Appropriate Assessment Conclusion Statement by Licensing Authority for aquaculture activities in Clew Bay Complex Special Area of Conservation (SAC), (Natura 2000 site)

This Conclusion Statement outlines how it is proposed to licence and manage aquaculture activities in the above Natura site in compliance with the EU Habitats Directive. Aquaculture will be licensed in accordance with the standard licence terms and conditions as set out in the aquaculture licence templates. These are available for inspection at: http://www.agriculture.gov.ie/fisheries/aquacultureforeshoremanagement/aquaculturelicensing/.

The licences will incorporate specific conditions to accommodate Natura requirements, as appropriate, in accordance with the principles set out in this document.

An Article 6 (Habitats) Assessment of Aquaculture and Fisheries in Clew Bay has been carried out by the Marine Institute on behalf of the Department of Agriculture, Food and the Marine. This includes an Appropriate Assessment (Article 6 (3)) of aquaculture and a Risk Assessment (Article 6 (2)) of wild fisheries. The Appropriate Assessment assessed the potential ecological impacts of aquaculture activities and fishing in and adjacent to Clew Bay 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 Clew Bay Complex SAC. Aquaculture is practised in a number of locations within the SAC with oysters being the main species cultivated. The Pacific oyster is cultured on trestles in the intertidal area. Subtidal suspended rope mussel culture and subtidal on-bottom culture of oysters are practised. Other aquaculture projects include clams, abalone, scallop, prawn and lobster culture. There are also a number of sites dedicated to the culture of Atlantic Salmon.

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

Clew Bay 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 and for intertidal mud and sand flats not covered by seawater at low tide. The bay supports a variety of subtidal 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 Harbour Seal and otter while salmon, designated in the Newport River which flows into the north east corner of the Bay, migrate through the Bay as smolts and as mature salmon return from sea. 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. Guidance on the conservation objectives is provided by NPWS (2011b).
Conservation Objectives for Clew Bay SAC (001482)

The appropriate assessment of aquaculture in relation to the Conservation Objectives for Clew Bay Complex SAC is based on Version 1.0 of the objectives (NPWS 2011a - 19 July 2011) and supporting documentation (NPWS 2011b - Version 1 June, 2011). The spatial data for conservation features was provided by NPWS.

Qualifying interests of SAC

The SAC is designated for the following habitats and species, as listed in Annex I and II of the Habitats Directive:

1013 Geyer's whorl snail *Vertigo geyeri*
1140 Mudflats and sandflats not covered by seawater at low tide
1150 Coastal lagoons
1160 Large shallow inlets and bays
1210 Annual vegetation of drift lines
1220 Perennial vegetation of stony banks
1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
1355 Otter *Lutra lutra*
1365 Common (Harbour) seal *Phoca vitulina*
2110 Embryonic shifting dunes
2120 Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")

Constituent communities and community complexes recorded within the qualifying interest Annex 1 habitats (i.e. 1140 - Mudflats and sandflats not covered by seawater at low tide and 1160 - Large Shallow inlets and Bays) are listed in NPWS (2011b) and illustrated in Figure 2 and consist of:

- *Zostera* dominated community
- Maërl dominated communities
- Sandy mud with polychaetes and bivalves community complex
- Fine sand dominated by *Nephtys cirrosa* community
- Shingle
- Reef (*Laminaria* dominated community)
- Intertidal sandy mud with *Tubificoides benedii* and *Pygospio elegans* community complex

The Clew Bay Complex SAC is designated for the Harbour seal (*Phoca vitulina*) and has been the subject of monitoring of populations during the molting season (August-September) from 2009-2011 in Westport Bay. Recent estimates of populations at the site range from 121 in 2009, 118 in 2010, and 116 in 2011 (NPWS 2010, 2011c, 2012a). Both 2010 and 2011 estimates were likely considered underestimates based upon restricted visibility during surveying. A number of different locations have been identified within the SAC and are
considered important to the overall welfare and health of the populations at the site. A number of sensitive periods in the life cycle have been identified by the competent authority, i.e. NPWS (NPWS 2011c). Important periods are the pupping season (May-July) and molting season (August-September) and both periods and locations are considered important periods to the overall health of the population in the SAC and that any disturbance during these times should be kept to a minimum. Less information is known about resting period (October-April) and resting areas throughout the SAC. All the sheltered areas within the entire SAC are considered suitable habitat for resting (NPWS 2011c).

**Article 6 Assessment of Clew Bay Complex 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 Natura 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 characterising species of the habitat (which may also indicate change in structure and function).

**Screening of adjacent Natura sites for ex-situ effects**

There are a number of other Natura 2000 sites proximate to the proposed activities i.e.

