**Appeal Ref No. AP 4/2019**

**Aquaculture Licences Appeals Board**

**Technical Advisor's Report**

**Description:** Assessment of the appeal against the Minister's decision to refuse an aquaculture and foreshore licence for the cultivation of Pacific Oysters in Donegal Bay, Co. Donegal.

**Licence Application**

**Department Ref No**: T12/396

**Applicant(s):** Donegal Oysters Ltd & Donegal Oceandeep Oysters Ltd, Rossylongan, Donegal Town

**Minister's Decision:** Refused

**Appeal**

**Type of Appeal:** To appeal the ministerial decision to refuse to grant an Aquaculture and Foreshore licence for the cultivation of Pacific Oysters using bags and trestles on the site reference T12/396

**Appellant(s):** Donegal Oceandeep Oysters Ltd., Rossylongan, Donegal Town.

**Observers:**

**Technical Advisor:** EcoÉireann Ecological Consultants

**Date of site**
**Inspection:** Site Inspection carried out by Eoin Cussen, Assistant Ecologist on the 11th & 12th March 2020.

## Document Control

| Version | Date | Changes | Confidentiality | Prep | Rev | Auth |
|---|---|---|---|---|---|---|
| V1 | 06/01/2020 | Draft to client | Confidential | EC | JT | JT |
| V2 | 01/05/2020 | Incorporation of site visit & client's comments | Confidential | EC/ER | MM | JT |
| V3 | 05/06/2020 | Incorporation of AFMD report dated 1st July 2010 | Confidential | EC | MM | JT |
| V4 | 26/06/2020 | Incorporation of Section 47 Request and Reply from Donegal County Council | Confidential | EC | | JT |
| V5 | 20/07/2020 | Incorporation of Board comments and finalised site variation | Confidential | EC | | |
| V6 | 07/08/2020 | Final report to Client | Confidential | EC | | EC |

## Contents

**1.0 General Matters / Appeal Details**

**1.1 Appeal Details & Observer Comments / Submissions**

Date Appeal Received: Received by ALAB on 6th September 2019

Location of Site Appealed: Donegal Bay, Co. Donegal

**1.2 Name of Appellant (s):**

Donegal Oceandeep Oysters Ltd, Rossylongan, Donegal Town

**1.3 Name of Observer (s)**

N/A

**1.4 Grounds for Appeal**

*Substantive Issues*

1. *Other Users*
   The appellant states that the development of oysters farming in Donegal Bay has been overwhelmingly positive since the implementation of the limiting line and there has been no impact on other users with all activities (recreational and commercial) increasing in activity since it began.

2. *Recreational Activity*
   The appellant states that there is no and never has been any recreational activity in this area as it is too far from the shore road and not accessible due to a deep channel on its western boundary.

3. *Economic*
   The appellant states there is a clear economic benefit to the local community, which is a core consideration under the Licensing Act. The area has the potential to create an additional 10 jobs.

5. *Natura Sites*
   The appellant states there is little or no impact of oyster farming within the Natura Network. This application is well below the 15% coverage threshold recommended by the NPWS and that most species protected under the Natura network in Donegal are stable or increasing.

6. *Wildlife*
   The Appellant states that the AA identified and located areas used by Sanderling and that these were located primarily on the Murvagh sandflats. The appellant also states that Sanderling and many other species are continually observed

around their existing site and are not overly disturbed by the habitual nature of the activities.

7. Industry Experience
The Appellant states that both applicant companies have over 30 years' experience growing shellfish within Donegal Bay and that there are few companies with such industry experience.

*8.* *Business Development*
Both applicant companies have recently invested heavily (€1.5million) in developing new shellfish grading facilities, capable of handling the additional tonnage to be produced.

*Non-Substantive Issues*

*1.* *Environment* The appellant states that oyster farming is entirely sustainable, based on a naturally reoccurring resource (plankton production) and that all materials used in farming are fully recyclable. Oyster shell growth directly sequesters and permanently stores carbon from the oceans. The appellant believes that from an environmental perspective it is imperative that we increase our shellfish populations all around the coastline to combat continuing nitrification of our estuaries by agriculture and waste-water discharges

**1.5 Minister's Submission**

Section 44 of the Fisheries (Amendment) Act 1997 states that:

*"The Minister and each other party except the Appellant may make submissions or observations in writing to the Board in relation to the appeal within a period of one month beginning on the day on which a copy of the notice of appeal is sent to that party by the Board and any submissions or observations received by the Board after the expiration of that period shall not be considered by it."*

The Minister responded to the application for the aquaculture and foreshore licence as below as described in the DAFM website (https://www.agriculture.gov.ie/seafood/aquacultureforeshoremanagement/aquaculturelicensing/aquaculturelicencedecisions/donegal/ [Accessed 06/01/20]);

1. Recommendations of the Department's engineer – Which are listed below:
    - The conclusions of the LVIA and the Appropriate Assessment, AA, findings (as updated by the 2015 Sanderling Monitoring Report) give grounds for concern about the impact of this proposed development on the foreshore of Donegal Bay at Mountcharles.
    - The conclusions indicate that the value of the nearby foreshore area for existing beneficial usages (amenity and wildlife) would be significantly reduced were the

oyster farm to extend westwards by 300m (as proposed within the application to develop site T12 396).

- The LVIA conclusions and the AA outcomes would both support continued application of a 'dividing line' separating areas of aquaculture and amenity/bird usage in the locality. In this case the division line specified in the early 1990s which runs along the western boundary of the existing oyster farm area should continue to be observed in this area of Donegal Bay. Based on the assessments carried out it may be expected to continue to provide a reasonable balance between cmeting foreshore usages – wildlife, public amenity and shellfish aquaculture.
- The MED is of the opinion that the extension of oyster farming westwards of the current farm position is not recommended for reasons of good bay management and maintenance of foreshore area available for recreational use.
- The September 2015 Atkins Report on Monitoring Sanderling populations within Donegal Bay SPA concluded that the southern section of T12/396A should not have trestles placed on it and it recommends a precautionary approach to the remainder of the site – the area is deemed to have significant numbers of Sanderling which use the site and the risk of significant disturbance cannot be discounted.
- The visual Amenity of the Warren Beach/ Jack's Quay areas are of importance for local and visitor users. It is likely to be impacted negatively by expansion westwards of the existing oyster farm.
- The visual impact of the proposed development (T12/396A) from the Warren Beach viewpoint (and amenity area) is predicted to be of substantial significance and is not amenable to mitigation. The visual impact significance from Jack's Quay amenity area is less and is expected to be of moderate significance.
- Within the LVIA Guidance (DNMR Guidelines for Landscape and Visual Impact Assessment of Marine Aquaculture, 2001) the prediction of 'very substantial' or 'substantial' landscape and visual impacts may offer grounds for refusal of an aquaculture license. In this case, given the value of the amenity area of Warren Beach for recreation and impact mitigation not being possible the finding there of 'substantial visual impact significance' would be a strong basis for refusal of this license application.

2. The Appropriate Assessment findings (as updated by the 2015 Sanderling survey) give grounds for concern about the impact of this proposed development on the foreshore of Donegal Bay at Mountcharles. Existing beneficial usages (amenity and wildlife) in the area would be significantly reduced therefore the dividing line currently in place should remain and continue to provide a reasonable balance between competing foreshore uses.

### 1.6 Applicant Response

The Applicant may submit a response to appeal submissions under the provision set out in Section 44(2) of the Fisheries Amendment Act 1997 which states:

"*The Minister and each other party except the Appellant may make submissions or observations in writing to the Board in relation to the appeal within a period of one month beginning on the day on which a copy of the notice of appeal is sent to that party by the Board and any submissions or observations received by the Board after the expiration of that period shall not be considered by it."*

The Applicant made a submission as the Appellant. The appellants response dated 6th September 2019, is addressed within this report.

## 2.0 Consideration of Non-Substantive Issues

Non-substantive issues raised by the appellant relate to;

- Environment

Considerations for these are outlined below;

Environment – Oyster Aquaculture is based on an entirely sustainable resource i.e. plankton production and oyster shell growth has been shown to sequester carbon from the oceans. However, at unsustainable levels, large expanses of filter feeders can pose a negative impact on the plankton levels within a bay or harbour, in not only removing too much plankton from the water (thereby outcompeting other species naturally found) but also in terms of biodeposition. Shellfish aquaculture is not the only use for the Bay with numerous other activities (recreational & amenity) being undertaken across the Bay, including to the west of the proposed site. Therefore, it is the considered opinion of the technical advisor that a sustainable shared use should remain within the bay.

## 3.0 Oral Hearing Assessment

In line with Section 49 of the Fisheries Amendment Act 1997 an oral hearing may be conducted by the ALAB regarding the licence appeals.

At this time an oral hearing has not been called nor requested by the appellant or the applicant.

It is considered, by the advisor, that an Oral Hearing is not required for this application where there is no conflicting technical information on relevant and significant aspects of the appeal.

## 4.0 Minister's File

Details of the file received by ALAB from the Minster requested under Section 43 are listed here in chronological order. Copies of;

- Appropriate Assessment reports for the Donegal Bay SAC and Donegal Bay and Durnesh Lough SPAs
- Landscape and Visual Impact Assessment Report for site T12/396
- Letter of refusal to the Appellant
- Letters from the applicants to Ms Karen Gill of the Aquaculture & Foreshore Management Division, dated 9th, 11th & 29th May 2017.
- Licence Application Form with maps, drawings and coordinates
- Notice / advertisement to be put in "Donegal Democrat" for public viewing
- Recommendations for licencing sent to the Minister

were received and assessed to inform this report.

## 5.0 Context of the Area

### 5.1 Physical descriptions

#### 5.1.1 Site Location

Donegal Bay is located in the north west of Ireland (Figure 5.1). Three counties – Donegal to the north and west, Leitrim and Sligo to the south – have shorelines on the bay, which is bounded to the west by the Atlantic Ocean. Donegal town and the River Eske lie at the Head of the bay.

The main access roads are the N15 from the south and the N56, which runs along the northern shore. The R267 swings towards the shore, just south of Donegal town, where the N25 forms the Donegal Bypass. Tertiary roads / local access roads give access to the bay (piers) both on the northern and southern shores.

#### 5.1.2 Physical Characteristics

Donegal Bay is Ireland's largest bay, and contains Ulster's highest sea cliffs at Slieve League, which stand at >600m above sea level. The bay is funnel shaped, with the inner bay (immediately south-west of Donegal Town) where most oyster aquaculture activities take place, being protected from the severity of the Atlantic by the Murvagh peninsula, which consists of a large sand dune system (the Mullanasole sand dune system) fronted by a wide sandy beach on the seaward side, with saltmarsh fringing dunes on the more sheltered eastern side (NPWS, 2011a).

A second sand dune system (Mountcharles sand hills) is located on the northern shores of Donegal Bay. These sand hills form an island but are joined to the mainland by a narrow neck of sand and shingle. Shingle forms a significant part of the underlying substrate within these hills. Despite the degraded nature of the sand hills there are a number of Annex I habitats at Mountcharles including Fixed dunes, Annual vegetation of driftlines, Perennial vegetation of stony banks, Embryonic shifting dunes and Shifting dunes along the shoreline with *Ammophila arenaria* (NPWS, 2011a).

A number of significant rivers flow into this section of the bay, discussed below in Section 5.1.3, therefore making this section of the bay typically estuarine in character, with large expanses of sand and mud flats, channels, saltmarsh, sand dunes and sandy and shingle beaches.

**Figure 5.1 Site Location**

### 5.1.3 Freshwater Influence

The freshwater flow into Donegal Bay is comprised of a number of significant rivers, the River Eske and the River Ballintra, as well as a number of streams including the Rathtinny, Rossilly, Laghy, Rarooey, Clarcarricknagun and the Drummenny Lower form the larger inner estuary in the north eastern corner. While the Rivers Eddrim and Gortlosky form the smaller estuary to the north. The majority of these streams and rivers originate in the hills from the east or south of the bay.

The Eske River drains the central and eastern southern side of the Bluestack Mountains. The Corabber River rises on Binmore, flowing into Belshade Lough and then south into Lough Eske. The Lowerymore River flows from Croaghnageer, turning southeast and then southwest, flowing through the Barnesmore Gap and into the southern end of Lough Eske. The Eske River leaves the southern end of Lough Eske, flowing southwest between drumlins and then through Donegal Town where it becomes tidal and flows into a wide estuary, eventually making its way to Donegal Bay between Murvagh Beach and Hassan's Island. The southern part of the catchment is drained by the Ballintra River which flows west from Farbreagagh Hill, through The Pullans and past Ballintra, before making its way into the Eske Estuary behind Murvagh.

Donegal Bay lies within the Donegal Bay North catchment No. 37. This catchment includes the area drained by all streams entering tidal water between Kildoney Point and Rossan Point, Co. Donegal, draining a total area of 805km$^2$.

### 5.1.4 Topography

The northern and eastern surrounding landscape of Donegal Bay is rugged including the Bluestack mountains located to the north with the Tawnawully Mountains to the north-east and Bradlieve Mountain located south-east of the Murvagh Peninsula. The bay is surrounded by a series of hills stretching from the Bluestack mountains in the north to Bradlieve mountain in the south-east. A large portion of the lowlands in the catchment are characterised by extensive drumlin landscape which indicates seaward movement of ice during the last ice age.

### 5.1.5 Meteorological Conditions

The Gulf Stream North Atlantic current flows past the Donegal coastline resulting in generally mild temperatures, while it's mountainous nature, geographical location and the prevailing south westerly winds results in significant rainfall throughout the year. The yearly rainfall average recorded by Met Éireann at the Malin Head Observatory on the Inishowen peninsula, the northern most tip of Ireland, was 1076mm for the last 30 years (1981-2010). The lowest average monthly rainfall was 56.9mm and the highest 118.4mm (https://www.met.ie/climate-ireland/1981-2010/malin.html ) (Accessed on 08/01/2020).

### 5.1.6 Local Population

The main population lies in Donegal Town (2493), which was the fastest growing town in Ireland, in percentage terms, between 2011 and 2016 (0.42% population growth). While Mountcharles (466), Ballintra (206) and Laghy (192) are smaller towns in the local area (DCC, 2016).

**Figure 5.2 Freshwater Influences**

## 5.2 Resource Users

### 5.2.1 Aquaculture Activity

*Sources of information:* *Bord Iascaigh Mhara*
*Status of Aquaculture in Ireland publication*
*Department of Agriculture, Food and the Marine (DAFM)*

Aquaculture activities are widespread through the inner Donegal Bay. The activities focus mainly on oyster production through the use of trestles and bags.

*Shellfish Designated Waters:*
Following the European Council Directive 79/923/EEC on the quality required of shellfish waters and the numerous subsequent amendments to this directive, a codified version was produced - Directive 2006/113/EC on the quality required of shellfish waters. This directive sets out physical, chemical and microbiological parameters and regulations for the designation and sampling of Shellfish Designated Waters to protect or improve these waters in order to support shellfish (bi-valve and gastropod molluscs) life and growth, the directive also provides for the establishment of pollution reduction programmes for designated waters and thus, contribute to the high quality of shellfish products directly edible by man. An area of 12.6 $km^2$ of Donegal Bay is designated as a Shellfish waters area, coinciding with a large portion of the Inner section of Donegal Bay (DoEHLG, 2009)

Bord Iascaigh Mhara, BIM, (Irish Sea Fisheries Board) was set up over 65 years ago to promote, develop and support the Irish seafood sector by providing technical expertise, business support, funding, training and promoting responsible environmental practice.

In Donegal Bay, existing aquaculture within the inner Donegal Bay is focused on the cultivation of Pacific oysters *Crassostrea gigas* on trestles in intertidal and shallow subtidal areas. The main area of intertidal oyster cultivation is in the Mountcharles subsite, with additional areas in various subsites in the Inner Bay (Atkins, 2013).

The only significant aquaculture activity in the Donegal Bay 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 SAC), there was an aquaculture licence application for the on-bottom cultivation of Pacific oysters and also applications for intensive intertidal culture of pacific oysters and the extensive culture of the native purple sea-urchin. There are no licensed or application aquaculture sites within Durnesh Lough SPA. (DAFM, 2016) [Accessed 14/01/20]).

Oyster farming within Donegal Bay takes place in the intertidal zone using the standard bag and trestle culture method typically employed across the rest of Ireland and abroad. Cultivation of the Pacific oyster (Crassostrea gigas) is carried out by growing oysters in mesh bags placed on steel trestles to keep them elevated above the seabed. Oysters are not artificially fed nor do they receive any medicinal treatments. They are filter feeders relying completely on the natural environment for food, and consume phytoplankton when submerged during high tide periods. Trestles used in Donegal Bay typically measure 3m x 0.5m and stand 0.4 - 0.7m in height above the seabed, each holding 6 bags. There are variations of this. The bags are made of a plastic (HDPE)

mesh and are fastened to trestles using rubber straps and hooks. The mesh size varies depending on the grade of oyster stock (4mm, 6mm, 9mm, 13mm) (Atkins,2013).

The production cycle begins in Donegal Bay when 4-10mm (G3 - G7) seed is introduced from French hatcheries in the spring of each year (Atkins,2013).

Hatcheries from which seed are sourced are:

- GrainOcean
- France Naissin
- Satmar (3 French hatcheries)
- FranceTurbot

Time to harvest, depending on intake size, ranges from 2.5 to 4 years. Donegal Bay is also used for the production of half-grown oysters which are harvested at this size and finished in other bays both in Ireland and in France. Only hatchery produced triploid oysters are grown in Donegal Bay. They grow well in the bay and can be harvested year-round (Atkins, 2013).

The majority of licenced sites are accessed by tractor and trailer. Each operator observes one or 2 dedicated access routes to the sites from their land base. At any one time there will be up to 9 tractors, 2 four-wheel drive vehicles operating across the licensed sites in inner Donegal Bay (Atkins, 2013).

