Draft Appropriate Assessment Conclusion Statement for aquaculture activities in Valentia Harbour/Portmagee Channel SAC (Site Code: 2262)

This Conclusion Statement outlines how aquaculture activities are being licensed in the above Special Area of Conservation (SAC) - in compliance with the Habitats Directive. Aquaculture in this Natura sites 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 on the Department's website at: https://www.agriculture.gov.ie/seafood/aquacultureforeshoremanagement/aquaculturelicensing/aquacultureandforeshorelicencetemplates/

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

The SAC report was prepared by the Marine Institute on behalf of the Department of Agriculture, Food and the Marine. This Appropriate Assessment assessed the potential ecological impacts of aquaculture activities on Natura features in the SAC.

The information upon which the Appropriate Assessment is based is the definitive list of applications and extant licences for aquaculture available at the time of assessment. This information was provided by the Department of Agriculture, Food and the Marine.

Aquaculture activity in the SAC

The only aquaculture activity currently practiced (or proposed) is oyster culture. The Pacific oyster (*Crassostrea gigas*) is cultured on trestles in intertidal areas.

Valentia Harbour/Portmagee Channel SAC

Valentia Harbour/Portmagee Channel SAC comprises the entirety of the waters inside Valentia Island encompassing islands at the northern (Doolus Bay) and southern (Bray Head) opening to the ocean. The site is comprised of a wide range of intertidal and subtidal habitats, including mudflats and sandflats not covered by seawater at low tide, large shallow inlets and bays as well as reefs.

Qualifying Interests:

Within the Valentia Harbour/Portmagee Channel SAC the qualifying interests considered subject to potential disturbance and therefore, carried further in this assessment are:

- 1140 Mudflats and sandflats not covered by seawater at low tide
- 1160 Large shallow inlets and bays
- 1170 Reefs

Furthermore, habitats and species that are key contributors to biodiversity and which are sensitive to disturbance should be afforded a high degree of protection i.e. thresholds for impact on these habitats is low and any significant anthropogenic disturbance should be avoided. In Valentia Harbour/Portmagee Channel SAC there are four such community types found within the feature Large shallow inlets and Bays (1160). These sensitive habitats include:

- *Zostera*-dominated community
- Maerl-dominated community / *Zostera*-dominated community
- Maerl-dominated community
- *Edwardsia delapiae* associated community

There is no spatial overlap between the current or proposed aquaculture activities and these four sensitive community types. These community types are, therefore, excluded from further analysis.

For broad habitats and sedimentary communities significance of impact is determined in relation to, first and foremost, spatial overlap. Those community types carried forward for further consideration are:

- Fucus-dominated intertidal reef community complex
- Intertidal sand with nematodes and polychaetes community complex
- *Laminaria*-dominated community
- Mixed sediment with *Chaetozone gibber* community complex
- Sandy mud to mixed sediment with *Melinna palmata* community complex

The appropriate assessment and risk assessment finds that the activities, at the current and proposed or likely future scale and frequency of activity are consistent with the Conservation Objectives for the SAC. In relation to intertidal shellfish culture activities, given the scale of spatial overlap and the relatively high tolerance levels of some habitats and species therein, the general conclusions relating to the interaction between current and proposed aquaculture activities with habitats is that consideration can be given to licencing (existing and applications) in the Annex 1 habitats – 1140 (Mudflats and sandflats not covered by seawater at low tide), 1160 (Large Shallow Inlets and Bays) and 1170 (Reefs).

Introduction of non-native species

Oyster culture may present a risk in terms of the introduction of non-native species as the Pacific oyster (*Crassotrea gigas*) itself is a non-native species. Recruitment of *C. gigas* has been documented in a number of Bays in Ireland and appears to have become naturalised (i.e. establishment of a breeding population) in two locations (Kochmann et al., 2012; 2013) and may compete with the native species for space and food. In addition to having large number of oysters in culture, Kochmann et al., (2013) identified short residence times and large intertidal areas as factors likely contributing to the successful recruitment of oysters in Irish bays. The residence time in Valentia Harbour is lower than the 21 day threshold identified in Kochmann et al (2013). In addition, the use of triploid seed by operators in the bay will further mitigate the risk. Consequently, the risk of Pacific oysters naturalising in Valentia Harbour can be discounted.

While there is minimal risk associated with the introduction of hitchhiker species with hatchery reared oyster seed, the risk posed by the introduction of '½-grown' or 'wild' seed originating from another jurisdiction (e.g. Britain, France) cannot be discounted.

Based upon experience elsewhere, the introduction of '½ grown' or 'wild' oyster or mussel seed stock into aquaculture plots (both within and proximate to the SAC) from outside of Ireland does pose a clear risk of establishment of non-native species in the SAC. In order to mitigate the risk of introduction of alien species into the SAC as a result of aquaculture activities all movement of stock in and out of the Valentia Harbour/Portmagee Channel SAC should adhere to relevant legislation and follow best practice guidelines (e.g. http://invasivespeciesireland.com/cops/aquaculture/).

