

Appropriate Assessment Conclusion Statement by Licensing Authority (i.e. Minister for Agriculture, Food and the Marine) for aquaculture activities in Roaringwater Bay and Islands Special Area of Conservation (SAC) (Natura site)

This Conclusion Statement outlines how aquaculture activities in the above Natura site are being licensed in compliance with the EU Habitats Directive.

An Article 6 (Habitats) Assessment of Aquaculture and Fisheries in Roaringwater Bay has been carried out by the Marine Institute. This includes an Appropriate Assessment (Article 6 (3)) of aquaculture and a Risk Assessment (Article 6 (2)) of wild fisheries. This Article 6 Assessment assessed the potential ecological impacts of fishing and aquaculture activities in and adjacent to Roaringwater Bay and Islands SAC. From an aquaculture perspective, the information upon which this assessment is based is the definitive list of applications and extant licences for aquaculture available at the time of assessment.

Description of the aquaculture projects

The projects involve the renewal of existing aquaculture activity and the licensing of new aquaculture activity within Roaringwater Bay and Islands SAC. Aquaculture is practiced in a number of locations within the SAC with approximately 80 aquaculture sites, either existing or under application. A significant proportion of the aquaculture is conducted in the inner bay where mussel cultivation (on longlines) occurs, and both the Ilen Estuary and Sherkin Island where oyster culture is carried out. There are also a number of applications for mussel spat collection in the outer bay.

Description of Ecological and Environmental issues including Conservation Objectives
Conservation Objectives for the SAC:

The SAC is designated for the following qualifying interests: Constituent communities and community complexes for habitats 1160 and 1170 (5) are listed in NPWS (2011b):

- 1160 Large shallow inlets and bays
 - o Zostera dominated communities
 - o Maerl dominated communities
 - o Muddy sand with bivalves and polychaetes community complex
 - o Mixed sediment community complex
 - o Shallow sand/mud community complex
- 1170 Reefs
 - o Exposed / moderately exposed intertidal reef community complexes
 - o Exposed / moderately exposed sub-tidal reef community complexes >20m depth
 - o Sheltered reef communities
 - o *Laminaria* dominated communities
- 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts
- 1351 Harbour porpoise (*Phocoena phocoena*)
- 1355 Otter (*Lutra lutra*)

- 1364 Grey seal (*Halichoerus grypus*)
- 4030 European dry heaths
- 8330 Submerged or partly submerged sea caves

The conservation objectives for the qualifying features were identified by NPWS (2011a). The natural condition of the designated features should be preserved with respect to their extent, distribution and characterizing species. Habitat availability should be maintained for designated species and human disturbance should not adversely affect such species.

Ecological effects

From an aquaculture perspective, the potential ecological effects on the conservation objectives for the site relate to the physical and biological effects of aquaculture structures and human activities on designated species, intertidal and sub-tidal habitats and invertebrate communities and biotopes of those habitats. The effects will depend on the spatial and temporal profile of aquaculture activities during the lifetime of the proposed activities, plans and projects and the nature of each of these activities. In the case of aquaculture this involves, in some cases, increased sedimentation and enrichment

Aquaculture practices in Roaringwater Bay consist primarily of shellfish. As these are filter feeding organisms, usually relying primarily on ingestion of phytoplankton, they do not rely on the input of feedstuffs in order to produce growth. Seaweed culture relies on natural light and ambient nutrients in the water. Chemicals or hazardous substances are not used during production of either.

SAC Features

Roaringwater Bay in West Cork is designated as a Special Area of Conservation (SAC) under the Habitats Directive. The marine area is designated as a large shallow inlet and bay. The bay supports a variety of sub-tidal and intertidal sedimentary and reef habitats including habitats that are sensitive to pressures, which might arise from fishing and aquaculture, such as maerl (coralline algae), seagrass and kelp reefs. The area is also designated for and supports significant numbers of grey seal, harbour porpoise and otter. Seal and porpoise in the Bay are likely to be components of the larger Celtic Sea populations of these species. Conservation Objectives for these habitats and species were identified by NPWS (2011a) and relate to the requirement to maintain habitat distribution, structure and function, as defined by characterizing (dominant) species in these habitats. For designated species the objective is to maintain various attributes of the populations including population size, cohort structure and the distribution of the species in the Bay.

