). These habitats are highly sensitive to organic enrichment and sedimentation and to shading by structures particularly given the relatively shallow nature (≈5m) of the area in question. However, filtration by the shellfish in this area may also provide benefit to the aforementioned photo-autotrophic species by increasing water clarity.”* No reference is given to scientific studies that could verify this claim. Furthermore, the previous paragraph states the following: *“The duration of the activity is year-round resulting in a risk of chronic enrichment of the seafloor. This will be exacerbated by the presence of older and larger mussels which are capable of production large amounts of faeces and pseudofaeces.”* Therefore, the conclusion that mussels filter water and may therefore not impact on the maerl is contradicted by earlier paragraphs within the same AA report, giving rise to lacunae. Potential impact of aquaculture on reef habitat is not assessed, because the amount of overlap is so small. Potential *ex-situ* effects are not considered and no further explanation is given. In the *Sweetman* case the CJEU held that an AA “cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt.”⁵ The AA does not provide complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt and is therefore not fit for purpose.

Non-implementation of proposed mitigation measures

The AA conclusion statement states that “to protect the important Maerl and seagrass communities a buffer zone of at least 30m is being established between the mapped Maerl / Seagrass areas and the relevant aquaculture sites⁶. Subsequent site surveys by the NPWS have shown mussel longlines to be located directly above the maerl beds, which indicates the 30m buffer has not been implemented³. It is unclear why the recommended buffer zone has not been implemented or enforced, or whether it has been implemented since.

15% disturbance threshold

Despite the many negative impacts identified in the AA report, it is stated that “notwithstanding the above identified impacts the activity occurs on less than 15% of the shallow sand mud community which is below the threshold for significant effects.” The report further states that cumulative impacts from bottom trawling and mussel grow-out on the shallow sand-mud community exist, but that these impacts only overlap with 14.3% of the habitat, which is under the 15% threshold for significant effects.

This 15% disturbance threshold is derived from the National Parks and Wildlife Service. The policy from the NPWS was reportedly based on an EU guidelines document (which is not legally binding) on applying thresholds to describe the conservation status of habitats. The 15% threshold used by the NPWS is not mentioned in the EU guidelines and it is our view that the NPWS has misinterpreted the guidance. Indeed the approach of applying numerical thresholds fails to recognise CJEU judgements on significant effect and certainty beyond reasonable scientific doubt. For example, in the *Waddenzee* case the CJEU held that the test for ‘likely significant effect’ is a very low threshold such that an impact on small proportions of protected sites can constitute a likely significant effect.⁷

⁵ Case C-258/11 para 44

⁶ <https://wayback.archive-it.org/org-1444/20191019152143/https://www.agriculture.gov.ie/media/migration/seafood/aquacultureforeshoremanagement/aquaculturelicensing/appropriateassessmentconclusionstatement/AppropriateAssessmentConclusionStatement161213.pdf> Accessed on 10/08/2021

⁷ Case C-127/02 Waddenzee, ECLI:EU:C:2004:482, paras 43 and 44.



Similarly, in the *Sweetman* case the CJEU found that an impact on only 1% of limestone pavement would constitute an adverse effect on site integrity⁸. The impact of bottom trawling and mussel rope culture on 14.3% of the shallow sedimentary community should therefore be more than enough to constitute a threat to site integrity. The presently poor condition of maerl caused mussel aquaculture already proves that this type of culture is a threat to site integrity.

Moreover, the licencing of activities based on the 15% threshold is in breach of Ireland's legal obligations under the Habitats Directive to:

- *“take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated”* (Habitats Directive Article 6 (2))

The requirement to avoid deterioration applies to the whole site, not just the remaining 85% as interpreted by the Irish authorities.

- Carry out “Appropriate Assessments” on plans or projects *“likely to have a significant effect”* on a protected site and to only authorise such a plan or project where it has been ascertained that it will not adversely affect the integrity of the site concerned (Habitats Directive Article 6(3)).

As it has not been ascertained that aquaculture will not adversely affect the integrity of the site, the activity should not be authorised.

