

**Appropriate Assessment Conclusion Statement by Licensing Authority for aquaculture activities in Donegal Bay Special Area of Conservation (SAC), Donegal Bay and Durnesh Lough Special Protection Areas (SPAs) (Natura 2000 sites) (Updated October 2016)**

This Conclusion Statement outlines how it is proposed to licence and manage aquaculture activities in the above Natura sites in compliance with the EU Birds and Habitats Directives. The original Conclusion Statement for these Natura sites was prepared in 2014. This is now being updated to reflect the additional monitoring that took place in late 2014 and early 2015 (Report on monitoring Sanderling populations within Donegal Bay SPA, 2014/2015, March 2016 – available on the Department’s website).

Aquaculture is being 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 also incorporate specific conditions to accommodate Natura requirements, as appropriate, in accordance with the principles set out in this document.

An Appropriate Assessment of Aquaculture and Fisheries in Donegal 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. This Appropriate Assessment assessed the potential ecological impacts of fishing and aquaculture activities on Natura features in and adjacent to the Natura sites in Donegal Bay. From an aquaculture perspective, 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.

The assessment of the impact of oyster aquaculture activity in this Natura area is based on the profiling of the use of triploid seed. If there is a proposal to use any other type of seed a further assessment would be required.

**Donegal Bay (Murvagh) SAC (00133)**

Donegal Bay (Murvagh) SAC is located to the west of Donegal Town and in the inner part of Donegal Bay. It comprises the majority of the marine habitat inside the Murvagh peninsula. The site consists of intertidal habitats, notably mud and sand flats, sea inlets and bays, tidal rivers, estuarine channels and sandy beaches. The SAC is primarily estuarine in character, with shallow water and intertidal sand and mud flats being the dominant habitats. The site is also designated for Harbour Seal.

**Conservation Objectives for Donegal Bay (Murvagh) SAC**

The conservation objectives for the SAC qualifying interests are identified in NPWS (2012). The natural condition of the designated features should be preserved with respect to their area, distribution, extent and community distribution. Habitat

availability should be maintained for designated species and human disturbance should not adversely affect such species.

### **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:

- 1140 Mudflats and sandflats not covered by seawater at low tide
- 1365 Harbour Seal - *Phoca vitulina*
- 2130 Fixed coastal dunes with herbaceous vegetation ('grey dunes')
- 2190 Humid dune slacks

Constituent communities and community complexes recorded within the qualifying interest mudflats and sandflats not covered by seawater at low tide (1140) are listed in NPWS (2011) and consist of:

- Estuarine fine sands dominated by polychaetes and oligochaetes community complex
- Intertidal muddy sand to sand dominated by polychaetes, bivalves and crustaceans community complex

The Donegal Bay (Murvagh) SAC is designated for the Harbour seal (*Phoca vitulina*) and has been the subject of monitoring of populations during the moulting season (August-September) from 2009-2011. NPWS population estimates at the site range from 209 in 2009, 143 in 2010 and 194 in 2011.

A number of different sites have been identified within the SAC and are considered important to the overall welfare and health of the seal population. These locations identify and distinguish between breeding, moulting and resting sites. The categorisation of the sites is based primarily upon the time of year when seals were observed (NPWS 2011). Both pupping (May-July) and moulting (August-September) seasons are considered particularly sensitive times of the year for seals and, as such, both periods and locations are considered important to the overall health of the seal population in the SAC. Any disturbance during these times should be kept to a minimum. Less information is known about the resting period (October-April) and associated resting areas throughout the SAC. The locations are, however, based upon actual sightings. The sheltered areas within the entire SAC are considered suitable habitat for resting (NPWS 2011).

### **Donegal Bay SPA (004151)**

Donegal Bay SPA is a very large marine-dominated site. It extends from Doorin Point, west of Donegal Town, to Tullaghan Point in County Leitrim, a distance of approximately 15km. It varies in width from about 3km to over 8km. Much of the shoreline is rocky or stony, with well-developed littoral reefs in places. There are

also extensive stretches of sandy beaches, especially from the Murvagh peninsula southwards to Rossnowlagh and at the outer part of the estuary of the River Erne.