Upon receipt from the hatchery, seed is placed in the mesh plastic bags with mesh size and stocking density appropriate to the seed grade. Initial stocking densities are anywhere between 600 and 2000 oysters per bag. As the oysters grow stocking densities are reduced. After the first-year oysters will reach an individual weight of 10-15g. At the end of year 2, upon reaching 50-60g, typical stocking densities are set at 250 – 300 per bag and this reduces to a final density of 90 - 110 oysters per bag at finishing prior to harvest, at a weight of approximately 100g each (Atkins, 2013).

Grading takes place annually in early autumn for seed and between January and May for the remainder of stock. Grading and harvesting activities entail actually removing the bags from the inter-tidal zone to the various land bases. They are collected by hand, loaded onto trailers and transported offsite by tractor (Atkins, 2013).

All trestle lines and blocks are labelled by their operators for site management, stock management and traceability purposes. Based upon experience, the operators utilise different areas of their sites for different oyster grades to maximise growth and minimise risks. All stocking and movement activities are recorded by date and location so that a full record of stock distribution is maintained on an ongoing basis. As appropriate, site boundaries are marked for navigational purposes (Atkins, 2013).

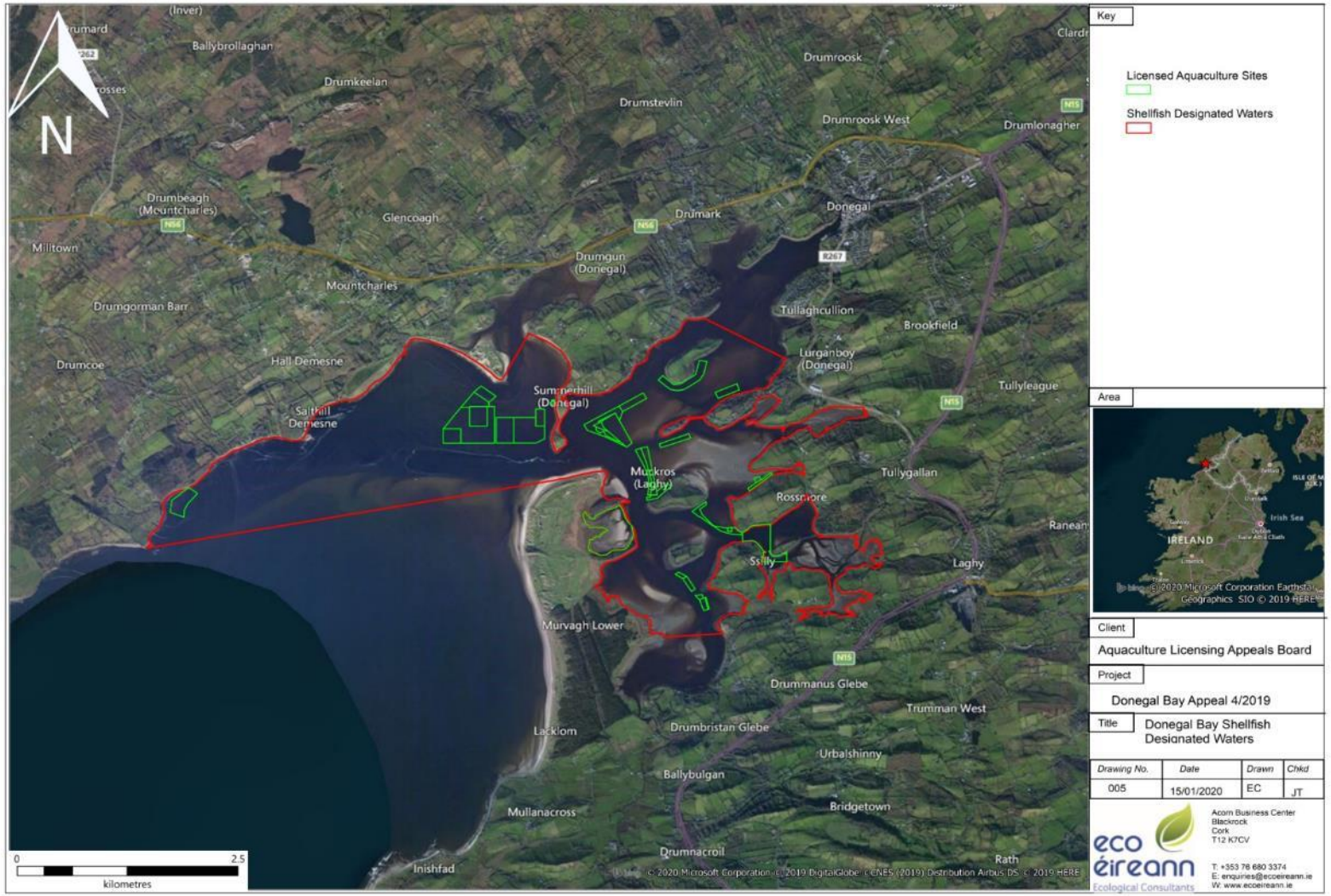
Most of the growers use more exposed upper shore sections of their licensed sites as dedicated holding areas to allow for “hardening” of the final harvestable product ready for transport to market. As well as conditioning the oysters, this also serves to bring all harvestable stock to a

single location thus minimising the amount of time spent on the other sites while harvesting to demand (Atkins, 2013).

Maintenance activities on-site include shaking and turning of bags, and hand removal of fouling and seaweed to ensure maintain water flow through the bags when submerged. The bags are shaken and turned on site three – four times over the growing season which is between May and September. Tractor movements in this instance are simply for the transport of staff to and from site. Nearshore (hardening) sites can also be accessed by foot (Atkins, 2013).

Given the scale of the two larger oyster farming operations in Donegal Bay the programme of work becomes continuous over all low tide periods. However, more intensive period of activity occurs during Spring (February-April) when the bags are stocked with new seed and existing stock is graded. The Summer months (May-September) are relatively quiet when bags are turned to reduce fouling and ensure even growth of oysters. During the warmer months activity is kept to an absolute minimum so as not to disturb the oysters. When the water temperatures are at their maximum, oysters may become stressed and disturbance may impact negatively on their performance. During October, activity increases to a peak in and around Christmas as harvesting and grading occurs primarily to serve holiday markets (Atkins, 2013).

**Figure 5.3 Shellfish Designated Waters, SI 55 of 2009 Donegal Bay, Co. Donegal**



### 5.2.2 Angling Activity

*Sources of information:* *Inland fisheries Ireland*

The River Eske fishery extends along the 5km length of the River Eske into the 900- acre Lough Eske and its tributaries. The fishery is noted for its spring salmon *Salmo salar*, trout *Salmo trutta* and arctic char *Salvelinus alpinus* fishing. Fishing is regulated by the Salmon and Sea Trout Angling Regulations which are reviewed annually. The River Eske has been classified as a Catch and Release river for the 2020 season and has been classified as such since 2015.

**Table 5.1 – Salmonid Fisheries: Extracted from 2018 IFI Report (IFI, 2018)**

| Region | Waterbody | Total No. Salmon Caught | Total No. of Sea trout Caught |
|---|---|---|---|
| Donegal | Eske | 46 | 11 |

**Table 5.2 –Angling Sea Trout and Salmon Catch of Grilse (1 Sea-Winter), 2 Sea-Winter & Multi-Sea-Winter in 2018 Extracted from 2018 IFI Report (IFI, 2018)**

| River Name | River System No | Fishery District | Total Sea-Trout Catch | Total Grilse Catch | Total 2 Sea-Winter & Multi-Sea-Winter Catch |
|---|---|---|---|---|---|
| **Eske** | **58** | **Ballyshannon** | 11 | 40 | 5 |

Various pelagic fishing activities occur adjacent to the site, served by the fishing port of Killybegs, these mainly occur to the west outside the boundaries of the Donegal Bay SPA. Donegal Bay is renowned for its catches of herring *Clupea harengus* and mackerel *Scomber scombrus*, while static fishing includes widespread long-line fishing; potting for crab and lobster and the use of draft nets. Hand-gathering of edible molluscs and bait-digging also occurs along the shoreline.

### 5.2.3 Tourism

The border region was the third least popular tourist and holiday destination outside of Dublin in 2017 (Fáilte Ireland, 2018). Approximately 5% of the total overseas tourists visiting Ireland travelled to the border region with approximately 752,000 tourists (overseas) travelling to the area in 2018, while approximately 10% of the total domestic tourists travelled to the border region with approximately 1,001,000 domestic tourists travelling to the area in 2018 (Fáilte Ireland, 2019).

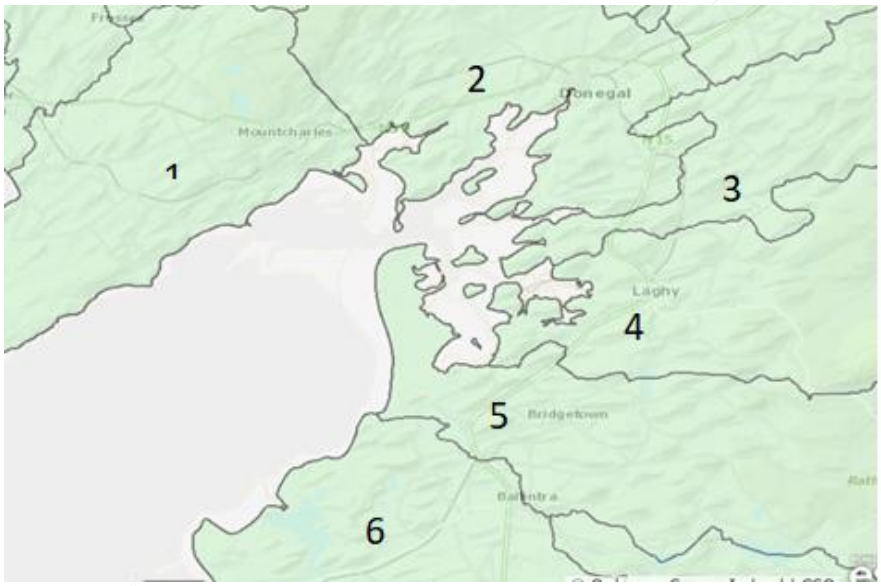
Donegal as a county is dependent on tourism as an economic stream for the region. With 12 blue flag beaches which include Bundoran, Rossnowlagh, Murvagh and Fintra (all located within Donegal Bay), National Parks (Glenveagh) and mountain ranges providing scenic destinations for domestic and overseas visitors (DCC, 2017). The Wild Atlantic Way route travels along the Donegal coastline and Donegal Bay lies on part of this route.

### 5.2.4 Agricultural Activity

Agriculture accounts for a significant portion of Donegal's total area, approximately 39%, although much of it is unsuitable for commercially intensive farming. The County has a relatively high area of Forest cover, approximately 11%, almost 40% of which is in private ownership (DCC, 2018).

Around Donegal Bay there are six electoral regions which hold agricultural data (CSO - http://census.cso.ie/agrimap/ [Accessed 14/01/20]). The number of farms in each region are based on latest data (2010):

1. Tantallon (north western boundary) – 107
2. Donegal (northern boundary) – 83
3. Tullynaught (north eastern boundary) – 78
4. Laghy (eastern boundary) – 73
5. Ballintra (Donegal Rural District) (taking in Murvagh peninsula and southern inner bay boundary) – 87
6. Ballintra (Ballyshannon Rural District) (southern boundary) - 64




In total, in 2010 there were 492 farms around the Harbour. These farms make up approximately 5% of total farms in the county.

Total grazing numbers for the area around Donegal Bay based on 2010 figures are outlined in **Table 5.3** (http://census.cso.ie/agrimap [Accessed 14/01/20]).

**Table 5.3 Grazing Figures per Electoral Area (2010)**

| Reference | Area | Total Sheep (head) | Total Cattle (head) | Pasture (ha) |
|---|---|---|---|---|
| **1** | Tantallon | 1517 | 1583 | 1241 |
| **2** | Donegal | 2503 | 1141 | 1054 |
| **3** | Tullynaught | 5172 | 1146 | 1126 |

| Reference | Area | Total Sheep (head) | Total Cattle (head) | Pasture (ha) |
|---|---|---|---|---|
| **4** | Laghy | 4968 | 873 | 1323 |
| **5** | Ballintra (DRD) | 3730 | 2185 | 1459 |
| **6** | Ballintra (BRD) | 2192 | 2166 | 1349 |
| | **Total** | **20,082** | **9,094** | **7,552** |

### 5.2.5 Inshore Fishing Activity

Inshore fishing occurs in the Inner Bay with bottom fishing in channels for flounder *Platichthys flesus*, dab *Limanda limanda* and dogfish *Scyliorhinus canicula*; lugworms *Arenicola* sp can be dug as bait in the estuary on the eastern side of the Murvagh peninsula. Data was compiled from https://fishinginireland.info/sea/maps/DonegalBay [Accessed 14/01/20]

### 5.2.6 Leisure Users of the Water Body & Surrounding Area

Donegal Bay is acknowledged as one of Ireland's most scenic and 'untouched' landscapes and offers a great deal in terms of coastal and marine leisure and tourism. Extensive lengths of sandy shoreline occur in the outer bay and three stretches (Murvagh, Rossnowlagh and Bundoran) are Blue Flag beaches (NPWS, 2012c).

Around Donegal Bay are a suite of recreational activities. These range from sea kayaking, canoeing, windsurfing, sailing, surfing, angling and whale watching. Being a hub of tourism along the Wild Atlantic Way walking tours are also prevalent in the wider area, in addition to dog walking along the beaches in the area (Warren, Murvagh and Mountcharles).

## 5.3 Environmental Data

### 5.3.1 Water Quality

*Sources of information:* *Catchments.ie*
*EPA*

*WFD Status*

Water quality in Donegal Bay is monitored as part of the Water Framework Directive (WFD) Monitoring Programme. The latest round of monitoring results (2013-2018) indicate that Donegal Bay (site code IE_NW_050_0100) demonstrates Good Water Quality for Transitional Water Quality Status. The adjacent site (outer Donegal Bay (site code IE_NW_10_0000) had an Unassisgned Water Quality status (under Coastal Waters) for 2015 to 2018 period (EPA, 2019).

*Bathing Water*

Bathing water quality is not monitored in the inner Donegal Bay. The nearest sites which are monitored for bathing water are Murvagh (IENWBWC010_0000_0100) and Rossnowlagh (IENWBWC010_0000_0200) beaches and for 2018 period both areas were recorded as being of Excellent Water Quality (https://gis.epa.ie/EPAMaps/ [Accessed on 14/01/2020]).

### 5.3.2 Freshwater Status

The main river flowing into the inner Donegal Bay, is the River Eske. The River Eske is classed as being "Not at Risk" and of "Good - High Ecological Status". The majority of the streams and small rivers flowing into the inner Donegal Bay are also classed as "Not at Risk", except one, the Laghy Stream which is classed as being "At Risk" (https://gis.epa.ie/EPAMaps/ [Accessed on 14/01/2020]).

The Eddrim has not been assigned a risk category and has not been assessed for its ecological status. While, the River Erne, in the south of Donegal Bay, is classed as being "At Risk" and of "Moderate" ecological status. (https://gis.epa.ie/EPAMaps/ [Accessed on 14/01/2020])

## 5.4 Statutory Status

### 5.4.1 Nature Conservation Designations

Donegal bay is designated as a Special Area of Conservation (Donegal Bay (Murvagh) SAC) and Special Protection Areas (Donegal Bay and Durnesh Lough SPAs) under Article 4 of the EU Habitats Directive (Figures 5.3 and 5.4).

The protected habitats and species focused on in this report are those listed as qualifying interests and special conservation interests of Donegal Bay and Durnesh Lough SPA (Appendix 2) and Donegal Bay SAC (Appendix 3), which will be impacted by aquaculture activities including; Mudflats and sandflats not covered by seawater at low tide [1140](1069ha), wetland habitats, numerous bird species and the Harbour Seal *Phoca vitulina* (Species listed below in Section 5.5).

#### *5.4.1.1 SPAs*

Donegal Bay SPA boundary stretches from Doorin point, to the west of Donegal town to Tullaghan point in Co. Lietrim, a distance of c. 15km along its north-east/ south-west axis. It varies in width from c. 3km to >8km. The site includes the estuary of the River Eske, which is associated with extensive areas of intertidal flats, and the estuary of the River Erne, which flows through Ballyshannon. Much of the shoreline is rocky or stony, with extensive stretches of sandy beaches, especially from the Murvagh peninsula southwards to Rossnowlagh (NPWS, 2010b).

The conservation designation of SPA focuses on the wetland habitats present and the associated waterbirds. Four species of waterfowl have been designated as Species of Conservation Interests, SCIs, for the site; Great Northern Diver *Gavia immer* (139), Light-bellied Brent Geese *Branta bernicla hrota* (207), Common Scoter *Melanitta nigra* (860) and Sanderling *Calidris alpina* (68), see Appendix 2a for details.

Donegal Bay supports an excellent diversity of wintering waterbirds, especially species associated with shallow bays. The bay hosts an internationally important wintering population of Great Northern Diver (139) and also has one of the few regular populations of Black-throated Diver *Gavia arctica* (11) and Red-throated Diver *Gavia stellata* (21) in the country (NPWS, 2012b)

NPWS describes the objectives and targets for the SPA as follows (NPWS, 2012b):

1. To maintain the favourable conservation condition of species listed in Appendix 2 in terms of maintaining population numbers and distribution. Specific targets to achieve this objective are set out below.