- To generally take measures under the Habitats Directive that are *“designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest”* (Article 2 (2)).

These measures have not been taken to-date as shown by the deterioration in status of Large shallow inlets and bays, particularly in Roaringwater Bay and Islands SAC.

- *“Establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures **which correspond to the ecological requirements of the natural habitat types** in Annex I and the species in Annex II present on the sites”* (Article 6 (1), own emphasis. Case C-90/10 shows that Article 6(1) applies to SACs and candidate SACs after the 6 year deadline to designate has passed. It therefore applies to Roaringwater Bay and Islands SAC even though it has not been formally designated⁹).

The ecological requirements of maerl within Roaringwater Bay are not met. Maerl requires clear water without sedimentation to photosynthesise. These requirements are impaired by mussel aquaculture as outlined in the AA report and this has been the reason for site deterioration. A blanket use of numerical thresholds does not take account of the ecological requirements of individual sites and is therefore unlawful. We submit that by allowing significant and ongoing disturbance on up to 15% of a protected habitat, the state is allowing deterioration of site integrity in direct breach of Habitats Directive requirements.

⁸ Case C-258/11 *Sweetman v An Bord Pleanála* ECLI:EU:C:2013:220

⁹ *Commission v Spain*, case C-90/10, para. 24-28



Recommendation to move to offshore culture methods

The Irish Wildlife Trust strongly supports well-managed mussel aquaculture, where spat is collected via natural colonisation on ropes rather than by dredging, as a low-carbon and environmentally friendly way to produce protein. However, site selection for intensive aquaculture has been poor in Ireland to-date and has resulted in environmental impacts on benthic biodiversity (e.g. maerl in Roaringwater Bay). We recommend that the Department of Agriculture, Food and the Marine review their policy of site selection for aquaculture sites with the view of placing intensive production of shellfish further offshore where the environmental impact is reduced. Offshore mussel farms can be situated in highly dynamic systems with high energy background currents and waves capable of dispersing biodeposits¹⁰. Offshore mussel farming is practiced in the English channel between 3 and 10 km off the English coastline. Mussel longlines are 10 meters long and the average depth in the area is 20 – 25m, leaving enough space between the line end and the seafloor for dispersal of pseudofaeces¹¹. Thus far, no pseudofaeces deposition has been observed below the offshore farm in England. On the contrary, the seafloor has been colonised by mussels that dropped from the lines and have attracted predators including commercially important crabs and lobsters, increasing biodiversity in the area¹². This example shows that with better site-selection, environmental impacts can be largely avoided, making mussel farming one of the most environmentally friendly ways to produce animal protein.

Conclusion

The site integrity of Roaringwater Bay and Islands SAC has been severely damaged at this point in time and any potential additional pressures on the site's habitats will exacerbate the deterioration. The AA does not ascertain beyond reasonable scientific doubt that the proposed aquaculture activity in conjunction with existing fishing activity will not cause further deterioration of the site. We submit that in light of the AA's lack of scientific certainty and the reliance on the unlawful 15% disturbance threshold, to grant this licence would be in contravention of the Habitats Directive, particularly in light of the poor conservation status of the habitats that will be impacted by this development. The Irish Wildlife Trust is therefore of the opinion that the aquaculture licence should not be granted.

Regards,

Regina Classen
Project Officer, Irish Wildlife Trust

¹⁰ Mascorda Cabre, L., Hosegood, P., Attrill, M., Bridger, D. and Sheehan, E., 2021. Offshore longline mussel farms: a review of oceanographic and ecological interactions to inform future research needs, policy and management. Reviews in Aquaculture.

¹¹ Falconer, L., Palmer, S., Barillé, L., Gernez, P., Torres, R., Cazenave, P., Artioli, Y., Hawkins, A., Bedington, M., Simis, S., Miller, P., Dabrowski, T., Othmani, A., Mamoutos, I. 2019. Improved modelling approaches for shellfish production in coastal, intertidal and offshore environments. TAPAS project Deliverable 5.5 report. 58pp.

¹² <https://www.youtube.com/watch?v=FQa3NAuOI28&t=942s>