### **Qualifying features**

The Special Conservation Interests (SCIs) of the Donegal Bay SPA include wintering populations of Light-bellied Brent Goose, Common Scoter, Great Northern Diver and Sanderling. In addition, the wetland habitats contained within Donegal Bay SPA are identified to be of conservation importance for non-breeding (wintering) migratory waterbirds. Therefore, the wetland habitats are considered to be an additional Special Conservation Interest - (NPWS, 2012b).

### **Conservation objectives**

#### **SCI species**

The conservation objectives for the Light-bellied Brent Goose, Common Scoter, Great Northern Diver and Sanderling non-breeding populations at Donegal Bay are to maintain their “favourable conservation condition” (NPWS, 2012a). The favourable conservation conditions of these species at Donegal Bay are defined by various attributes and targets.

The attributes referred to are: (i) population trend and (ii) distribution. In respect of population trend, the target is the long term, stable or increasing, populations of the species specified. With regard to distribution, there should be no significant decrease in the range, timing or intensity of use of areas by Common Scoter, Sanderling, Light-bellied Brent Goose and Great Northern Diver, other than that occurring from natural patterns of variation.

#### **Wetlands and waterbirds**

The conservation objective for wetlands and waterbirds at Donegal Bay is to “maintain the favourable conservation condition of the wetland habitat at Donegal Bay SPA as a resource for the regularly-occurring migratory waterbirds that use it” (NPWS, 2012a). The favourable conservation condition of the wetland habitat at Donegal Bay is defined by a single attribute and target.

The attribute specified is the habitat area. The target in respect of same is that the permanent area occupied by the wetland should be stable and not significantly less than the areas’ estimated 10,461 ha, other than that occurring from natural patterns of variation. The wetland habitat area was estimated as 10,461 ha using OSI data and other relevant information.

### **Durnesh Lough SPA (004145)**

Durnesh Lough SPA is situated to the east of Rossnowlagh on the southern side of Donegal Bay, approximately 10km north of Ballyshannon. It is a large sedimentary lagoon which is separated from the sea by a barrier composed partly of drumlins and partly of high sand dunes, with the remains of a cobble barrier occurring in places. The lagoon formerly had a natural outlet to the sea but the outlet is now an artificial channel and pipe running under the sand dunes which appears to allow a certain amount of seawater to enter. The underlying geology of the area is limestone but this is covered by a thick layer of clay drift deposits in the form of drumlins.

### **Qualifying features**

The Special Conservation Interests (SCIs) of the Durnesh Lough SPA are the wintering populations of Whooper Swan and Greenland White-fronted Goose.

### **Conservation objectives**

The conservation objectives for the Whooper Swan and Greenland White-fronted Goose wintering populations at Durnesh Lough are to maintain or restore their “favourable conservation condition” (NPWS, 2011a).

### **The Appropriate Assessment and Risk Assessment process**

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 sites 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 sites. The assessment of activities was informed by this guidance, which 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 for certain habitat types. 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.

In the case of designated bird species, trends in populations and range of habitat use are important especially with respect to conditions that prevailed in the mid 1990s (baseline period).

The Appropriate Assessment and Risk Assessment process is divided into a screening stage and Appropriate Assessment or Risk Assessment proper. The assessment begins by screening out those activities which are deemed incapable of having, by virtue of no spatial overlap or no obvious link (proximity), any significant impact. This is a conservative screening in that other activities which may overlap with habitats but which may have very benign effects were retained for full assessment. In assessment of the species, activities outside the site which may have an effect on them are included. This is particularly important for highly mobile widely distributed species.

### **Aquaculture activity in the SAC and SPAs**

The only significant aquaculture activity in the SAC is the culture of Pacific oysters in bags and trestles on intertidal habitat. In the Donegal Bay SPA (the part that does not overlap with the Donegal Bay (Murvagh) SAC), there is an aquaculture licence

application for the on-bottom (extensive) production of Pacific oysters and also applications for intensive intertidal culture of Pacific oysters and the extensive culture of the native purple sea urchin. There is no aquaculture being conducted within the confines of Durnesh Lough SPA.