**Table 5.4 Targets to Maintain the Favourable Conservation Condition of the SCIs for Donegal Bay SPA (NPWS, 2012a & 2012c)**

| **Sanderling** | | | |
|---|---|---|---|
| **Attribute** | **Measure** | **Target** | **Notes** |
| Population trend | Percentage change | Long term trend stable or increasing | During winter the site regularly supports 1% or more of the all-Ireland population of Sanderling (*Calidris alba*). The mean peak number of this species within the SPA during the baseline period (1995/96 – 1999/00) was 68 individuals. Population increasing in the short (5 year) and long-term (12-Year) trends. |
| Distribution | Range timing and intensity of use of areas | There should be no significant decrease in the range, timing or intensity of use of areas by Sanderling, other than that occurring from natural patterns of variation. | As determined by regular low tide and other waterbird surveys. |
| **Great Northern Diver** | | | |
| **Attribute** | **Measure** | **Target** | **Notes** |
| Population trend | Percentage change | Long term trend stable or increasing | During winter the site regularly supports 1% or more of the biogeographical population of Great Northern Diver (*Gavia immer*). The mean peak number of this Annex I species within the SPA during the baseline period (1995/96 – 1999/00) was 139 individuals. Population change assessed as decreasing |
| Distribution | Range timing and intensity of use of areas | There should be no significant decrease in the range, timing or intensity of use of areas by Great Northern Diver, other than that | As determined by regular low tide and other waterbird surveys. |

| | | | |
|---|---|---|---|
| | | occurring from natural patterns of variation. | |
| **Light-bellied Brent Goose** | | | |
| **Attribute** | **Measure** | **Target** | **Notes** |
| Population trend | Percentage change | Long term trend stable or increasing | During winter the site regularly supports 1% or more of the all-Ireland population of Light-bellied Brent Geese (*Branta bernicla hrota*). The mean peak number of this species within the SPA during the baseline period (1995/96 – 1999/00) was 207 individuals. Population increasing in the short (5 year) and long-term (12-Year) trends. |
| Distribution | Range timing and intensity of use of areas | There should be no significant decrease in the range, timing or intensity of use of areas by Light-bellied Brent Goose, other than that occurring from natural patterns of variation. | As determined by regular low tide and other waterbird surveys. |
| **Common Scoter** | | | |
| **Attribute** | **Measure** | **Target** | **Notes** |
| Population trend | Percentage change | Long term trend stable or increasing | During winter the site regularly supports 1% or more of the all-Ireland population of Common Scoter (*Melanitta nigra*). The mean peak number of this species within the SPA during the baseline period (1995/96 – 1999/00) was 860 individuals. Population change assessed as increasing. |
| Distribution | Range timing and intensity of use of areas | There should be no significant decrease in the range, timing or intensity of use of areas by Common Scoter, other than that occurring from natural patterns of variation. | As determined by regular low tide and other waterbird surveys. |

2. Maintaining the area of the wetland habitat listed under the SPA designation to ensure that the area of wetland habitats should be stable or increasing and not less than the area of 10,461ha (other than naturally occurring variation).

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, which is covered by a thick layer of clay drift deposits in the form of drumlins.

Durnesh Lough SPA is an important site for wintering waterfowl and is utilised by, and designated for, a nationally important population of Whooper Swan *Cygnus Cygnus* and wintering populations of Greenland White-fronted Goose *Anser albifrons*. The SCIs of Durnesh Lough SPA, Whooper Swan and Greenland White-fronted Goose, have been screened out of Appropriate Assessment process because they do not have any significant spatial overlap with any of the aquaculture activities being assessed (Atkins 2013).

*5.4.1.2 SAC*

Donegal Bay (Murvagh) SAC extends over the inner portion of Donegal Bay, immediately to the south-west of Donegal town, the designation contains the estuary of the River Eske and a number of other rivers and streams, including the River Ballintra, River Laghy, Rathtinny, Drumenny lower and the Clarcarricknagun (Figure 5.3)(NPWS, 2012a).

The site is designated for a range of habitats and species (Appendix 3) including intertidal flats, dune systems, dune slacks and harbour seals. One plant listed in the Irish Red Data Book has been recorded at the site, in one dune slack, round-leaved wintergreen *Pyrola rotundifolia*.

NPWS (2011a) describes the objectives and targets for the SAC as follows:

1. To maintain the favourable conservation condition of the Harbour Seal in terms of maintaining access to suitable habitat, maintenance of suitable breeding, resting and moulting sites in a natural condition and minimisation of disturbance from human activities.

2. To maintain the favourable conservation condition of habitats listed in Appendix 3 in terms of permanent habitat area being stable or increasing subject to natural processes and maintaining habitat and community distribution in a natural condition.

**3.** To restore the favourable conservation condition of fixed coastal dunes with herbaceous vegetation (grey dunes), whereby the habitat area is increasing, subject to natural processes, no decline in habitat distribution, maintenance of the natural circulation of sediments within the bay, maintain the range of coastal habitats including transitional zones, maintain structural variation within the sward, maintain a range of sub-communities and negative indicator species to represent <5% cover.

**Figure 5.6 SAC Boundary**

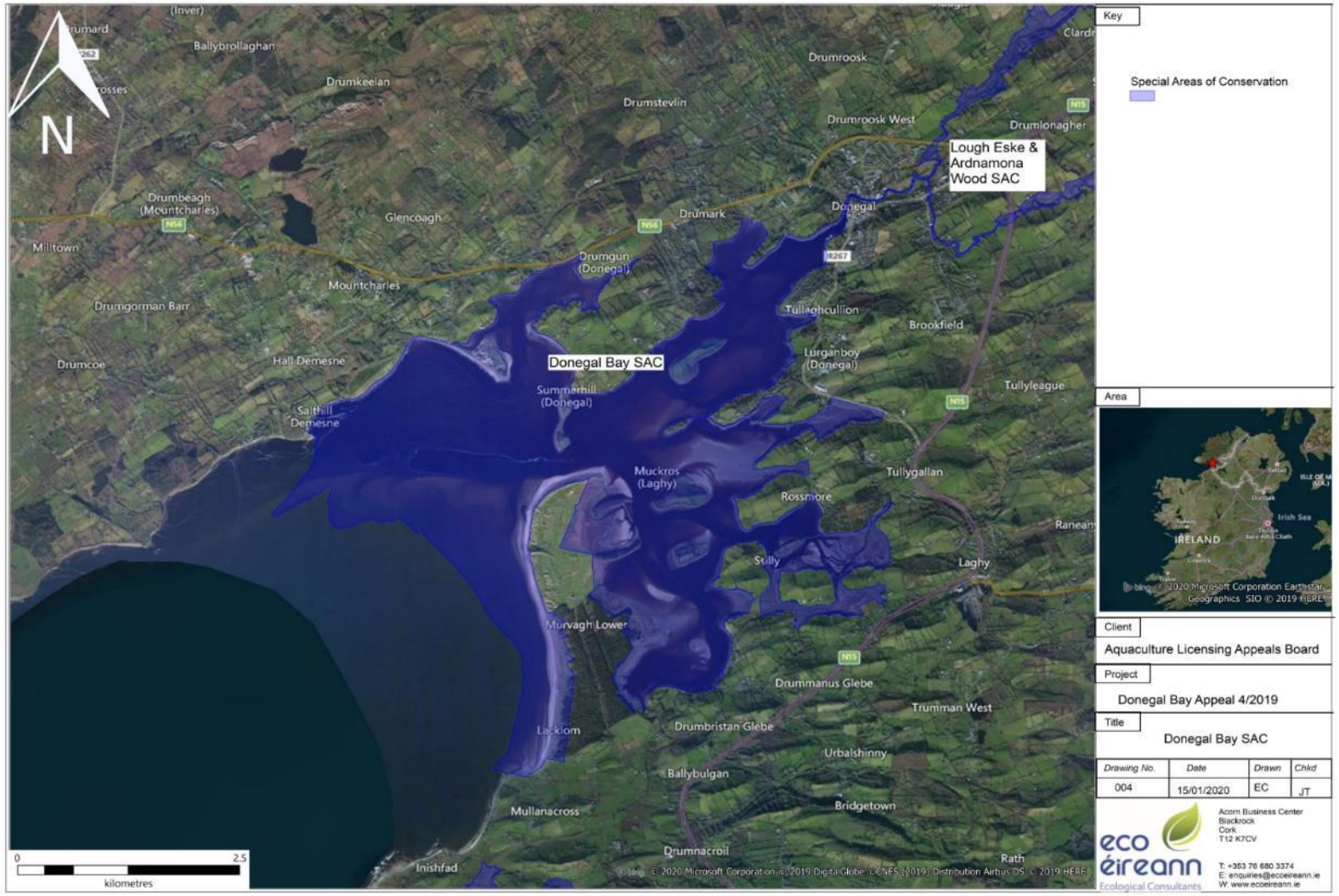
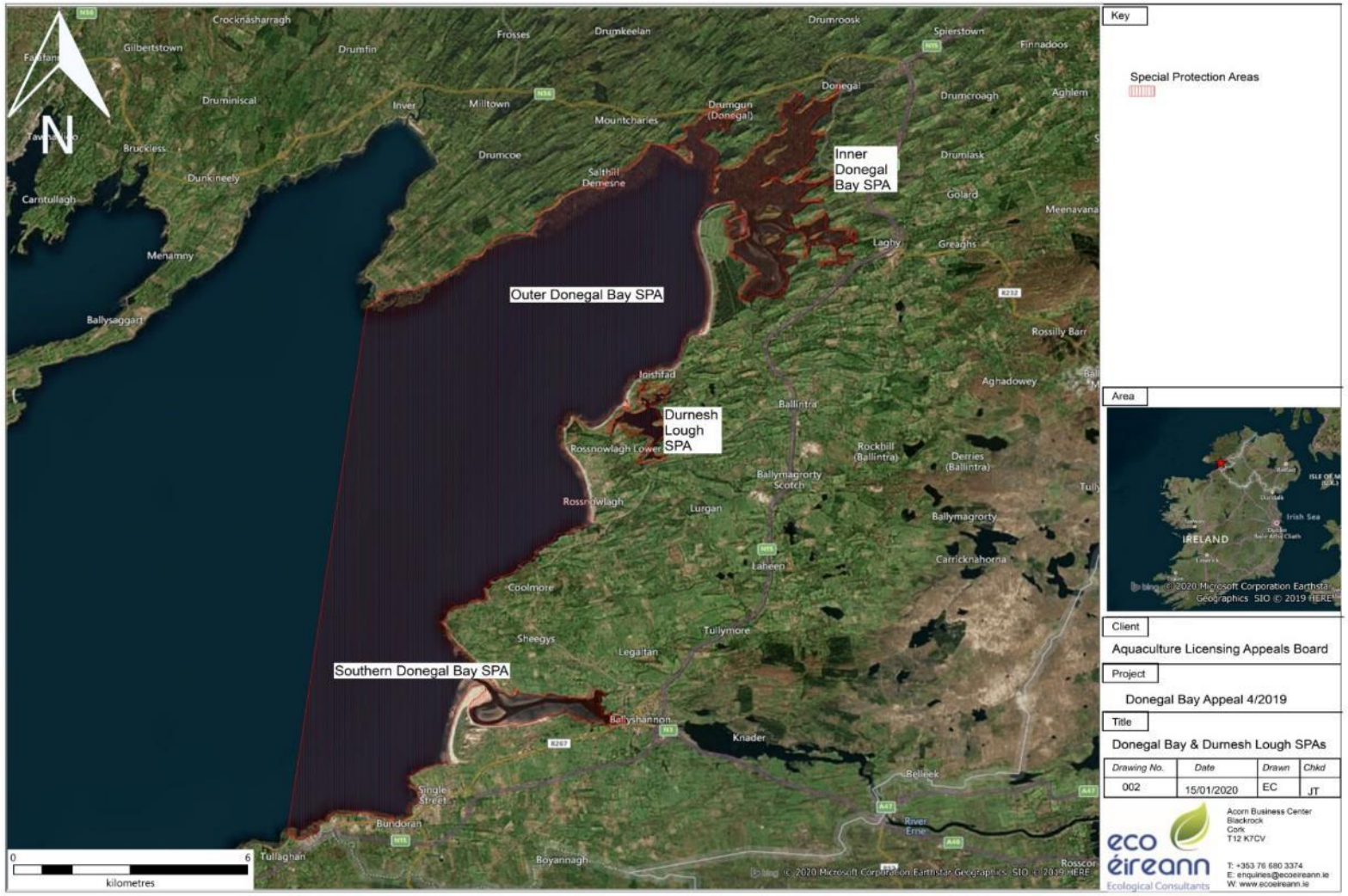


**Figure 5.7 SPA Boundary**



## 5.5 Protected Species

There are a range of protected species recorded in Donegal Bay, based on records from Biodiversity Ireland in the last ten years.

*5.5.1 Cetaceans*

A search of the sightings database from the Irish Whale and Dolphin Group (IWDG - http://www.iwdg.ie [Accessed 08/01/20]) from the last 12 months indicates that there were a number of cetacean sightings in the outer Donegal Bay, including two sightings of large pods of common dolphins *Delphinus delphis* one in September 2019 of 200 and one in November of 110, 16 records of bottle-nose dolphins *Tursiops truncatus,* 7 records of common minke whale *Balaenoptera acutorostrata*, 2 recordings of humpback whale *megaptera novaeangliae* and 2 recordings of undetermined species.

*5.5.2 Birds*

Waterbird population data for Donegal Bay SPA is presented in Table 5.5, extracted from NPWS Report (NPWS 2012c). The five-year average for the baseline period (1995/96 – 1999/00) is given together with the most recent five-year average (2005/06 – 2009/10). These averages are based on annual peak counts from the Irish Wetland Bird Survey (I-WeBS), a survey undertaken on a rising or high tide. To allow calculation of the recent five-year average, the dataset comprises I-WeBS data for the period 2005/06 – 2008/09 and count data from the high tide count undertaken as part of the 2009/10 NPWS waterbird survey programme.

**Table 5.5 Waterbird Population Data**

| **Special Conservation Interests** | **Baseline Data Period (1995/95 – 1999/00)** | **Recent Site Average (2005/06 – 2009/10)** |
|---|---|---|
| Light-bellied Brent Goose *Branta bernicla hrota* | 207 (n) | 389 (i) |
| Great Northern Diver *Gavia immer* | 139 (n) | 93 (i) |
| Common Scoter *Melanitta nigra* | 860 (n) | 933 (n) |
| Sanderling *Calidris alba* | 68 (n) | 101 (n) |
| (i) Denotes numbers of International importance; (n) denotes numbers of all-Ireland importance. | | |

Conservation condition is assigned using the following criteria:

- **Favourable population –** population is stable or increasing
- **Intermediate (Unfavourable)** – Population decline in the range 1 – 24.9%
- **Unfavourable population** – populations that have declined between 25 – 49.9%
- **Highly Unfavourable population** – populations have declined > 50% from the baseline reference value.

With regards the 4 waterbird species of Special Conservation Interest for Donegal Bay SPA, listed above in Table 5.5, based on the long-term population trend for the site, it has been determined that:

- One species is currently considered **Unfavourable –** Great Northern Diver

- Three species are currently considered as **Favourable** – Light-bellied Brent Goose, Common Scoter and Sanderling.

The NPWS 2012 Supporting Document report (NPWS 2012c) states that the I-WeBS database shows 64 waterbird species have been recorded at Donegal bay SPA during the period 1994/95 – 2009/2010 representing ten families: divers, grebes, swans, geese and ducks, Water Rail, Moorhen & Coot, oystercatchers, plovers and lapwings, sandpipers and allies, gulls, terns, Cormorants and Herons.

Of these 64 waterbird species, 30 species were recorded on a regular basis. Of these 30 species, 4 are listed as SCIs for the SPA and a further 26 are non-SCI species. These regularly occurring non-SCI species are listed in Table 5.6, below.

**Table 5.6 – Regularly Occurring non-SCI Waterbirds at Donegal Bay SPA (NPWS 2012c).**

| **Species** | **Baseline Average (1995/95 – 1999/00)** | **Recent Site Average (2005/06 – 2009/10)** |
|---|---|---|
| Mute Swan (*Cygnus olor)* | 12 | 38 |
| Shelduck (*Tadorna tadorna*) | 24 | 67 |
| Wigeon (*Anas penelope)* | 224 | 498 |
| Teal (*Anas crecca*) | 31 | 130 |
| Mallard (*Anas platyrhynchos*) | 100 | 144 |
| Long-tailed Duck (*Clangula hyemalis*) | 14 | 5 |
| Red-breasted Merganser (*Mergus serrator*) | 38 (n) | 79 (n) |
| Red-throated Diver (*Gavia stellata*) | 21 (n) | 21 (n) |
| Little Grebe (*Tachybaptus ruficolli*) | 9 | 19 |
| Great Crested Grebe (*Podiceps cristatus*) | 9 | 15 |
| Cormorant (*Phalacrocorax carbo*) | 29 | 86 |
| Grey Heron (*Ardea cinerea*) | 20 | 46 (n) |
| Oystercatcher (*Haematopus ostralegus*) | 581 | 1048 (n) |
| Ringed Plover (*Charadrius hiaticula*) | 99 | 148 |
| Golden Plover (*Pluvialis apricaria*) | 137 | 169 |
| Grey Plover (*Pluvialis squatarola*) | 17 | 10 |
| Dunlin (*Calidris alpina*) | 269 | 429 |
| Bar-tailed Godwit (*Limosa lapponica*) | 49 | 91 |
| Curlew (*Numenius arquata*) | 359 | 463 |
| Greenshank (*Tringa nebularia*) | 12 | 26 (n) |
| Redshank (*Tringa totanus*) | 93 | 197 |
| Turnstone (*Arenaria interpres*) | 53 | 117 |
| Black-headed Gull (*Chroicocephalus ridibundus*) | 239 | 185 |
| Common Gull (*Larus canus*) | 297 | 353 |
| Herring Gull (*Larus argentatus*) | 114 | 195 |
| Great Black-backed Gull (*Larus marinus*) | 27 | 71 |
| (n) denotes numbers of all-Ireland importance. | | |

Although waterbirds are linked by their dependence on water, different species vary considerably in aspects of their ecology due to many evolutionary adaptations and specialisations to their wetland habitats. Different species or groups of species may therefore utilise wetland habitats in very different ways which relates to how species are distributed across a site as a whole.