- Owenduff/Nephin Complex SAC (000534)
- Owenduff/Nephin Complex SPA (004098)
- Corraun Plateau SAC (000485)
- West Connaught Coast SAC (002998)
- Newport River SAC (002144)
- Oldhead Wood SAC (000532)

A preliminary prescreening was carried out on these Natura sites, in most cases likely interactions between aquaculture with qualifying features the adjacent Natura sites will likely screen out on the basis that there is no direct overlap between the features and aquaculture activities (within the SAC).

Qualifying features that do not screen out because of *ex situ* effects or because of effects on features in adjacent SACs include Atlantic Salmon, Otter and Harbour Seal. The Appropriate Assessment concluded that the proposed aquaculture will have no significant impact on the adjacent Natura Sites.

**Findings and Recommendations of the Article 6(3) Appropriate Assessment**
The Appropriate Assessment finds that the majority of activities, at the current and proposed or likely future scale and frequency of activity are consistent with the Conservation Objectives.

Some exceptions and recommendations follow:

- **Aquaculture and Habitats:** The risk posed by the culture of scallops over mearl habitat cannot be discounted. In relation to other culture types: based upon the scale of spatial overlap and the relatively high tolerance levels of the habitats and species therein and given the likely interactions between current and proposed aquaculture activities with these habitats, it is concluded that consideration can be given to licensing (existing and applications) in the Annex 1 habitats – 1140 (Mudflats and sandflats not covered by seawater at low tide) and 1160 (Large Shallow Inlets and Bays).

It is recommended that the any overlap with sensitive habitat (e.g. mearl) should be avoided and that licence boundaries be redrawn. It is also recommended that there be strict adherence to the access routes identified and that density of culture structures within the sites be maintained at current levels. The movement of stock in and out of Clew Bay Complex SAC should adhere to relevant fish health legislation and follow best practice guidelines.

- **Aquaculture and species:** It is acknowledged in this assessment that the favourable conservation status of the Harbour seal (*Phoca vitulina*) has been achieved given current levels of aquaculture production within the SAC. On this basis, the current levels of licensed aquaculture (existing and renewals) are considered non-disturbing to harbour seal conservation features. It is anticipated that new applications will likely not result in any disturbances to seal sites. One site i.e. an application for the culture of abalone, was identified in the assessment as potentially disturbing, but subsequent clarification relating to proposed operations at the site, i.e., fully subtidal and that it will not be accessed over land, resulted in this concern being alleviated. The aquaculture activities proposed do not pose a threat to otter and salmon in the Clew Bay Complex SAC.

- With the management and regulatory systems that are in place and when fully operational, the current finfish aquaculture activities carried out do not pose a risk to salmon migrating through the Clew Bay Complex SAC.

**Mitigation Measures**

The Licensing Authority, taking account of the recommendations of the Appropriate Assessment, is implementing the following measures in licensing aquaculture in this Natura site:-

**Abalone:** It is acknowledged that the culture of a non-native species (e.g. abalone *Haliotis* sp.) may present a risk of establishment of this species in the SAC. As this taxa (*Haliotis* sp.) is not exempted under Annex IV of the ‘COUNCIL REGULATION (EC) No. 708/2007 concerning use of alien and locally absent species in aquaculture. An Environmental Risk Assessment has been carried out and concluded that the environmental risks associated with the proposed introduction of Abalone in this application is low.
**Manila clam** (*Ruditapes philippinarum*), this species is exempt under Annex IV of the aforementioned Alien species in aquaculture regulations. However, this species has been in culture in Ireland since 1984 and, to the best of our knowledge, no recruitment in the wild has been recorded. The operations are totally reliant on hatchery seed and are fully contained at all stages of the production cycle. The risk of naturalisation of this species is considered low, but should be kept under surveillance.

**Scallop:** It is recommended that any overlap with sensitive habitat (e.g. mearl) should be avoided. Licence boundaries have been redrawn to exclude the overlap of mearl grass providing a suitable buffer zone. Strict adherence to the access routes identified and that density of culture structures within the sites be maintained at current levels. The movement of stock in and out of Clew Bay Complex SAC would adhere to relevant fish health legislation and follow best practice guidelines.

**Didemnum vexillum,**
At the time of the appropriate assessment preparation it was unclear as to the extent of *Didemnum* in Clew Bay. As it has been since confirmed, it is clear that this presents a risk to conservation features of the site. It is also clear that a clear link to aquaculture structures has been established. Best practice will be employed to ensure that structures and netting are kept clean at all times and that any biofouling by alien invasive species be removed and disposed of in a responsible manner, such that it will not pose a risk to the conservation features of the site. Adherence to such practice will be included as a licence condition.

**Conclusion**
The Licensing Authority is satisfied that, given the conclusions and recommendations of the Appropriate Assessment process, a decision can be taken in favour of licensing existing and proposed aquaculture operations in Clew Bay Complex SAC, subject to the implementation of the mitigation measures outlined above.

Accordingly, the Licensing Authority is satisfied that the proposed licensing is not likely to have a significant effect on the integrity of the Clew Bay Complex SAC.