### **Findings and Recommendations of the Appropriate Assessment of Aquaculture**

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, subject to a number of caveats:

#### **Special Area of Conservation (SAC)**

- Increased licensing (applications) of intertidal oyster trestle culture may result in disturbance of Harbour Seal. In particular, the location of a single application in the vicinity of Inispat Island is proximate to an important Harbour Seal breeding and moulting site.

#### **Special Protection Area (SPA)**

The effects of aquaculture on bird species have been fully considered at this stage. The requirement to engage in further data collection and subsequent reporting during late 2014 and early 2015 completed this process (full report available on the Department's website). The aquaculture activities are confined to a period of 4-5 hours around low tide and no interaction with birds roosting at high tide is likely. No on-shore facilities which may lead to interactions with roosting birds were identified as part of the AA process. Some of the conclusions and recommendations of the Appropriate Assessment in relation to the SPA are as follows:

- Bottom (extensive) culture of Pacific oysters and dredging of them will disturb benthic communities. The impact of bottom culture of oyster on Common Scoter cannot be discounted.
- There is potential for inter-tidal oyster culture in Mountcharles -Eddrim Estuary area to cause displacement impacts on the Sanderling.

### **Management/Mitigation Measures**

Taking account of the recommendations of the Appropriate Assessment and the Report on monitoring Sanderling populations within Donegal Bay, as well as additional technical/scientific observations, the following measures are being taken in relation to the licensing of aquaculture in these Natura sites.

#### **– Bottom (extensive) culture of Pacific oyster**

##### **Common Scoter**

Extensive culture of Oyster on bottom is not presently licensed in Donegal Bay. One aquaculture licence application (T12/338) for the bottom culture of Pacific oysters, covering 31 ha, has been received in subtidal waters within the confines of Donegal Bay SPA.

The bottom culture of oysters in subtidal waters is considered disturbing to the subtidal biotopes affected. Such activity may impact on the foraging resources that are available to the Common Scoter (which feeds on benthic invertebrates in deep subtidal waters) in Donegal Bay.

The application referred to above has now been withdrawn by the applicant.

### **Intensive culture of Pacific oyster using bags and trestles**

#### **Harbour Seal**

Harbour seal - *Phoca vitulina* is specified among the qualifying interests of Donegal Bay SAC. Habitat availability should be maintained for designated species and human disturbance should not adversely affect such species.

The conservation objective relating to the Harbour seal, for the Donegal Bay (Murvagh) SAC, is to maintain its favourable conservation condition. The associated target is that the range of use within the site should not be restricted by artificial barriers; all sites should be maintained in natural condition; human activities should occur at levels that do not adversely affect the Harbour seal population at the site.

The Appropriate Assessment considered the risks posed by structures (oyster trestles) in terms of seal site use. The location of such structures was considered in light of all known seal locations. It was possible, based upon examination of seal count data and in communication with NPWS, to quantify the importance of some seal sites over others.

A single aquaculture licence application, in respect of a site located to the west of Inishpat Island (T12/464A), is in an area (sandbank) of high importance for both the breeding and moulting of Harbour seals. Given the proximity to this important haul-out site, the risk of disturbance posed by this application cannot be discounted. On that basis it was recommended that this proposed aquaculture operation, should not be licensed

For all other aquaculture activities, it is acknowledged that seal numbers within the SAC appear stable and that a certain degree of habituation or tolerance has occurred to shellfish aquaculture activities in certain areas. Seals are adaptable and there is evidence that if there is a barrier of a water channel in between them and the trestles they continue to haul out despite the nearby aquaculture activity e.g. east side of Inishpat Island, Donegal Bay. Furthermore, it is likely, given the locations of the proposed aquaculture activities (applications), that the interaction with known seal (resting) sites will be low. This is concluded on the basis that the resting sites identified are considered of relatively low sensitivity due to the degree of exposure (relatively high) and the low abundance of seals observed at the sites.

#### **Sanderling**

Sanderling numbers appear to be relatively stable in Donegal Bay SPA. They are highly mobile within the estuary with flocks also appearing to opportunistically avail of clustered prey resources along the shoreline. Three areas, including the

Mountcharles / Eddrim Estuary area, are noteworthy for Sanderling. Excluding the Eddrim Estuary, Sanderling do not seem to favour the Inner Bay; this is in line with expectations based on biotope and benthic invertebrate data. Therefore, Sanderling distribution does not overlap to any significant extent with any of the Inner Bay applications or licences for inter-tidal cultivation.