**Table 5.7 - Ecological characteristics, requirements & specialities of Special Conservation Interest Waterbird Species (NPWS, 2011b)**

| Waterbirds recorded at Castlemaine Harbour | Winter Distribution[A] | Trophic Guild[B] | Food/ Prey Requirements[C] | Principle supporting habitat within site[D] | Ability to utilise other/ alternative habitats (in & around the site)[E] | Site Fidelity[F] |
|---|---|---|---|---|---|---|
| Light-bellied Brent Goose *Branta bernicla hrota* | Highly restricted | 1, 5, 7 | Highly specialised | Intertidal mud and sand flats | 2 | High |
| Great Northern Diver *Gavia immer* | Intermediate | 3 | Highly specialised | Sheltered & shallow subtidal over sand flats | 1 | Unknown |
| Common Scoter *Melanitta nigra* | Localised | 3 | Highly specialised | Sheltered & shallow subtidal over sand flats | 1 | Unknown |
| Sanderling *Calidris alba* | Localised | 4, 6 | Wide | Intertidal sand flats | 3 | High |

A Winter distribution: Very widespread (>300 sites); Widespread (200 – 300 sites); Intermediate (100 – 200 sites); Localised (50-100 sites); Highly restricted (<50 sites) (based on Crowe (2005).

B Waterbird foraging guilds. 1 = Surface swimmer, 2 = water column diver (shallow), 3 = water column diver (deeper), 4/5 = intertidal walker (out of water), 6 = intertidal walker (in water), 7 = terrestrial walker. Further details are given within Appendix 5.

C Food/prey requirements - species with a wide prey/food range; species with a narrower prey range (e.g. species that forage upon a few species/taxa only), and species with highly specialised foraging requirements (e.g. piscivores).

D Principal supporting habitat present within Donegal Bay SPA. Note that this is the main habitat used when foraging.

E Ability to utilise alternative habitats refers to the species ability to utilise other habitats adjacent to the site. 1 = wide-ranging species with requirement to utilise the site as and when required; 2 = reliant on site but highly likely to utilise alternative habitats at certain times (e.g. high tide); 3 = considered totally reliant on wetland habitats due to unsuitable surrounding habitats and/or species limited habitat requirements. Note, a score of 1 for sea ducks and divers relates to propensity for within-season movements although the site is an important part of the species' wintering range.

F Site fidelity on non-breeding grounds: Unknown; Weak; Moderate; or High (based on published literature).

*5.5.3 Seals*

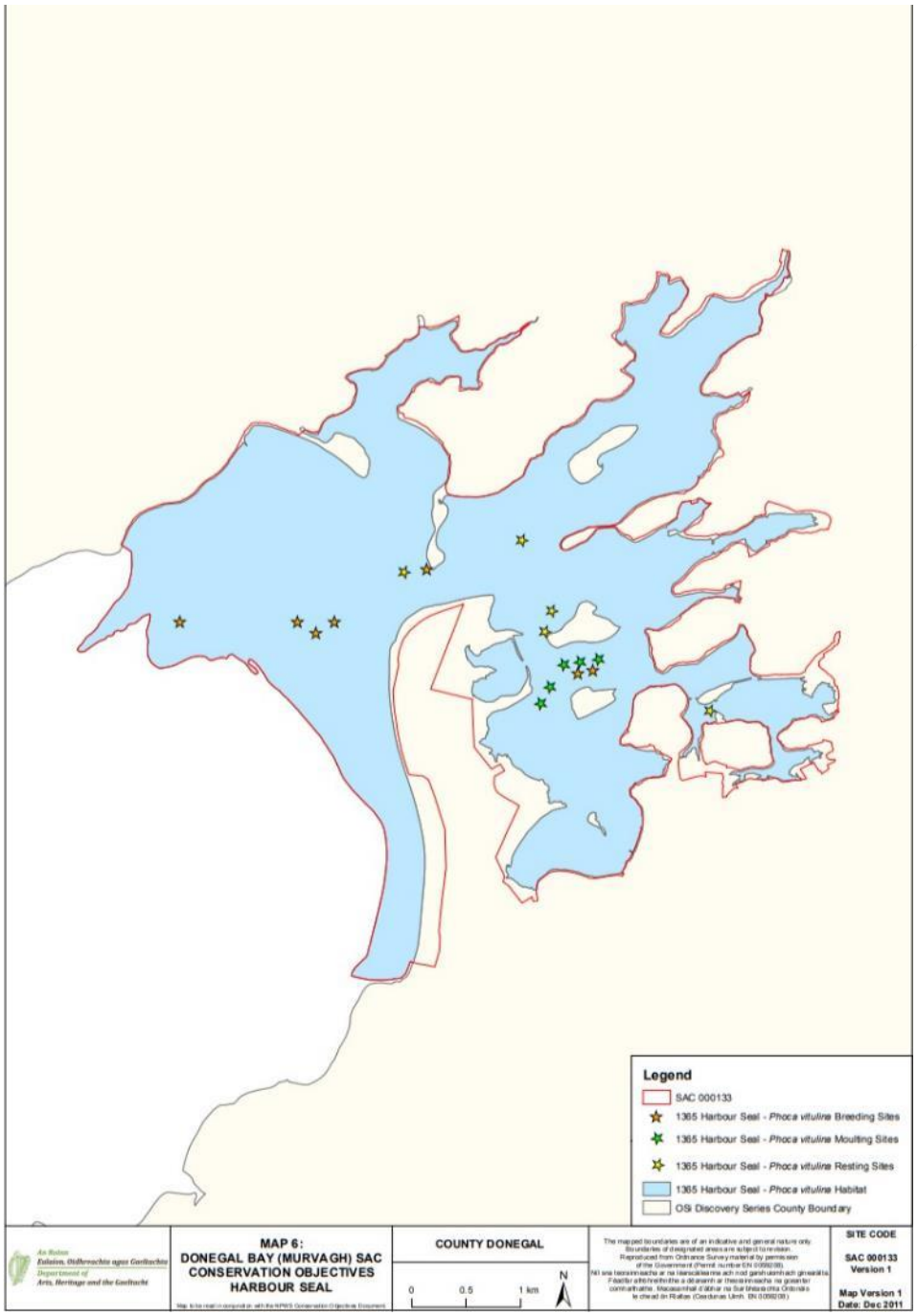
In Ireland, two species of seal (common (Harbour) seal *Phoca vitulina* and grey seal *Halichoerus grypus*) are protected under the Wildlife Acts (1976 and 2000) and are listed under Annex II of the Habitats Directive as species of Community Interest, whose conservation requires the designation of SACs. The latest records from Biodiversity Ireland show that in October 2018, 4 counts of grey seal were recorded and in September 2013 that 217 counts of common seal were recorded.

The common (harbour) seal is listed as a Species of Conservation Interest, SCI, within the Donegal Bay SAC. This common seal population was the subject of the Common Seal Pilot Population Monitoring Report carried out by the NPWS in 2009 and 2010, along with populations in 13 other sites in the south-west and western regions of Ireland (NPWS, 2010a & 2011c).

Max counts recorded 209 no. seals in 2009 and 143 no. in 2010, with the 2010 survey having restricted visibility which may have led to underestimation on one or more counts. In both years of population counts the authors reported the importance of inner Donegal Bay on both regional and national scales (NPWS, 2010a & 2011c).

Principle moult sites were identified on intertidal sandbank-mudflat habitat in both years within the estuary between the Murvagh peninsula and Rooney's Island and Inishpat. Disturbance events were recorded on one survey date in 2009 and two survey dates in 2010. In 2009 this was due to aquaculture personnel working along the shore approximately 100m from the haul-out site. While in 2010, these were due to shellfish harvesters occupying shorelines adjacent to the hauled-out seals, quad bike activity on the sandflats and the approach of a low-flying aircraft (NPWS, 2010a & 2011c).

**Figure 5.8 – Recorded Harbour Seal Breeding, Moulting and Resting Sites within Donegal Bay SAC (extracted from NPWS, 2012a)**



*5.5.4 Otter*

The otter *Lutra lutra* is protected under the Irish Wildlife Acts (1976 and 2000) and is also listed in Annexes II and IV of the Habitats Directive. It is not listed as one of the qualifying features of interest in the Donegal (Murvagh) Bay SAC. Records from the National Biodiversity Data Centre indicate that the last record of otter within the SPA dates from November 1999.

*5.5.6 Salmon*

Salmon *Salmo salar* populations run into the River Eske, through Donegal Bay. The Eske system is an important multi-sea-winter (spring salmon) stock, one of the few rivers nationally to hold 3-sea-winter fish over 20lb (NPWS, 2015).

*5.5.7 Reptiles*

A single recording of a Kemp's Ridley sea turtle *Lepidochelys kempii,* protected under Annex IV of the EU habitats Directive and listed as Critically Endangered by the IUCN, was recorded as a stranding within Donegal Bay in December 2014.

*5.5.8 Pine Marten*

The pine marten is protected under the Wildlife Acts, as amended, and the EU habitats Directive under Annex V. records from the NBDC indicate that the last record of pine martin within the SAC dates from May 2011.

## 5.6 Statutory Plans

There are no specific statutory or development plans for Donegal Bay. Aquaculture is, however, considered under the Donegal County Development Plan.

5.6.1 Donegal County Development Plan (DCC, 2018)

Donegal County Development Plan 2018- 2024 was adopted by the Elected Members of Donegal County Council on 9th May 2018 and is effective since 5th June 2018.

Chapter 4 (Economic Development) of the plan indicates the importance of economic development and employment opportunities to the county, the overarching aim of which is:

*"To provide for the appropriate growth of economic development and employment opportunities across all sectors in accordance with the Core Strategy and the ambitions of the North West City Region initiative and consistent with the principles of proper planning and sustainable development"*

The plan has a number of objectives centred on economic development in rural areas and tourism, including;

ED-0-5: "*To promote appropriate rural economic development by encouraging diversification that supports the growth of emerging rural enterprises functionally related to the countryside."*

ED-0-7: "*To facilitate the appropriate development of tourism throughout the County through the support of sustainable tourism projects and the promotion of creative industries as a resource subject to environmental, heritage, infrastructure and amenity considerations."*

The plan lists a number of policies to be followed for economic development in relation to the proposed aquaculture development, which are listed below;

ED-P-7: "*It is a policy of the Council to consider proposals for the extension of an existing industrial or business use within a defined settlement provided the resultant scale and form of the enterprise is compatible with the character and scale of the settlement and locality and the proposal meets the criteria set out in Policy ED-P-14."*

ED-P-10: *"It is a policy of the Council to consider proposals for the expansion or re-development of an existing economic development in the countryside provided the scale and nature of the resultant development will contribute positively to the long-term sustainability of the existing enterprise, subject to compliance with all relevant provisions of Policy ED-P-14. A proposal which would not meet these criteria will only be permitted in exceptional circumstances where it can be demonstrated that:*
*The proposal would provide for consolidation and/or remediation of the existing facilities;*

- *a) Where relocation of the enterprise would not be possible;*
- *b) The proposal would make a significant contribution to the local economy;*
- *c) The development would maintain the existing rural character of the area; and*
- *d) Where infrastructural improvements are required that a developer-led solution can be identified and delivered."*

ED-P-14: Requires that any economic development use proposal is required to meet the following criteria, in relation to the proposed aquaculture development;

- *a) "It is compatible with surrounding land uses existing or approved;*
- *b) It would not be detrimental to the character of any area designated as being of especially high scenic amenity (EHSA);*
- *c) It does not harm the amenities of nearby residents;*
- *d) It does not adversely affect important features of the built heritage or natural heritage including natura 2000 sites;*
- *e) The site layout, building design, associated infrastructure and landscaping arrangements are of high quality and assist the promotion of sustainability and biodiversity;*
- *f) In the case of proposals in the countryside, there are satisfactory measures to assist integration into the landscape;"*

Chapter 8 (Natural Resources) of the plan indicates the importance of landscape to the economic development of the county,

"*The Donegal landscape is a valuable national and local asset that requires sustainable management to facilitate development and growth whist also retaining, conserving and protecting the character, quality and resultant value of our landscapes".*

The plan also refers to the importance of integrating the actions of the National Biodiversity Action plan in to planning applications, see Section 5.6.2, below.

*Landscape Character Assessment*

A Land Character Assessment (LCA) for Donegal was carried out by Donegal County Council in May 2016, the first stage identified landscape 'Types' and 'Landscape Character Areas'. The purpose of the Landscape Character Assessment is to classify and describe the landscape to provide an evidence base of the landscape's components to assist in consistent decision making to achieve a balance between the protection, management and planning of the landscape in line with the National Landscape Strategy for Ireland 2015-2025.

The landscape of Donegal County has been categorised into three layers of value, areas of 'Especially High Scenic Amenity', areas of 'High Scenic Amenity' and areas of 'Moderate Scenic Amenity', definitions contained within the Donegal County Development Plan are outlined below, none of the landscapes of County Donegal have been classified as Low Value.

***Areas of Especially High Scenic Amenity (EHSA)***

Areas of Especially High Scenic Amenity are sublime natural landscapes of the highest quality that are synonymous with the identity of County Donegal. These areas have extremely limited capacity to assimilate additional development.

***Areas of High Scenic Amenity (HSA)***

Areas of High Scenic Amenity are landscapes of significant aesthetic, cultural, heritage and environmental quality that are unique to their locality and are a fundamental element of the landscape and identity of County Donegal. These areas have the capacity to absorb sensitively located development of scale, design and use that will enable assimilation into the receiving landscape and which does not detract from the quality of the landscape, subject to compliance with all other objectives and policies of the plan.

***Areas of Moderate Scenic Amenity (MSA)***

Areas of Moderate Scenic Amenity are primarily landscapes outside Local Area Plan Boundaries and Settlement framework boundaries, that have a unique, rural and generally agricultural quality. These areas have the capacity to absorb additional development that is suitably located, sited and designed subject to compliance with all other objectives and policies of the Plan.

The Donegal County Development Plan outlines a number of objectives and policies in relation to landscape and protected areas, listed below;

*"To protect, sustainably manage and enhance the rich biodiversity of County Donegal for present and future generations."*

*"To maintain the conservation value of all existing and/or proposed SACs, SPAs, NHAs and RAMSAR sites including those plant and animal species that have been identified for protection under the EU Habitats Directive (92/43/EEC), EU Birds Directive (79/409/EEC as amended by 2009/147/EC), the Wildlife Acts (1976-2014) and the Flora Protection Order (2015)."*

*"To ensure the protection and management of the landscape in accordance with current legislation, ministerial and regional guidelines and having regard to the European Landscape Convention 2000."*

*"To protect, manage and conserve the character, quality and value of the landscape having regard to the proper planning and development of the area, including consideration of the scenic amenity designations of this plan, the preservation of views and prospects and the amenities of places and features of natural, cultural, social or historic interest."*

*"To protect and improve the integrity and quality of Designated Shellfish Waters, and Freshwater Pearl Mussel Basins and to take account of any relevant Shellfish Reduction Program or Fresh Water Pearl Mussel Sub-basin Plan."*

*"To protect the areas of Especially High Scenic Amenity from intrusive and/or unsympathetic developments."*

Chapter 10 (Marine Resources and Coastal Management) of the development plan focuses on the "*the sustainable development of Donegal's marine resource and coastline in a manner which, maximises the socio-economic potential whilst protecting its fundamental environmental resource*."

The Development plan outlines a number of objectives relating directly to aquaculture, to maximise the social and economic potential of Donegal's marine sector by:

- "*the sustainable development of Donegal's marine resource and coastline in a manner which, maximises the socio-economic potential whilst protecting its fundamental environmental resource"*

- "*Consolidating and strengthening our Marine Leisure sector by, protecting the recreational and environmental quality of our coastal areas, maintaining and upgrading existing and providing new marine access infrastructure (in accordance with the Councils Marine Services Capital Investment Programme), facilitating ancillary onshore marine leisure developments, and marketing our marine tourism product. "*

- *"To manage the marine resource and coastal environment in a co-ordinated and collaborative manner by engaging with stakeholders and agencies, and utilising managements tools such as Integrated Coastal Zoned Management."*

The Development plan outlines a number of policies which relate directly to aquaculture:

- *"It is a policy of the Council to ensure that development proposals in coastal areas do not significantly impact on, and incorporate appropriate measures to protect, sensitive coastal environments (e.g. beaches, sand dunes and other soft shorelines)."*

- *"It is a policy of the Council to ensure that development proposals do not adversely compromise the recreational amenity and environmental quality of coastal areas including Flag Beaches, Natura 2000 sites and areas of Especially High Scenic Amenity."*

The plan identifies the importance of creating a balance of sustaining businesses from natural resources and protecting the environment which provides a resource for these businesses throughout the county.

*5.6.2 National Biodiversity Action Plan*

The National Biodiversity Action Plan (NBAP) 2017-2021 refers to aquaculture specifically in terms of engaging the sector to promote the benefits of conservation and sustainable use of biodiversity for the benefit of their businesses. There is a target within (Target 7) which states by 2020 areas under agriculture, aquaculture and forestry are managed sustainably ensuring conservation of biodiversity.

## 5.7 Man-made Heritage

A search of the Historic Environment Viewer (Archaeological Survey of Ireland http://webgis.archaeology.ie/historicenvironment/ [Accessed 10/01/20]) identified a number of land based features of historical importance in the immediate area of the Bay as listed below;

- *6 Cairns, a burial, a hut and a midden* – Located just north of the proposed site within the Warren
- *Enclosure* – Located to the east of the proposed site at summerhill
- *Ringfort* – Numerous ringforts are located on the surrounding hills overlooking Donegal Bay
- *Souterrain* – Numerous souterrains are located surrounding Donegal Bay including in the Murvagh peninsula just south of the proposed site.
- *Building* – Numerous old houses and buildings are located surrounding Donegal Bay
- *Standing Stone* – 2 standing stones are located on the peninsula south-west of the proposed site

No heritage features were identified within the bay, while, a number of man-made heritage features are located within 100m of the outer boundary of the bay.

A search of the WreckViewer application https://www.archaeology.ie/underwater-archaeology/wreck-viewer [Accessed 10/01/20] found that there was no recorded wrecks within Donegal bay. The closest wrecks are located in McSwynes Bay directly north-west of Donegal Bay.