Article 6 Assessment of Roaringwater Bay and Islands SAC

The function of the appropriate assessment and risk assessment is to determine if the ongoing and proposed aquaculture and fisheries activities are consistent with the Conservation Objectives for the site or if such activities will lead to deterioration in the attributes of the habitats and species over time and in relation to the scale, frequency and intensity of the activities. NPWS (2011b) provide guidance on interpretation of the Conservation Objectives which are, in effect, management targets for habitats and species in the Bay. This guidance is scaled relative to the anticipated sensitivity of habitats and species to disturbance by the proposed activities. Some activities are deemed to be wholly inconsistent with long term

maintenance of certain sensitive habitats while other habitats can tolerate a range of activities. For the practical purpose of management of sedimentary habitats a 15% threshold of overlap between a disturbing activity and a habitat is given in the NPWS guidance. Below this threshold disturbance is deemed to be non-significant. Disturbance is defined as that which leads to a change in the characterizing species of the habitat (which may also indicate change in structure and function). Such disturbance may be temporary or persistent in the sense that change in characterizing species may recover to pre-disturbed state or may persist and accumulate over time.

Findings and Recommendations of the Article 6(3) Appropriate Assessment

The existing and proposed aquaculture activities in Roaringwater Bay SAC are in the main compliant and consistent with the conservation objectives identified by NPWS (2011a) for the site. The exceptions are as follows:

- **Trawling, mussel grow-out and sub-tidal oyster culture on shallow sand community:** The cumulative footprint of persistent and disturbing activities such as trawling, mussel growout and sub-tidal oyster culture may be close to the 15% threshold for significant effects on the shallow sand/mud community complex.
- **Proximity of activities to sensitive habitat** – given the sensitivity of maerl and seagrass habitats, consideration should be given to minimising the impact of activities on these habitats. Such measures may take the form, for example, of introducing buffers zones around these habitats in order to minimise dispersion of organic matter onto the sensitive areas.
- **Use of ½-grown oysters** – the use of stock that might have been cultivated in areas outside of the SAC in question might present a risk of introducing non-native ‘hitchhiker’ species. Precautionary measures may be put in place, e.g., monitoring for alien species with consignments and subsequent management actions.
- **Bottom culture of oysters** – given that oysters are cultured in an uncontained fashion on the seabed, a potential risk presents in the event of a disease outbreak, successful oyster reproduction (if diploid stock are introduced) or an alien species introduction into subtidal habitat with ½ grown oysters. Precaution (in the form of mitigation measures) must be used if this activity is to be considered. Such mitigation may take the form of utilising hatchery reared, triploid seed which will reduce the risk in relation to alien species introduction and successful oyster reproduction, respectively.
- **Aquaculture and Grey seal interactions** - Precaution should apply when licensing aquaculture activities in the vicinity of Inisleigh and Castle Islands.

Mitigation Measures

The Licensing Authority, taking account of the recommendations of the Appropriate Assessment and also submissions received during public and statutory consultation, as well as additional technical observations, is implementing the following measures in licensing aquaculture in this Natura site.

- **Note on seed collection areas:** these were considered non-disturbing because of the fact that only seed (small) mussels were to be on the ropes and the duration of deployment was during the spat collection season. Therefore the risk of build-up of material under the lines was considered low or non-existent.

- To protect the important Maerl and sea grass communities a buffer zone of at least 30m is being established between the mapped Maerl / Seagrass areas and the relevant aquaculture sites.
- Additionally, the following conditions will be inserted in the relevant aquaculture licenses.
 - (i) all mussel seed must be sourced locally within Roaringwater Bay.
 - (ii) half-grown oysters (where utilised) are to be sourced from within the jurisdiction.
 - (iii) in the case of oyster culture, hatchery sourced triploid seed to be utilised (with exceptionality provision).
- Furthermore, the bottom oyster culture applications in this Natura site are not being proceeded with.

Conclusion

The Licensing Authority is satisfied that, given the conclusions and recommendations of the Appropriate Assessment process, along with implementation of measures that will mitigate certain pressures on Natura features, the proposed licensed activities are not likely to have a significant effect on the integrity of Roaringwater Bay and Islands SAC.