The Appropriate Assessment report concluded there was potential for inter-tidal oyster culture in Mountcharles - Eddrim Estuary area to cause displacement impacts on the Sanderling. Studies into interactions between shorebirds and intertidal aquaculture trestles suggest that Sanderling strongly avoid oyster trestles. Following the publication of the Appropriate Assessment the National Parks and Wildlife Service (NPWS) expressed concern that a further extension of oyster trestle activity in this area may well displace the existing Sanderling that use this area. However, there was insufficient data on Sanderling distribution and abundance to assess whether this displacement would be significant. As a result, additional monitoring took place in 2014/2015, to further inform the interactions of aquaculture on Sanderling (*Report on monitoring Sanderling populations within Donegal Bay SPA (004151), 2014/15, March 2016* – available on the Department's website).

It is noted that Sanderling numbers appear to be relatively stable in Donegal Bay SPA. There is no evidence that the development of intertidal oyster cultivation at Mountcharles (the only area where interactions will likely occur within the SPA), has affected the long-term population trends of this species in Donegal Bay SPA. Therefore, existing activities are not likely to impact on the Sanderling.

The Monitoring Report indicates that the majority of Sanderling flock observations were made outside of the aquaculture application and licence areas. However, observations were also made of Sanderling flocks utilising intertidal habitats covered by both the application and existing licence areas.

The Monitoring Report further noted that there is little evidence that licence block T12/446A (a new application) is used to any significant degree by Sanderling. However, the extreme southern end of T12/446A by approaching close to the northern side of existing trestles at Mountcharles encroaches upon the narrow channel left open to the south / east of Beefpark. Account has to be taken of the impact that this might have on patterns of water flow, sediment deposition and erosion in the local area.

The 2014/2015 monitoring data highlights the importance of an area running south from Jack's Quay towards the southwestern corner of T12/396A (a new application). Foraging was also recorded on a number of occasions within the southern section of this site. The placement of trestles on this part of T12/396A should be avoided because of the potential for negative impacts on Sanderling. A precautionary approach must also be adopted to licensing the remaining areas within this site in the absence of further bathymetric data and information on benthic invertebrate diversity (see mitigation measures below).

## **Summary of Management/Mitigation measures**

- An application for the bottom culture of Pacific oysters, covering 31 ha (ref. T12/338), has been withdrawn by the Applicant. The proposed activity had the potential to impact on the foraging resources that are available to the Common Scoter (which feeds on benthic invertebrates in deep subtidal waters) in Donegal Bay.
- A licence application, in respect of a site located to the west of Inishpat Island (T12/464A), has been refused. This site is located in an area (sandbank) of high importance for both the breeding and moulting of Harbour seals. Given the proximity to this important haul-out site, the risk of disturbance posed by this application could not be discounted.
- It is proposed not to license the southern end of site reference T12/446A (a new application). The southern part of this site, by approaching close to the northern side of existing trestles at Mountcharles, encroaches upon the narrow channel left open to the south / east of Beefpark. Taking account of the impact that this may have on patterns of water flow, sediment deposition and erosion in the local area it is proposed not to license the most southern portion of this site.
- It is proposed not to license site reference T12/396A (a new application). The 2014/2015 monitoring data highlights the importance of an area running south from Jack's Quay towards the southwestern corner of T12/396A for the Sanderling. Foraging was also recorded on a number of occasions within the southern section to this site. Therefore, the placement of trestles in this area is being avoided because of the potential for negative impact on Sanderling.
- Furthermore, the Monitoring Report notes that recent aerial photograph suggests that an area of deeper channel has developed through the northern section of T12/396 (it may not be practical to place trestles in this area). In the absence of further bathymetric data and information on benthic invertebrate diversity, a precautionary approach is being adopted and it is not proposed to license any area of T12/396A.

## Conclusion

The Minister is satisfied that, given the conclusions and recommendations of the Appropriate Assessment process, allied to the findings contained in the *Report on monitoring Sanderling populations within Donegal Bay SPA (004151), 2014/15 - March 2016*, 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 Donegal Bay SAC, Donegal Bay SPA and Durnesh Lough SPA.