## 6.0 Section 61 Assessment

### 6.1 Site Suitability

Donegal Bay is a relatively exposed site with the inner bay sheltered from the outer tidal reach by the Murvagh peninsula. With this sheltered element and also the relatively high tidal range of the bay it is considered suitable for aquaculture production, see Figure 6.1 below.

The proposed site (T12/396A) is located on the boundary between the Inner and outer bay (Figure 6.1), access will be by tractor from the beach car park at Summerhill. The site is located within the Shellfish Designated Waters of the Bay. The proposed site is located on intertidal muddy sand to sand dominated by polychaetes and oligochaetes community complex, within the intertidal mudflats and sandflats not covered by seawater at low tide [1140] a portion of the proposed site also lies within the subtidal fine sands with polychaetes and bivalves community complex (Figure 6.2).

Donegal Bay is an area of existing aquaculture (oyster) sites (see, Figure 6.1 below), which can be seen as part of the intertidal habitats. The main area of intertidal oyster cultivation occurs in the Mountcharles subsite in the Outer Bay, where there are a large block of applications and licenses on the lower sandflats. The exposure of these plots varies, depending upon the spring-neap tidal cycle, with all plots fully exposed and within the intertidal zone on spring low tides, but with significant areas of the plots not exposed, and remaining within the shallow subtidal zone on neap low tides (Atkins, 2013).

The size of the proposed site is small,13.46ha (1.26%), relative to the size of the proposed habitat complex for the site (Intertidal mudflats and sandflats not covered by seawater at low tide [1140], 1069ha), therefore, the land take is not considered to pose a negative effect on the overall site.

The Marine Survey Office (MSO) have no objection to this development from a navigational perspective. However, the applicant is required to apply to the Commissioner of Irish Lights (CIL) for sanction to establish the necessary site markings and lighting. The applicant is also required to inform the British Admiralty Hydrographic Office of the location and nature of the site to update nautical charts and publications.

The Commissioner of Irish Lights (CIL) has no objection to the application, however they have listed conditions if the site is to be licensed:

- The site must be clearly marked as per regulations
- The site must be approved by the Nautical Surveyor of the Marine Survey Office
- Applicant must secure sanction from CIL for the aids to navigation that may be required by the MSO, these aids must be in place prior to site activities.
- The aids must be of a design and size approved by the MSO and agreed in advance with CIL
- Local fishing and leisure interests should be consulted prior to a decision being made.
- The UK hydrographic Office must be informed of the geographical position to update nautical charts and publications.

Inland Fisheries Ireland, IFI, and the Sea Fisheries Protection Authority (SFPA) have no objection to the development.

### 6.1.1 Donegal Bay Dividing Line

The Marine Engineering Division (MED) have noted that in the early 1990s a 'mapped line' was created at the Mountcharles side of Donegal Bay to limit the westward spread of aquaculture. The line was created in light of the large number of objections received to a previous application by Mr. Reid, T12/145. The then Minister, Mr. David Andrews, stated in correspondence that "any aquaculture development west of the proposed clam farming sites would not be in the public interest".

This 'line' is well known to both the department and the operators within the Bay and has been respected over the years. The proposed site T12/396 is west of this 'line'. The MED are of the view that the bay is currently well managed and that if this 'line' was revoked, it would be contrary to good bay management and set a precedent for westward development.

The Aquaculture and Foreshore management Division (AFMD) of the Department of Agriculture, Food and the Marine (DAFM) have provided a report summarising the history and reasoning behind this mapped dividing line (Report form Ms. Gráinne Duggan Dated 1st July 2010). The AFMD determined that this site application (T12/396) would have to be technically assessed because it was considered incorrect to judge the application against an understanding (this 'Line') which pre-dated the Fisheries (Amendment) Act 1997.

The line was originally created due to the vast number of objections to the application site T12/145, in the early 1990s, as above. A number of other subsequent license applications have been refused as they were wholly or partly located west of the 'Line', including;

- In February 1999, Mr. Damien Reid applied for site T12/243 (part of the present site appeal T12/396A), a portion of this site was not granted as this portion of the site was located to the west of the 'Line' (Report from Mr. Paul O'Sullivan dated 8th September 1999)
- In February 2006, Mr. Shane and Enda Travers applied for site T12/371 (again part of the present site appeal T12/396), this site was refused as it was west of the 'Line', another site to the east of the 'Line' was recommended by AFMD and subsequently licensed (Reports from Mr. Gavin Poole dated 20th July & 13th September 2006)

The significance of the 'Line' was highlighted in Mr. Gavin Poole's report dated 13th September 2006, which found the "line was important to prevent westward development and consequently ensure a balanced development within Donegal Bay. Revocation of this 'Line' would set a precedent for westward development, making good bay management difficult and previous refused applicants west of this 'Line' (listed above) would have been judged unfairly if the 'Line' is now revoked".

The conclusions of the technical assessment carried out by the AMFD are highlighted within Ms. Gráinne Duggan's report dated 1st July 2010. Ms. Duggan agreed with the statement above made by Mr. Gavin Poole, and concluded that if the 'Line' were revoked it would be contrary to good

bay management and be against a long-standing Ministerial commitment. To revoke/ change the 'Line', the Department would have to demonstrate what has now changed to say that development west of the 'Line' is now, not contrary to the public interest.

Revocation of the 'Line' could lead to more and more applications for this area of Donegal Bay. Should such potential applications be successful, this would reduce the amount of foreshore available for recreational use in a scenic area of Donegal Bay and have visual impact implications especially when considering cumulative impacts.

However, the Department have, on the 31st March 2015, licensed an aquaculture site, T12/443 (5.22ha), for the intertidal cultivation of oysters using bags and trestles, on the westward side of this "mapped line" at Doorin Point. Although, this site is outside the area referred to as Mountcharles, is not visible from the Mountcharles and Jacks Quay Amenity areas and is only accessible via a minor local road and along a very narrow strip of foreshore which doesn't quite reach Doorin Point from the west.

The matter of the 'dividing line' is a Ministerial recommendation and has no legal standing as it is not rooted in the legislation of Coastal Zone Management, it is therefore a matter for the Board to determine.

### 6.1.2 Landscape and Visual Assessment

A Landscape and Visual Impact Assessment, LVIA, has been carried out for the proposed site, T12/396. This was stated as a requirement through the EIA screening assessment response.

Within the 'relevant reports' document, a summary of this LVIA has been provided. It is this summary that the below commentary is based upon.

It is considered that the following elements should have been considered in relation to the proposed site T12/396:

- Landscape Receptors
    - County level landscape character (Donegal Bay Drumlins LCA 37)
    - Local level landscape character (Landscape Character Types set out within Donegal Bay Drumlins LCA 37)
- Seascape character
    - Seascape commentary within Donegal Bay Drumlins LCA 37
    - Seascape Unit 19 Donegal Bay
- Especially High and High Scenic Amenity Areas
- Visual receptors
    - Primarily recreational due to site location
    - Residential/ workers and all others within the zone of visual influence should also be considered

<u>Landscape Receptors</u>

The LVIA produced by the MED concludes that the *"Landscape impact significance of the proposed development is predicted to be slight."* The Department's LVIA does not provide details on which landscape receptor this statement refers to.

The following landscape receptors should be considered in the assessment of the proposed aquaculture site:

- Donegal Bay Drumlins LCA 37
- Landscape Character Types set out within Donegal Bay Drumlins LCA 37, primarily:
    - Inter Tidal Flats
    - Dunes Beach
    - Drumlin Agriculture
    - Forest
    - Upland Heath Moorland
- Seascape character commentary from:
    - Donegal Bay Drumlins LCA 37
    - Seascape Unit 19 Donegal Bay
- Especially High and High Scenic Amenity Areas

Donegal Bay Drumlins LCA37 describes fishing and aquaculture as a marine use within this area, and also highlights a strong tourism and leisure industry focused on the landscape and seascape.

Seascape Unit 19 is located within Donegal Bay Drumlins LCA37. It also highlights the area being used heavily for commercial and recreational fishing, as well as being a popular tourist location.

The proposed application site would therefore not be out of character with the Local Character Area, however visual amenity is an important factor given that the area attracts visitors who are focussed on views, and will therefore have a high sensitivity to change.

The only landscape receptor mentioned within the Departments LVIA are the Scenic Amenity Areas. As shown on Figure 6.3 and as set out within the LVIA, the proposed site is directly on an inter tidal area that is designated as an Especially High Scenic Amenity Area (EHSA). The EHSA is also present for a roughly 125m strip above HWM of the surrounding coastline and at the Murvagh peninsula.

As set out within Section 5.6 of this report, EHSA are defined as:
*"…… sublime natural landscapes of the highest quality that are synonymous with the identity of County Donegal. These areas have extremely limited capacity to assimilate additional development."*

As the proposed site is located on and adjacent to an area of EHSA, it could be considered that this landscape does not have the capacity to accommodate the proposed aquaculture development, based upon the description cited above. It should also be noted that the existing licenced aquaculture site directly to the east of this proposed site is also on and adjacent to the EHSA.

Chapter 8 (Natural Resources) of the Donegal County Development Plan 2018- 2024 states:

"*The Donegal landscape is a valuable national and local asset that requires sustainable management to facilitate development and growth whist also retaining, conserving and protecting the character, quality and resultant value of our landscapes".*

Figure 6.1 highlights the amount of licenced aquaculture sites that are within the Donegal Bay Shellfish Designated Waters. Taking the EHSA and Chapter 8 (Natural Resources) commentary into account, along with review of the characteristics of the landscape as set out within the published Landscape Character Assessment (LCA) (May 2016), the amount of existing licenced aquaculture sites is vast within this valued landscape with sensitive features.

Oyster trestles are distinctive and noticeably man-made features within this natural and scenic landscape, although only visible for a limited period of time (within 2-3 hours either side of low tide, depending on the tide). It is recognised that the landscape baseline includes the presence of the existing sites but it is considered that the landscape resource is reaching capacity to accommodate these features and that further man made activity will potentially detract from the EHSA and characteristics of particularly the Landscape Character Types of Inter Tidal Flats, Dunes Beach and the setting of the Drumlin Agriculture.

To better understand the impact on the landscape receptors, commentary within the LVIA against each of these should be set out, including the Seascape character.

Visual Receptors

The Departments LVIA sets out a Zone of Visual Influence (ZVI), with "short distance public views (<500m) of the development site occurring at the Warren Beach area to the north of the site. And mid-distance views from the foreshore at Holmes Beach and Summerhill, from Jacks Quay amenity area and pier road to the west of the site and the Murvagh peninsula to the east". It focusses visual commentary on "Important viewpoints" and "Critical public views" but offers little reasoning as to why these are important and or critical. The Department's LVIA states that "Critical public views are those at the Warren Beach area and at Jacks Quay Amenity Area – these are locations of significant amenity usage and where prolonged viewing opportunities of the proposed development site at low tide are possible".

It appears that these are the areas with the most direct views towards the proposed site and these receptors are considered to be the most sensitive to any potential changes in view, but this is not clearly set out.

The LVIA concluded that the visual amenity areas of Warren beach and Jacks Quay are of importance to visitors and local users and are likely to be impacted negatively by the expansion westwards of the existing oyster farm. Views from receptors at Warren Beach are recorded as substantial significance and are not amenable to mitigation in the form of screening the view towards the proposed development. Views from receptors at Jacks Quay are recorded as moderate significance.

Visualisations were prepared to assist in determining the overall effect on visual receptors at Warren beach and Jacks Quay and these support the overall effect on receptors at these locations. At Jacks Quay the overall effect is moderate significance due to the background presence of the existing licensed oyster site, most amenity users at the location at low tide will be affected, the viewing distance is mid-distance and the degree of intrusion into the field of view is low (although intruding on the intertidal areas of EHSA within that view).

It is noted that views are most clear towards the proposed site during the summer months and where prolonged viewing opportunities at low tide are possible.

There are a number of other visual receptors within the ZVI identified within the LVIA. Commentary as to why the LVIA has only focussed on two sets of receptors (Warren Beach & Jacks Quay) would be useful.

Other receptors are also likely to experience effects due to the proposed development, including users of the sea/ water bodies.

Cumulative Considerations

The Departments LVIA states that *"Cumulative impact outcome are not expected to vary from the individual site impact results…".* This review considers that cumulative effects are likely to be the biggest issue for this proposed development. The departments LVIA also states *"The existing oyster farm development may to some extent be considered in this exercise to be already established in the local landscape and is allowed for in pre-development baseline images in the assessment of visual impact from the critical viewpoints."* The existing oyster farms are an existing and recognisable feature within this landscape. They therefore form part of the landscape and visual baseline for consideration with a LVIA. There is an existing oyster farm on an area designated EHSA, directly to the east of this proposed site.

The capacity for the landscape to accommodate further oyster farms in a concentrated area should be considered. The proposed oyster farm would be seen as an extension to the existing cluster of farms directly to its east. In landscape and visual terms, this would be a continuation of an existing feature. This therefore is likely to reduce the likely landscape and visual effects of the proposed site.

Conclusion of LVIA review

Upon review of the Departments LVIA and the baseline information available, it is considered that the sensitive landscape of the identified EHSA along with other features noted within the published LCA would likely be affected above what is concluded within the LVIA ("slight landscape impact significance"), when considered as stand-alone impacts on each landscape receptor individually. However, as noted, an existing aquaculture site is already upon part of the EHSA. Therefore, when all collectively considered, the landscape effects are likely to be in line with the Departments LVIA, especially due to the fact that existing licenced oyster farms form part of the baseline and therefore form part of the existing landscape character within the bay.

The capacity of the landscape resource to accommodate should be explored further, as initial review highlights that the landscape is likely to have a limited capacity to accommodate further aquaculture developments and that additional aquaculture developments would detract from the important features of the LCA's and EHSA.

The Departments LVIA focusses on visual receptors, with short distance views towards the proposed development at Warren beach, as well as at Jack's Quay. It is anticipated that these receptors have been the focus of the LVIA due to them having the greatest sensitivity to any visual changes brought about by the proposed development. The Departments LVIA concludes that visitors and local users of Warren beach and Jacks Quay will be negatively impacted by the expansion westwards of the existing oyster farm. However, due to oyster farms existing directly to the east of the proposed site, these are already a feature of this view. The proposed site will bring the oyster farms closer to the visual receptors, which will result in adverse visual effects, however oyster farms are already a recognised existing feature within this view. As noted within this review, the oyster trestles are only visible for a limited period of time (within 2-3 hours either side of low tide, depending on the tide).

The application site appears to be a similar size to some of the existing farms surrounding it. However, as the application site is adjacent to several others, the cumulative landscape and visual effects needs to be considered. This site would be an extension of an existing feature within the landscape. The proposed site when considered along with the existing sites directly to the east, would on the whole, result in a large cluster of farms together, especially in comparison to the other farms to the east, which tend to be more scattered, smaller parcels.

As a result of this review, based solely on landscape and visual considerations, it is recommended that the application may be approved following consultation with Donegal County Council with regard to the areas of EHSA.

Pursuant to Section 47(1) (a) of the Fisheries (Amendment) Act, 1997, as amended, a Section 47 request was issued by the Aquaculture Licencing Appeals Board to Donegal County Council to request their stance on the proposed aquaculture development in light of the provisions of the current County Development Plan, outlined in Section 5.6.1, above, and the proposed encroachment of this aquaculture site onto an area classified as EHSA.

The council responded acknowledging the landscape and protected area policies and objectives included in the Section 47 request and directed the Board towards the Economic Development policy ED-P-10, which provides for the expansion of existing economic development provided the scale and nature of the development will contribute to the long-term sustainability of the existing enterprise. The Council stated they have "regard to the existing nature of the aquaculture operation and the continuing employment of a number of workers in this industry"
Therefore following the consultation with DCC it is considered by the Technical Advisor that this proposed aquaculture site can be approved, subsequent to other considerations.