Screening of Adjacent SACs for ex-situ effects:

In addition to the Valentia Harbour/Portmagee channel SAC there is one other Natura 2000 site (Iveragh Peninsula SPA) which is proximate to the proposed activities. A preliminary screening is carried out on the likely interaction of the characteristic features of these sites with aquaculture and fishery activities based upon the likelihood of spatial overlap. In addition, species migrating to and from the site may be affected by activities, such as fisheries, operating outside the site (*ex situ* effects).

All likely interactions between aquaculture and fisheries activities with qualifying features in Iveragh Peninsula SPA were screeed out on the basis that; 1) there is no direct overlap between the features and aquaculture (and fisheries) activities (within the SAC) and, 2) *ex situ* effects are considered non-impacting, in that the bird species identified will feed primarily offshore or on land.

In-combination effects:

Fisheries

Of the fishery activities carried out in the SAC, there is only one (Trap-shrimp) that is considered impacting on a number of sensitive community types found within Valentia Harbour/Portmagee Channel SAC. These community types are:

- *Zostera*-dominated community
- Maerl-dominated community / *Zostera*-dominated community
- Maerl-dominated community
- *Edwardsia delapiae* associated community

There are no shellfish activities that interact with these community types. On this basis there are no likely in-combination effects between shellfish culture activities and fishery activities.

Pollution

There are a number of activities which are terrestrial in origin that might result in impacts on the conservation features of the Valentia Harbour/Portmagee Channel SAC. Primary among these are point source discharges from municipal and industrial units (Shellfish Pollution Reduction Programme, DHPLG). There are three urban waste water treatment plants in the general vicinity of the SAC. These are found in Cahersiveen, Knightstown and

Portmagee. The pressure derived from these facilities is a discharge that may impact upon levels of dissolved nutrients, suspended solids and some elemental components e.g. aluminium in the case of water treatment facilities. It should be noted that the pressures resulting from fisheries and aquaculture activities are primarily morphological in nature. It was, therefore, concluded that given the pressure resulting from say, a point discharge location (e.g. urban waste-water treatment plant or combined sewer overflow) would likely impact on physico-chemical parameters in the water column, any in-combination effects with aquaculture or fisheries activities are considered to be minimal or negligible. In addition, the most recent Water Framework Directive water quality monitoring data from Valentia Harbour is classified as High for general conditions (nutrients etc..) and High for biological conditions (EPA).
No other activities resulting in morphological pressures were identified or could be quantified.

Conclusions:
In summary, the scale of spatial overlap and the relatively high tolerance levels of the habitats and species therein, the general conclusions relating to the interaction between current and proposed aquaculture activities with habitats is that consideration can be given to licencing (existing and applications) in the Annex 1 habitats –
This assessment is based upon the seed source being triploid from hatcheries and, as such, does not present a major risk to conservation features from recruitment of non-native oysters (i.e. *Crassostrea gigas*) and other hitchhike species. If the source or type of seed were to change this would require a separate assessment.
It is 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.

In relation to in-combination effects with other activities, there are no community types likely to be considered impacted in-combination with the aquaculture activities.

The movement of stock in and out of Valentia Harbour/Portmagee Channel SAC should adhere to relevant fish health legislation and follow best practice guidelines.

Summary of Mitigation Measures and Management Actions that are being implemented as a consequence of the findings in the Appropriate Assessment report

Taking account of the recommendations of the Appropriate Assessment, as well as additional technical/scientific observations, the following measures are being taken in relation to licensing aquaculture in this SAC:

- On the basis of the Appropriate Assessment findings, any future seeding of the bottom culture site will be with Triploid Seed only and licences will have specific conditions in relation to monitoring of oyster reproductive condition and/or recruitment in the Bay.

- A Licence condition will require full implementation of the measures set out in the draft Marine Aquaculture Code of Practice prepared by Invasive Species Ireland (e.g. http://invasivespeciesireland.com/cops/aquaculture). The risk of introduction of alien taxa with ½ grown oysters from France will be mitigated by the standard licence conditions relating to Alien Species.

- The movement of stock in and out of Valentia Harbour/Portmagee Channel SAC should adhere to relevant fish health legislation.

- The use of updated and enhanced Aquaculture and Foreshore Licences containing terms and conditions which reflect the environmental protection required under EU and National law;

- All aquaculture licences are subject to standard licence conditions, which cover, among other things, any further actions that might be required in the event of deterioration of conservation status of species/habitats at site level that is directly attributable to aquaculture operations.

Proposed Licensing

The Licensing Authority is satisfied that, given the conclusions and recommendations of the Appropriate Assessment process, the implementation of the above measures will mitigate pressures on Natura 2000 features. The Conclusion Statement will be updated, as appropriate.

Conclusion

Accordingly, the Licensing Authority is satisfied that, given the scale of spatial overlap and the relatively high tolerance levels of the habitats and species therein, the general conclusions relating to the interaction between current and proposed aquaculture activities with habitats this proposed licensing is not likely to significantly and adversely affect the integrity of the Valentia Harbour/Portmagee Channel SAC.