**Figure 6.1 Application Site Location**

**Figure 6.2 Community Distribution within Donegal Bay SAC and SPA** *(NPWS 2011b)*

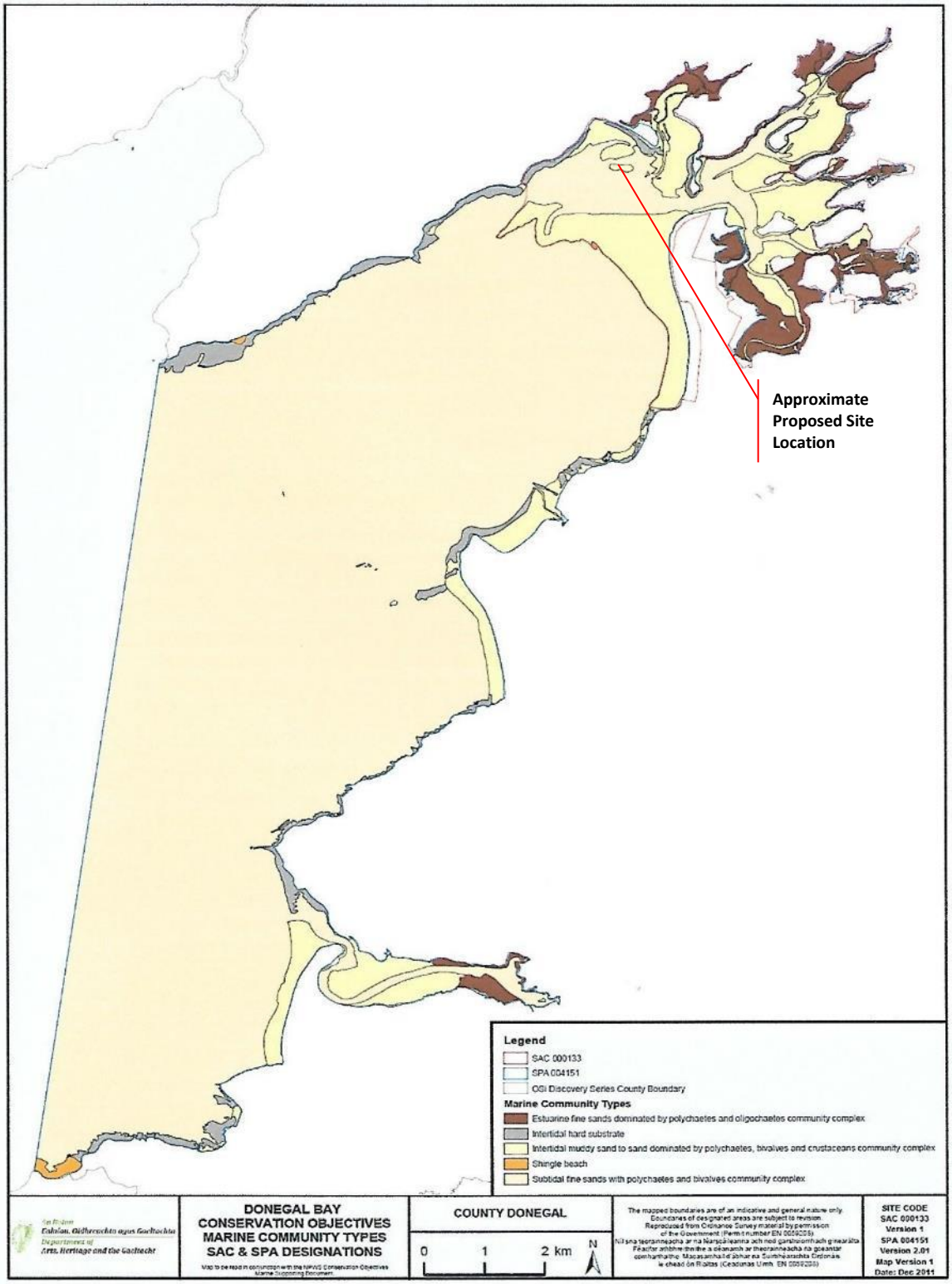
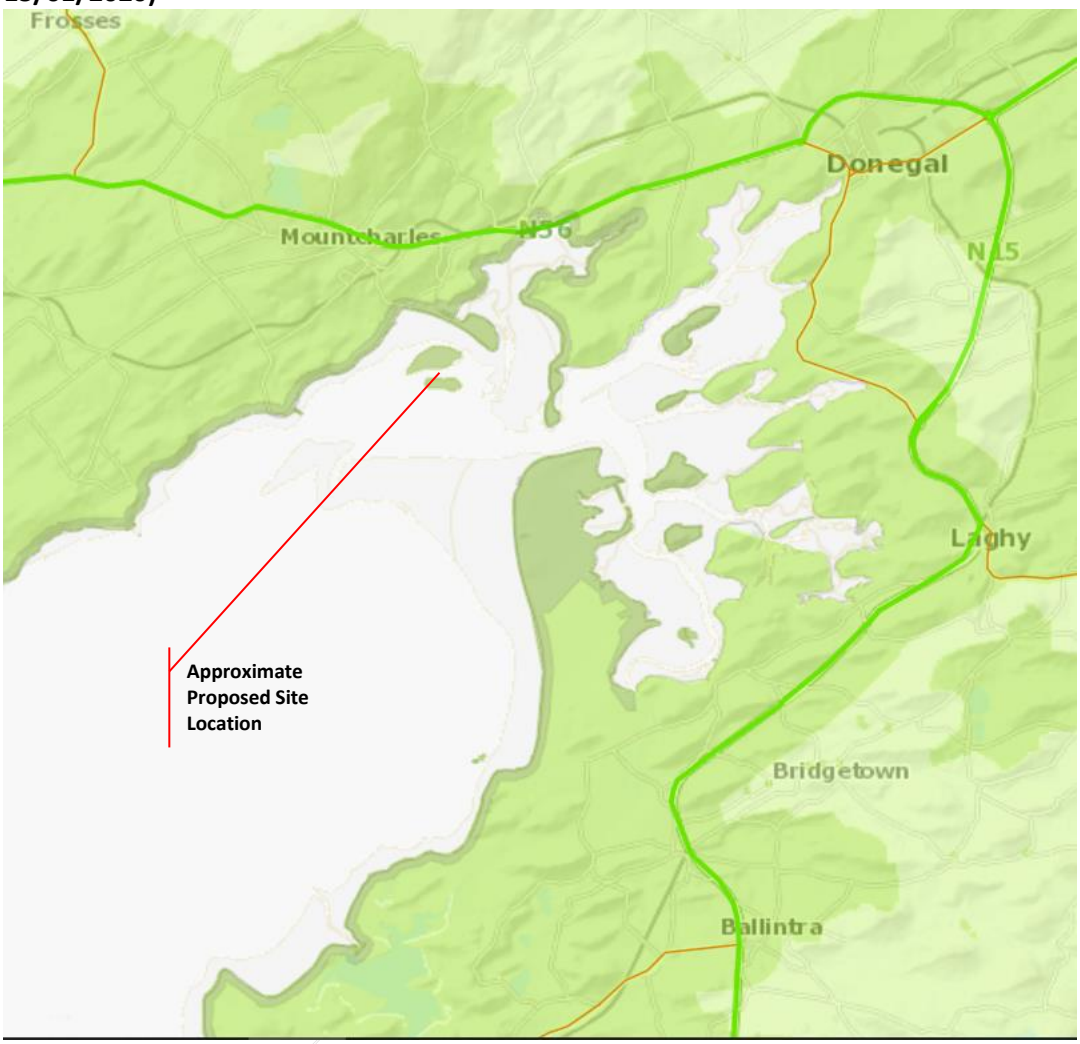
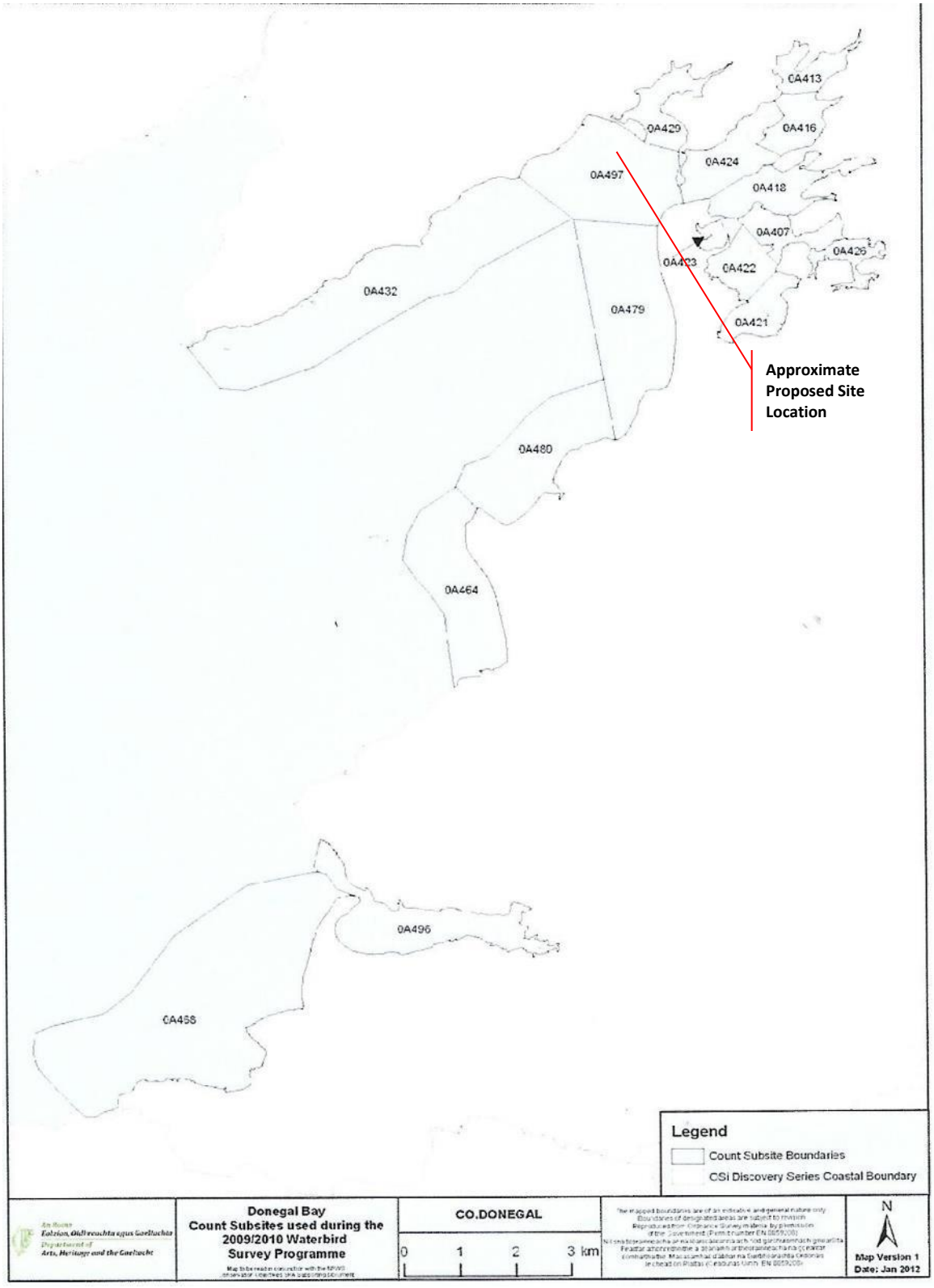


**Figure 6.3 Scenic Amenity Classification of Donegal Bay (http://arcg.is/110vWH accessed on 15/01/2020)**




Areas of Especially High Scenic Amenity Value are shaded in dark green;
Areas of High Scenic Amenity Value are shaded light green;
Areas of Moderate Scenic Amenity are shaded in pale green.

**Figure 6.4 Donegal Bay Waterbird Monitoring Subsites** *(extracted from NPWS, 2012c)*



## 6.2 Other Uses

Fishing, walking, horse-riding, swimming and water sports are the key "Other Uses" of the Harbour which either largely take place in the Southern Bay at Rossnowlagh and Bundoran, the Outer Bay at Mountcharles-eddrim estuary (the area the site is situated in), in the Rivers (R. Eske & R. Erne) or along the foreshore (Warren Beach, Murvagh Peninsula). Therefore, it is considered that the proposed development will not have a significant impact on recreational users of the site.

## 6.3 Statutory Status

There are no specific statutory or development plans for Donegal Bay. Aquaculture is, however, considered under the Donegal County Development Plan (DCC, 2018). Within the Plan it states that a balance must be achieved for the county, where by;

- *"It is a policy of the Council to ensure that development proposals do not adversely compromise the recreational amenity and environmental quality of coastal areas including Flag Beaches, Natura 2000 sites and areas of Especially High Scenic Amenity",*

- It is an objective of the plan *"To protect, manage and conserve the character, quality and value of the landscape having regard to the proper planning and development of the area, including consideration of the scenic amenity designations of this plan, the preservation of views and prospects and the amenities of places and features of natural, cultural, social or historic interest."*

- It is an objective of the plan *"To protect the areas of Especially High Scenic Amenity from intrusive and/or unsympathetic developments."*

- It is a policy of the plan *"to consider proposals for the expansion or re-development of an existing economic development in the countryside provided the scale and nature of the resultant development will contribute positively to the long-term sustainability of the existing enterprise subject to compliance with ED-P-14. A proposal which would not meet these criteria will only be permitted in exceptional circumstances where it can be demonstrated that:*
  *The proposal would provide for consolidation and/or remediation of the existing facilities;*
  a. *Where relocation of the enterprise would not be possible;*
  b. *The proposal would make a significant contribution to the local economy;*
  c. *The development would maintain the existing rural character of the area; and*
  d. *Where infrastructural improvements are required that a developer-led solution can be identified and delivered.*

Specifically, this balance must be achieved in terms of natural resources (including Aquaculture) where the business must be sustainable in addition to economically viable for the county and not adversely affect the recreational and environmental amenity of the county.

Pursuant to Section 47(1) (a) of the Fisheries (Amendment) Act, 1997, as amended, a Section 47 request was issued by the Aquaculture Licencing Appeals Board to Donegal County Council to request their stance on the proposed aquaculture development in light of the provisions of the current County Development Plan, outlined in Section 5.6.1, above.

The council responded acknowledging the landscape and protected area policies and objectives included in the Section 47 request and directed the Board towards the Economic Development policy ED-P-10, which provides for the expansion of existing economic development provided the scale and nature of the development will contribute to the long-term sustainability of the existing enterprise. The Council stated they have "regard to the existing nature of the aquaculture operation and the continuing employment of a number of workers in this industry"

Following the considerations outlined in the Section 47 response from Donegal County Council, with reference to the County Development Plan Policy ED-P-10, i n terms of this proposed aquaculture site, which is an extension of a large existing aquaculture development it is considered; that due to the existing nature of aquaculture within Donegal Bay that the proposed development would not be detrimental to the existing character of the area and that the proposed extension would make a significant additional contribution to the local economy, whereby a number of additional employees are proposed to be hired.

Therefore, it is the considered opinion of the Technical Advisor that in line with the policies of the Donegal County Development Plan (DCC, 2018) and the position of Donegal County Council in regards to this site, that the site should be licensed, subsequent to other considerations.

## 6.4 Economic Effects

Tourism and natural resources are key areas of employment in the region (Donegal County Council, 2018). The aquaculture industry provides a substantial element of the overall economy of the county and the region around Donegal Bay, in addition to providing employment overseas where seed for the sites is typically sought (France in terms of this proposed site). Should the site be approved it would provide local employment from the operation of the business in addition to supplying local product to the region therefore providing for the local and regional economy.

It is the considered opinion of the advisor that the operation of this proposed site could provide a positive effect to the local and regional economy.

## 6.5 Ecological Effects

*6.5.1 Particle Suspension / Benthic Communities*

Oysters are suspension feeders which means that biodeposition can occur on the seabed beneath the bags and trestles where faeces and pseudofaeces accumulate. This biodeposition can affect the natural local sediment movement and the natural infaunal community. Where some enrichment (from biodeposition) in the water can be beneficial, over enrichment can be detrimental and can lead to a change in the natural biogeochemistry reducing natural / native species richness and at times anoxic conditions can occur proving fatal to local organisms.

Oysters can have a “plastic response” to increased sedimentation load, increasing their filtration rate which in turn can increase the amount of biodeposition. The rate of biodeposition in an area is dependent on the density of animals in addition to the hydrology of the site.

Based on the information provided to the advisor for this report it is the considered opinion of the advisor that on its own and in conjunction with existing licensed aquaculture, this application should not pose a significant impact on the benthic communities of the site, where, existing access routes will be utilised and the movement of plant will be minimized to what is absolutely necessary.

*6.5.2 Shading*

Oysters, as filter feeders, can alter the zooplankton and phytoplankton abundance and communities in the water column and therefore the overall productivity of a site. It may decrease the turbidity of the water, increasing light penetration through the water column. This increase in light penetration may be beneficial to some species such as eel grass (*Zostera* spp.). Conversely, the trestles and bags may cause shading to the seabed, decreasing the light penetration, thereby negatively impacting the growth of vegetation such as seagrass.

It is the considered opinion of the advisor that given the new application site is proposed to be situated in an area not categorised as having vegetative communities within (Figure 6.2), therefore shading caused by the trestles and bags should not pose a significant impact on the benthic communities beneath.

*6.5.3 Non-native Species*

The movement of oysters in and out of the water can encourage the transport of non-native and / or invasive species either though the introduction via seed and / or from boats moving between sites. *C. gigas* has been known to have become naturalised (Marine Institute, 2014) in some sites in Ireland. However, the Appropriate Assessment for Donegal Bay SAC (Marine Institute, 2014) indicates that there is no significant risk of non-native species moving in to the harbour where the use of triploid seed by the operators in the bay reduces the risk of *C. gigas* naturalising in the Harbour.

Therefore, it is the considered opinion of the advisor that there is no significant impact posed by this application with regards to the introduction of the non-native species *C. gigas*. So long as biosecurity measures are implemented as part of the Fish Health Regulations Council Directive 2006/88/EC (which is transposed into Irish Law) to prevent the spread of disease and non-native species.

*6.5.4 Protected Species*

Gittings and O’Donoghue (2012) carried out a detailed study of the effects of intertidal oyster culture using trestles on the spatial distribution of waterbirds. The results of this study were used to categorise species according to their degree of positive or negative association with oyster trestles. This study found that:

- Light-bellied Brent Goose showed a variable response to oyster trestles.

- Sanderling showed a negative response to oyster trestles.

Donegal Bay was divided into 19 subsites for the purposes of waterbird monitoring, see Figure 6.4 above. The same subsites were used for both the IWEBS and the NPWS baseline waterbird survey counts, with the exception of Creevy Pier-Kildoney Point, which was not included in the NPWS baseline waterbird survey. The subsites cover most of the shoreline of the SPA, with the exception of a section of shoreline between Rossnowlagh and Kildoney and another short section of shoreline at the northern side of the mouth of the Erne Estuary (Atkins, 2016).

The intertidal zone of the Mountcharles subsite north of the main tidal channel forms an ecological unit with the Eddrim Estuary that is physically discrete from other significant areas of intertidal sandflats, and these areas were considered together in analysing waterbird distribution. The areas are collectively referred to as the Mountcharles/Eddrim Estuary area (Atkins, 2013).

The 4 SCI species of the Donegal Bay SPA mainly occur within the Outer and Southern Bay zones of Donegal Bay. Light bellied Brent Goose and Great Northern Diver do regularly occur within the Inner Bay zone, but usually in small numbers. Common Scoter and Sanderling occur almost entirely within the Outer Bay zone, apart from the Inner Bay Eddrim Estuary subsite in which Sanderling do regularly occur (Atkins, 2013).

#### 6.5.4.1 Light-bellied Brent Geese

The Appropriate Assessment (Atkins, 2013) concluded that oyster trestles are an attractive habitat for Light-bellied Brent Goose in Donegal Bay, particularly in the autumn/ early winter when the cover of green algae growing on the trestle bags is higher, although disturbance from husbandry activities may limit their utilisation of the habitats. It is likely that oyster cultivation has an overall positive impact on Light-bellied Brent Goose.

#### 6.5.4.2 Great Northern Diver

Great Northern Diver does not occur in significant numbers within the Inner Bay zone. However, they regularly occur within two subsites in the Outer Bay zone containing intertidal oyster applications or licenses, The Doorin Pt – Salthill Pier and Mountcharles/ Eddrim estuary subsites. The Doorin Point-Salthill Pier supported a mean of 39% of the total Donegal Bay count, while, the Mountcharles subsite supported a mean of 9% of the total Donegal Bay count.

Great Northern Diver typically occurs as individuals or in dispersed small groups and range widely across the areas in which they occur. A single bird can move several 100 m over the course of a few successive dives. In the Doorin Point-Salthill Pier subsite, the intertidal oyster cultivation plot is too small to represent a significant area of habitat for Great Northern Divers. The intertidal oyster cultivation plots in the Mountcharles subsite cover a larger area, but the overall numbers of Great Northern Diver occurring within this subsite are low. Intertidal oyster cultivation plots will only be available for use by Great Northern Divers during the high tide period. Therefore, any intertidal oyster cultivation in these plots will not cause significant displacement of Great Northern Divers (Atkins, 2013).

#### 6.5.4.3 Common Scoter

Common Scoter only regularly occur within one subsite containing intertidal oyster licenses, the Doorin Pt – Salthill Pier subsite. They usually occur in small numbers within this subsite. This subsite contains a single intertidal oyster cultivation license, T12/443A, covering an area of 5.22ha. Given the small numbers of Common Scoter that occur within this subsite, the small area occupied by the license for intertidal oyster cultivation, and the fact that Scoter would only be able to use this area during the high tide period, any intertidal oyster cultivation in this plot will not cause significant displacement of Common Scoter (Atkins, 2013).

#### 6.5.4.4 Sanderling

Within the bay the main areas which Sanderling tend to use have been described as the sandy shoreline west and south of the Beefpark peninsula (Mountcharles subsite); the sandflats at the northern end of Murvagh around the boundary between the Murvagh and Mountcharles subsites; and the upper shore in the Murvagh subsites, with some also in the Rossnowlagh subsite (Atkins, 2013)

Excluding the Eddrim Estuary, Sanderling do not seem to favour the Inner Bay. However, available data does suggest that Sanderling do occur with some regularity within the Mountcharles / Eddrim Estuary area. Therefore, Sanderling distribution does overlap with the applications and licenses in the Mountcharles subsite, including the proposed site T12/396 (Atkins, 2016).

The Appropriate Assessment report (Atkins, 2013) concluded that there was potential for intertidal oyster culture in the Mountcharles area to cause sizeable displacement impacts to Sanderling, but that there was insufficient data on Sanderling distribution and abundance to assess whether these displacement impacts would be significant in terms of the attributes defined for the conservation objectives of the Donegal Bay SPA (Atkins, 2016).

Following the publication of the Appropriate Assessment of aquaculture in the Donegal Bay SPA in 2013, National Parks and Wildlife Service (NPWS) noted (in their submission) that the assessment had stated that some displacement of Sanderling by the existing oyster trestles had probably already occurred and as a result, the overall numbers within the Mountcharles/Eddrim Estuary area may have been reduced. NPWS were concerned that a further extension of oyster trestle activity in this area may well displace the existing Sanderling that use this area further. The assessment put this displacement at up to 10% of Sanderling by oyster trestle culture and so was in conflict with Sanderling achieving the relevant conservation objective in Donegal Bay SPA. Consequently, further information was requested to increase confidence levels in the predicted impact on Sanderling in Donegal Bay (Atkins, 2016). As a result, an additional period of monitoring for Sanderling was undertaken over the autumn/ winter of 2014/2015 (Atkins, 2016).

As part of this additional monitoring programme, census counts were taken once a month from September 2014 – February 2015, as well as comprehensive trestle watch surveys for the same period (except October due to adverse weather conditions). The distribution of flocks recorded during the 2014/2015 census surveys suggests that two subsites are of particular importance to Sanderling in Donegal Bay, namely the Aughrus Pt – Bundoran subsite (0A4685) (in the southern portion of the SPA) and the Murvagh Strand subsite (0A479) (in the outer bay portion of the SPA, to the south-east of the proposed site). Sanderling were recorded on 50% and 83% of occasions

from within these subsites, respectively. Sanderling were also recorded on one occasion in the Rossnowlagh – Inishfad subsite (0A480) and the Mountcharles subsite (0A497). In contrast to the census counts listed above, Sanderling were recorded within the Mountcharles (0A497) subsite on four of the five trestle watch surveys (Atkins, 2016).

In line with previous counts, which generally recorded <50 Sanderling in Mountcharles the maximum count during the census counts was 47 birds (4th February 2015). In contrast 79 birds were recorded in Mountcharles in December 2014 during a more comprehensive period of trestle observations; depending on the true numbers of Sanderling in Donegal Bay this could represent 60% (based on 2014/15 maximum count of 132) or between 26% - 39.5% (based on an estimated flock size of 200-300 birds) of Sanderling in Donegal Bay ( Atkins, 2016). The count of 79 exceeds the overall designated site qualifying population of 68 Sanderling.

The results of the monitoring surveys in addition to the previously collected data indicate that three areas within Donegal Bay are noteworthy for Sanderling.

- The northern end of Murvagh and to a lesser extent southward through Rossnowlagh-Inishfad to Rossnowlagh;
- Tullan Strand / Erne Estuary; and
- Mountcharles / Eddrim Estuary

Care must be taken in interpreting the % of Sanderling in Donegal Bay using Mountcharles / Eddrim Estuary. However, a count in December 2014 of 79 Sanderling south of Jack's Quay is notable and would represent >25% of the Donegal Bay Sanderling (i.e. 35% using 2013 census peak count; 29% using NPWS baseline waterbird survey counts; 59% using the 2014/15 peak count) ( Atkin, 2016). The count of 79 exceeds the overall designated site qualifying population of 68.

The 2014/2015 monitoring data (Atkins,2016) clearly highlights the importance of an area running south from Jack's Quay towards the southwestern corner of T12/396A. Foraging was also recorded on a number of occasions within the southern section of T12/396A; and eastwards along the southern edge of existing trestles, see Figure 6.5 below. It is probable that existing trestles deter the movement of these birds further to the north and east – i.e. evidencing patterns of displacement from existing trestles (Atkins, 2016).

The Sanderling monitoring report (Atkins, 2016) recommends the placement of trestles in the southern section of T12/396A should be avoided due to the potential for negative impacts on Sanderling and a precautionary approach to licensing the remaining areas of T12/396.

With the recommendation by Atkins (2016) on the avoidance of placing trestles in the southern section of the proposed aquaculture site T12/396A, i.e. not licensing the southern section, it

should be possible to avoid the main areas of use by Sanderling i.e the area running south from Jack's Quay towards the southwestern corner of the proposed site.

However, this area remains on the west side of the dividing 'Line' put in place by Minister Andrews, which is a matter for the Board to determine, and the viability of the remaining proposed area for aquaculture should be considered. This remaining proposed area is situated across an area which retains a deep-water channel across the intertidal flats and the viability of placing trestles in this area in questionable, this however is a matter for the appellant to decide. The site visit confirmed the presence of this deep-water channel along the north-western boundary of the existing licensed sites, see Appendix 4, Figure A4.9.

**Figure 6.5 Sanderling Flock Positions Recorded During the Comprehensive Census & Trestle Watch Surveys** (Extracted from Atkins, 2016)

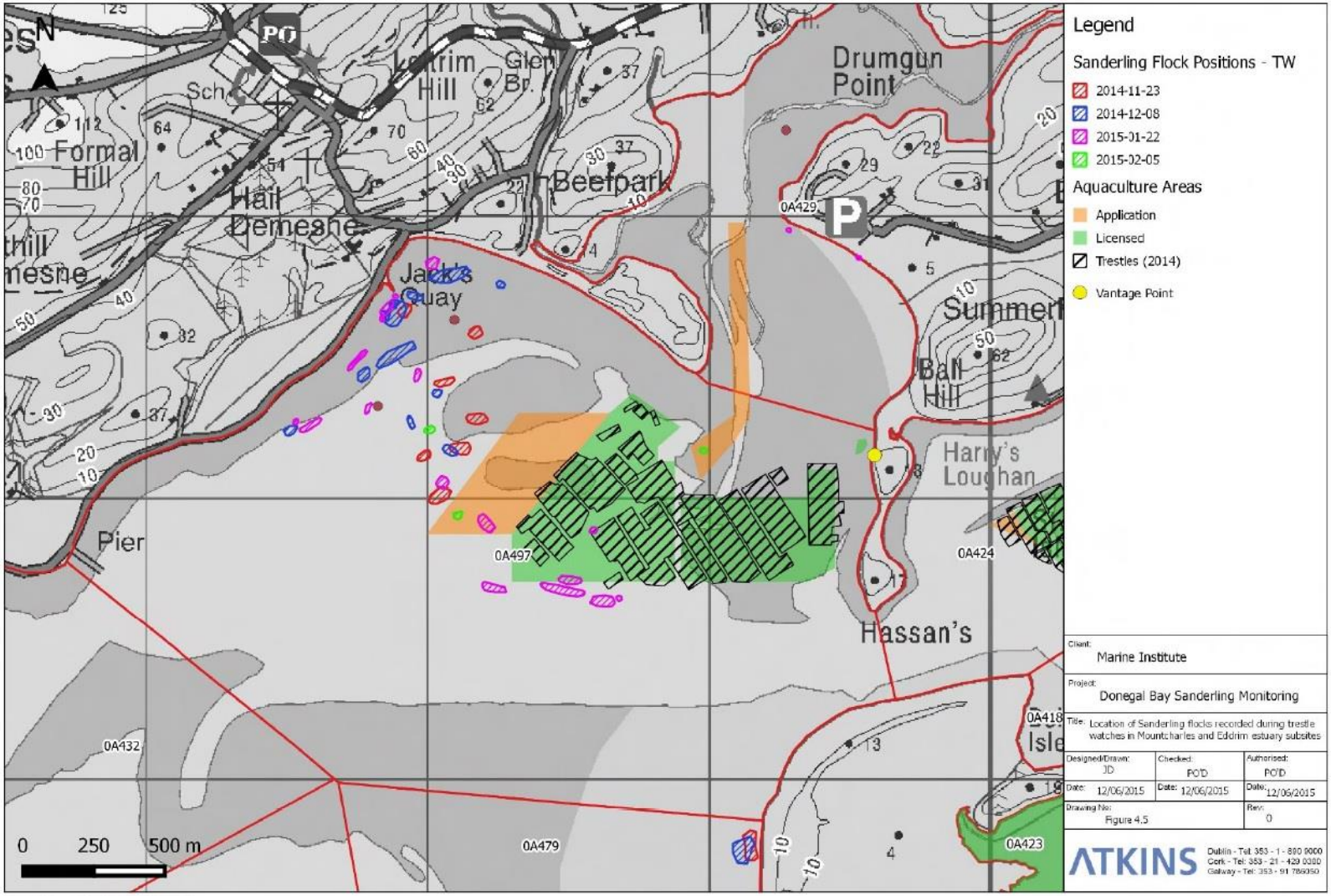


**Figure 6.6 Proposed Site Reduction (Light Blue).**

Given the habitat preferences and distribution of other SPA qualifying interests no potential effects were identified in relation to Great Northern Diver, Common Scoter or Light-bellied Brent Goose. This Technical Advisors Report agrees with those conclusions.

*6.5.5 Designated Sites*

An Appropriate Assessment has been carried out in terms of the impacts of aquaculture on both the SPA (Atkins, 2013) and SAC (Marine Institute, 2014) sites in Donegal Bay.

The Conservation Objectives for the SAC is summarised as "The natural condition of the designated features should be preserved with respect to their area, distribution, and extent and community distribution. Habitat availability should be maintained for designated species and human disturbance should not adversely affect such species" (NPWS, 2011b).

The Conservation Objectives for the SPA can be summarised as "The overarching Conservation Objective for the Donegal Bay SPA is to ensure that waterbird populations and their wetland habitats are maintained at, or restored to, favourable conservation condition" (NPWS, 2012c).

The main conclusions of these assessments are outlined in Tables 6.2 and 6.3.

**Table 6.2 Summary of Predicted Impacts within the SAC (Marine Institute, 2014 & NPWS 2011b)**

| | |
|---|---|
| **Habitat Area** | The habitat is likely to remain stable with no overall reduction |
| **Bags and Trestles** | The presence of bags and trestles is considered to be non-disturbing |
| **Access Routes** | Access routes are considered to be disturbing (limited to access route) in terms of compaction of designated habitats. |
| **Species Interactions** Seal | The physical presence of trestles may impact and restrict seal access to certain habitats. Conclusions of the AA indicate that overall aquaculture in Donegal Bay is conducive to the conservation objectives of the harbour seal. |
| **In-combination Effects** | Oyster trestles are considered to be non-disturbing to marine habitats and therefore there is no predicted in-combination effects |

**Table 6.3 Summary of Predicted Impacts within the SPA (Atkins, 2013)**

| | |
|---|---|
| **Physical Disturbance** | Intertidal oyster culture using bags and trestles causes a significant physical alteration to the structure of the intertidal habitat through the placement of physical structures (oyster trestles) on the intertidal habitat. |
| **Noise / Visual Disturbance** | Intertidal oyster culture may also cause impacts to waterbirds through disturbance associated with husbandry activities. This may occur both within and adjacent to the areas occupied by trestles, as well as along the access routes. |
| **Displacement of Foraging Habitat** | Intertidal oyster culture may also cause impacts to waterbirds through disturbance associated with husbandry activities. This may |

| | |
|---|---|
| | occur both within and adjacent to the areas occupied by trestles, as well as along the access routes.<br>Sanderling showed a negative response to oyster trestles, therefore, could potentially be negatively affected by suspended oyster cultivation |

Based on data made available to the advisor the following considerations have been made with regards to the species and habitats of conservation concern for the SAC (Table 6.4) and SPA (6.5).

A number of features of the SAC have been screened out (Marine Institute, 2014) as it was considered that there would be no likely overlap or interaction with aquaculture activities, two key habitats of the SAC, have been screened out.

- Fixed Coastal Dunes with herbaceous vegetation 'Grey Dunes' [2130] and
- Humid Dune Slacks [2190]

While the remaining habitat, Mud and Sandflats not covered by seawater at low tide [1140] and the Harbour seal *Phoca vitulina* are considered to have potential to be impacted by aquaculture activities and are further described in Table 6.4 with regards to results of the AA (Marine Institute 2014) and with respect to the proposed application site.

The 4 SCI species of the Donegal Bay SPA mainly occur within the Outer and Southern Bay zones of Donegal Bay. Light bellied Brent Goose and Great Northern Diver do regularly occur within the Inner Bay zone, but usually in small numbers. Common Scoter and Sanderling occur almost entirely within the Outer Bay zone, apart from the Inner Bay Eddrim Estuary subsite in which Sanderling do regularly occur (Atkins, 2013).

The distribution of Common Scoter and Great Northern Diver in Donegal Bay does not show significant spatial overlap with main areas of suspended oyster cultivation licenses including the proposed site application, therefore, these species have been screened out of further assessment (Atkins, 2013).

**Table 6.4 Potential Impacts on the SAC**

| Feature | Activity | Impact and Reasoning *(from AA Report)* | Advisor Conclusions for Site T12/396 |
|---|---|---|---|
| Mudflats and sandflats not covered by seawater at low tide [1140] | Site Operation | No impact of operation of an oyster aquaculture site | No impact as described in the AA Report |
| | Access Routes | Potential impact - Compaction by vehicles on all habitats | Access is proposed is by tractor from the beach car park at Summerhill where the same access route has been used and will continue to be used by current operators, therefore, a localised minimal impact is predicted from vehicular access and tramping across the estuary habitat complex within the small area of the access route |
| Harbour Seal *Phoca vitulina* | Site Operation | Favourable conservation status is maintained within the SAC and impacts on this from aquaculture (new and proposed) is not considered likely, where these are not situated near sensitive sites for the species including breeding, moulting and resting sites. | No proposed impact to important seal sites for resting moulting and breeding, based on location of the site away from these key areas |

**Table 6.5 Potential Impacts on the SPA**

| Key Issue | Parameter | Impact and Reasoning *(from AA Report, Atkins, 2013)* | Advisor Conclusions for Site T12/396 |
|---|---|---|---|
| Reduction in Foraging Resource – Changes to Invertebrate Communities | Habitat Smothering | High water flow within the Harbour is likely to mitigate the long-term effect of this impact on the SCIs with regards to reducing foraging resource | As described in the AA Report, the site is located within an area which has high tidal flow (Atkins, 2013) therefore the impact on reduction of foraging resource from habitat smothering is considered to be low from the proposed application site |
| | Turbidity Changes / Sediment Movement | Localised increase in water turbidity and sediment build up can result in changes to the biological composition and/or availability of prey items particularly where intensive shellfish culture occurs. Not considered to be a significant impact where there is consistent natural movement of sediment within the Harbour (hydrological dynamic flows) | As described in the AA Report, the site is located within an area which has high tidal flow (Atkins, 2013) therefore the impact on reduction of foraging resource from sediment movement is considered to be low from the proposed application site |
| | Change in Oxygen Levels | Pseudofaeces and biodeposition can increase oxygen demand in a waterbody, thereby decreasing oxygen available to naturally occurring species. This is not considered to be a significant impact on the Bay where the tidal flows though the site are considered to be of a magnitude to mitigate this impact | As described in the AA Report, the site is located within an area which has high tidal flow (Atkins, 2013) therefore the impact on reduction of foraging resource from oxygen depletion is considered to be low from the proposed application site |
| | Abrasion / Physical Disturbance / Compaction of | The use of vehicles and foot traffic on shore and on the intertidal habitats can result in changes in sediment structure and characteristics. As a result, a measurable change to the biological composition and/or | Access to this site is by tractor from the beach car park at Summerhill. Impact on soft sediments where the access route will be |

| Key Issue | Parameter | Impact and Reasoning *(from AA Report, Atkins, 2013)* | Advisor Conclusions for Site T12/396 |
|---|---|---|---|
| | Invertebrate Habitats | availability of prey items can occur. Any impact is predicted to be localised i.e to the specific access routes, and the characterising species for the community complexes present are considered to be tolerant of sedimentation, organic enrichment and compaction therefore, severity is considered to be low. | taken is considered to be negligible for this site.<br><br>Foot traffic will be localised from the tractor access route and not considered to be a significant impact.<br><br>It is proposed that operators will confine access to a single route, this area will likely suffer heavy compaction through continuous use, however, the overall area is small 4.5ha and the requirement for stable ground (compacted sands) for access routes implies that these areas are less likely to have a diverse range and higher abundances of biota. |
| | Displacement of prey species | No reference to potential impacts from oyster cultivation is made. | Cultivation of oysters from this site is considered to have limited impact in terms of displacement of invertebrates where the benthic community is not proposed to be disturbed during cultivation / harvest |
| | Selective extraction of target species | Oystercatchers will predate *C. gigas* if the technique to open shells is acquired by the bird and this is limited to oysters with a shell length of 16cm and above. | The movement of target prey species for oyster cultivation is not considered significant from this site where only one species is regarded as foraging on oysters (Oystercatcher) and this behaviour is limited to some birds which can open *C. gigas* shells |

| **Key Issue** | **Parameter** | **Impact and Reasoning** ***(from AA Report, Atkins, 2013)*** | **Advisor Conclusions for Site T12/396** |
|---|---|---|---|
| | Selective extraction of non-target species | This is in reference to removal of predator species which does not affect oyster cultivation | Not applicable to oyster cultivation |
| Introduction of non-native species | Introduction of *C. gigas* | *C. gigas* is a non-native species used in aquaculture sites through the Bay. The sites use triploid (nearly sterile) stock seeds, therefore the likelihood of spread of this species / to become naturalised is considered low | *C. gigas* is considered to be a non-native species which is proposed to be used for this proposed site application. The application states that the triploid stock will be used for the operation thereby reducing the impact for spread beyond the aquaculture site as described in the AA report |
| Disturbance | Noise / Visual | Intertidal oyster culture may cause impacts to waterbirds through disturbance associated with husbandry activities. This may occur both within and adjacent to the areas occupied by trestles, as well as along the access routes. | Access routes will be utilised within 3 hours either side of low tide with vehicle movements being carried out in groups and for the minimal amount of time, therefore, it can be discounted that the SCIs will be impacted by access to the proposed site.<br><br>It is considered that if the species are present during operation they will be displaced and thereby affecting the conservation status of the SCI for that area. A new application such as T12/396 has potential to negatively affect the Sanderling SCI population, it should be concluded that the operation of a large new site within the Mountcharles/Eddrim estuary could potentially cause displacement of 5-10% of the Donegal Bay population based on the best available data. |

| Key Issue | Parameter | Impact and Reasoning *(from AA Report, Atkins, 2013)* | Advisor Conclusions for Site T12/396 |
|---|---|---|---|
| | Displacement | Sanderling have been found to have a high displacement to trestles with nearly full exclusion from sites occurring. Light-Bellied Brent Goose can show neutral or positive responses to the presence of trestles (Atkins, 2013). Where there is significant variation in the responses of SCIs to trestles, a precautionary principle of high severity of the impact of trestles on SCIs should be applied, with the exception of those species which responded neutrally or positively where a minimal severity of impact is applied<br><br>The presence of oyster trestles on inter-tidal foraging habitat is known to adversely change the abundance and distribution of some waterbird species. The potential impact is likely to be significant for birds sensitive to disturbance | A Sanderling Monitoring survey (Atkins, 2016) carried out as a census and trestle watch survey over the winter of 2014/2015 found that the Mountcharles/ Eddrim estuary subsite, within which the proposed site is located, is an important foraging location for Sanderling. A count during the comprehensive trestle watch survey on December 2014 of 79 Sanderling south of Jack's Quay is notable and would represent >25% of the Donegal Bay Sanderling (i.e. 35% using 2013 census peak count (202); 29% using NPWS baseline waterbird survey counts (272); 59% using the2014/15 peak count (132)). The count comprises a peak which exceeds the designate site qualifying population.<br><br>The comprehensive trestle watches across the winter period of 2014/2015 plotted sanderling foraging within the southern portion of the licence area and flocks are reported in the immediate surrounding area to the south and west, see Figure 6.5, above. Given the available data there is a likelihood of a displacement effect on sanderling and therefore adverse effects on the integrity of the SPA with respect to Sanderling cannot be ruled out. |

| Key Issue | Parameter | Impact and Reasoning *(from AA Report, Atkins, 2013)* | Advisor Conclusions for Site T12/396 |
|---|---|---|---|
| **Overall** | | The 2014/2015 Sanderling monitoring data (Atkins, 2016) clearly highlights the importance of an area running south from Jack's Quay towards the southwestern corner of **T12/396A**. Foraging was also recorded on a number of occasions within the southern section of T12/396A; and eastwards along the southern edge of existing trestles. It is probable that existing trestles prevent the movement of these birds further to the north and east – i.e. evidencing patterns of displacement from existing trestles. Recent aerial photography suggests an area of deeper channel has developed through the northern section of T12/396A; this may explain the absence of observations of birds through this area. It should also be determined whether it is practical to place trestles in this area. <u>The placement of trestles in the southern section of T12/396A should be avoided due to the potential for negative impacts on Sanderling</u>. <u>In the absence of further bathymetric data and information on benthic invertebrate diversity we would recommend a precautionary approach to the remaining areas of T12/396A be adopted.</u> | The advisor concludes that there is the potential for an adverse impact on Sanderling in the form of disturbance and displacement should this proposed site be licensed at the appealed size. Based on the available information adverse effects on site integrity of the SPA in relation to the conservation objectives for Sanderling cannot be ruled out.<br><br>Following a reduction in area subsequent to recommendations from the Sanderling Monitoring Report (Atkins, 2016) (not licensing the southern section), the possibility exists for licensing of the northern section, however, the viability of this section of the proposed site for aquaculture is questionable due to the presence of a deep-water channel throughout this northern section,which is a matter for the appellant to determine and the proposed site remains on the western side of the dividing 'Line' put in place to ensure good bay management by then Minister Andrews in the early 1990s, which is a matter for the Board to determine. |

### 6.6 General Environmental Effects

It is considered that the proposed application will not pose significant environmental effects within Donegal Bay and in the wider area other than those highlighted in Section 6.5. There are no predicted impacts from pollution sources or changes to hydrological functioning of the site as a whole (including freshwater influences).

### 6.7 Effect on Man-made Heritage

There is no predicted impact on man-made heritage sites located around Donegal Bay.

## 7.0 Section 61 Assessment Conclusions

### 7.1 Site Suitability

The site under appeal **is** considered suitable for the proposed application under the following reasons;

1. It is proposed in an area with existing productive aquaculture indicating the suitability of the hydrological condition to support the service

2. Site is proposed to be located on hard sand banks considered suitable to support trestles

3. The proposed site lies within the Shellfish Designated waters for the Bay

4. Subsequent to a reduction in area, from the south, to avoid the areas of importance for Sanderling highlighted within the Sanderling Monitoring Report (Atkins, 2016) (an area running south from Jack's Quay to the southwestern corner of the original proposed site, and eastward along the southern edge of the existing trestle blocks), it is considered that this reduced area will have minimal displacements effects on Sanderling populations within the Mountcharles subsite.

The site under appeal **is not** considered suitable for the proposed application under the following reasons;

1. Following a reduction in size from the south, the viability of the remaining application area for aquaculture is questionable due to the presence of a deep-water channel meandering through this area of intertidal flats.
2. Following the reduction in area of the proposed site, the issue remains of the Ministerial commitment to provide for both recreational and commercial activities within the bay by the creation of the dividing 'Line', thereby ensuring good bay management. Which has been the basis for refusal of a number of previous license applications. To license this site would be to deem that it is now no longer in the public interest to keep

aquaculture out of the western (Mountcharles) side of the Bay and may set a precedent for continued westward development in the future. This Ministerial commitment is not rooted in Legislation including that of Coastal Zone Management and so has no legal standing, it is therefore a matter for the Board to determine.

### 7.2 Other Uses

The proposed development has the potential to pose a minor non-significant impact on the possible other uses or users of the area for the following reasons;

1. Additional aquaculture activities in this area may have a detrimental effect on the natural beauty of the surrounding area which is designated as both Especially High Scenic Amenity and High Scenic Amenity area, however, the addition of this proposed aquaculture site is unlikely to affect the overall landscape and amenity value of the area due to the extensive presence of existing licensed aquaculture within the bay.

### 7.3 Statutory Status

The proposed development is considered to have a non-significant impact on the Statutory Status of the site in terms of the SAC habitats.

The proposed development is considered to have potential to pose an adverse effect on the integrity of the Donegal Bay SPA in relation to displacement of the SCI, Sanderling, further details are outlined in Sections 6.5 and 7.5.

In terms of this site, where it is a new application, in an existing area of recreational, environmental and Especially High Scenic Amenity Value it is the considered opinion of the advisor that the implementation of the entire new site in this area of Donegal Bay could have a significant adverse impact on the objectives of the County Development Plan and conservation objectives of Donegal Bay SPA.

Following recommendations from the Landscape Architect for the reduction in area from the west, supporting comments from Donegal County Council and recommendations outlined within the Sanderling Monitoring Report (Atkins, 2016) for the reduction in area from the south, to avoid the areas of EHSA and areas of importance to Sanderling, there is potential for this revised site layout to be licensed. However, the viability of the remaining area for aquaculture is questionable.

### 7.4 Economic Effects

The proposed development is considered to pose a positive effect on the economy of the area for the following reasons;

1. Through continued local employment over the operation of the site

2. Providing locally grown produce to the local markets

3. Utilising the goods and services of the local area trades to service the operation and maintain the site

### 7.5 Ecological Effects

The proposed development is considered to pose a potential for adverse effects on the integrity of the SCI Sanderling, within Donegal Bay SPA, based on the following reasons;

1. Sanderling, which have been described as being sensitive to disturbance and displacement and are known to avoid oyster trestles, have been recorded within the proposed site location and the surrounding intertidal area. The numbers potentially present within and surrounding the proposed site comprise a significant proportion (>25%) of the overall SPA . Following a reduction in size of the application area from the west and south the potential for adverse effects on Sanderling can be reduced.

The proposed development is considered to pose a non-significant effect on the habitats of the site, including those which are designated as Features of Conservation Interest for the SAC in which the proposed site is located for the following reason;

1. Studies have shown that oyster cultivation does not, in the long term, negatively impact on sand and mudflats within which the site is proposed, where these habitats will recuperate over time (Marine Institute, 2014)

### 7.6 General Environmental Effects

The proposed development is considered not to pose a significant effect on the habitats of the site for the following reasons;

1. Pollution of the site is not predicted from the processing of the new site

2. No hydrological effects are predicted from the processing of the new site

### 7.7 Man-made Heritage

The proposed development is considered to have no effect on the man-made heritage of value in the area as a result of the proposed operation for the following reason;

1. There are no features within the application site nor the access point or route which would be impacted by the operation

### 7.8 Confirmation re: Section 50 Notices

There are no pertinent matters which arise in the Section 61 assessment which the Board ought to take into account which have not been raised in the appeal documents and it is not necessary to give notice in writing to any parties in accordance with section 50 (2) of the 1997 Act.

## 8.0 Screening for Environmental Impact Assessment (EIA)

On 9th July 2014 the then Minister for Agriculture Food and the Marine was of the opinion that the site (T12/396) was not likely to have a significant effect on the environment and therefore an Environmental Impact Statement (EIS) was not required to be carried out (https://www.agriculture.gov.ie/media/migration/seafood/aquacultureforeshoremanagement/aquaculturelicensing/ministerialconsiderationforeis/donegal/MinisterialDetT12396100317.pdf [Accessed 10/01/20]). The proposed application site (T12/396) was part of those assessed for this report.

Aquaculture is listed as an Annex II Project under the EU EIA Directive 85/337/EEC, however, where this form of aquaculture depends on natural processes for production and supply of feed (i.e. extensive) an EIA Screening process is deemed not required (Ireland as a Member State Guidance). Therefore, it is the conclusion of the advisor that an EIA Screening (formally EIS) is not required in this instance in line with Ministers Guidance.

## 9.0 Screening for Appropriate Assessment

Appropriate Assessments have been carried out with respect to the potential of aquaculture to have a significant effect on the Conservation Objectives of the SPA (Atkins, 2013) and SAC (Marine Institute, 2014). These are considered, along with the additional Sanderling Population Monitoring Report (Atkins, 2016) to provide significant data required to assess the significance of an impact posed by an aquaculture site on the SPA and SAC.

Site Reference T12/396A (Proposed Site Application) lies within Donegal Bay SAC and SPA and it is considered, from best available data, that there is potential for the establishment of a new site to have a significant adverse effect on the conservation objectives of the SPA in terms of SCI (Sanderling) displacement and disturbance.

## 10.0 Technical Advisor's Evaluation of the Substantive Issues in Respect of Appeal and Submissions/Observations Received

With respect to the substantive issues raised by the appellant the below comments reflect the considered opinion of the advisor based on best available information;

| ***Issue*** | ***Appellant Comments*** | ***Advisor Comments*** |
|---|---|---|
| *Other Users* | No impact on other users, with all activities (recreational and commercial) increasing in activity since oyster farming began | The location of the proposed site on the intertidal sandflats, astride the dividing 'Line' put in place in the early 1990s by then Minister Andrews to separate recreational and commercial uses may have a direct and indirect impact on other users of this area of the bay. The granting of this license may set a precedent for future westward development within the Mountcharles area of the Bay. |
| *Recreational Activity* | The site is located in an area where there is no and never has been any recreational activity. | The EIA screening carried out by the Department highlighted the adjacent areas of foreshore as areas of amenity usage, which include Jacks's Quay and the Warren Beach to the north-west and north, respectively. These areas are primarily used for walking, horse-riding, dog walking and subsistence periwinkle, cockle and seaweed harvest, as per comms with amenity users on site visit. The area of intertidal flats, on which the proposed site is located was not confirmed to be used by amenity users of the area. |
| *Economic* | Clear economic benefit to the local community, with the area having potential to create 10 jobs. | The site is likely to benefit the local economy, through continued employment and potential economic development of the region. Interestingly in the initial application the applicant did not fill in the relevant employment and qualification section but has subsequently stated within the appeal document that the site has the potential for the creation of an additional 10 jobs |
| *Natura Sites* | Little or no impact of oyster aquaculture within the Natura Network. The site is well below the NPWS 15% coverage | Aquaculture within the SAC is below the 15% habitat coverage threshold recommended by NPWS, however this was not one of the reasons for refusal. |

| | | |
|---|---|---|
| | threshold and that most species protected within the Natura network in Donegal are stable or increasing. | The operation of oyster trestles is known to cause disturbance, in terms of displacement, to certain species of waterfowl, including Sanderling a listed SCI for the Donegal Bay SPA. |
| *Industry Experience* | The Appellant states that both applicant companies have over 30 years' experience growing shellfish within Donegal Bay and that there are few companies with such industry experience. | It is the considered opinion of the advisor that industry experience provides essential in-depth knowledge about the workings of the industry and its potential growth, therefore industry experience will provide a benefit to the operation of an aquaculture site |
| *Business Development* | Both applicant companies have recently invested heavily (€1.5million) in developing new shellfish grading facilities, capable of handling the additional tonnage to be produced. | It is the opinion of the Technical Advisor that the investment by both applicant companies into the development of a new large-scale grading facility in the locality was not carried out for the sole purpose of accommodating this proposed site but to mechanise and increase efficiency for the grading and packaging of their current (and any potential future) stocks. |
| *Wildlife* | The AA recognised Sanderling feed on exposed shores and these are primarily located on the Murvagh sandflats. Sanderling and many other bird species are continually observed around their existing site and are not overly disturbed by the habitual nature of activities. | The AA screening (Atkins, 2013) and Sanderling Monitoring Report (Atkins, 2016) Highlight 3 areas of import for Sanderling, including the Murvagh sandflats, and the Mountcharles/ Eddrim estuary where the proposed site is located and that licensing the entire site has potential to cause displacement impacts on the Sanderling.<br><br>Studies have shown that Sanderling strongly avoid oyster trestles and there is currently evidence to suggest potential use of the licensing area by >25% of the Donegal Bay Sanderling population (Atkins 2016). It is not possible based on available information for a competent authority to conclude that the application would not result in Adverse Effects on Site Integrity. |

## 11.0 Recommendation of Technical Advisor with Reasons and Considerations

It is the considered opinion of the advisor that the licence can potentially be granted on the grounds that;

- The proposed site is reduced in size from the south, following recommendations outlined within the Sanderling Monitoring Report (Atkins, 2016) that the southern section not be licensed due to the **potential displacement and disturbance of >25% of the Donegal Bay SPA Sanderling population**, an SCI for the Donegal Bay SPA, from the intertidal area of the proposed site. If the site is to be licensed it should be included as a condition of the licence to co-develop/ participate in a monitoring regime, in consultation with stakeholders including NPWS and Birdwatch Ireland, for waterfowl in this area of Donegal Bay to assess the ongoing impact of intertidal aquaculture on bird populations within the bay and inform future licensing decisions.

The reduction in area of the proposed site will reduce the potential for displacement of the SCI, Sanderling. However, the viability of the remaining areas of the proposed site for aquaculture is questionable due to the presence of a deep-water channel throughout the northern section of the proposed site, this however, is a matter for the applicant to determine.

The Ministerial Determination which created a dividing 'Line' between recreational and commercial uses of the bay to provide for good bay management, has been in place for nearly 30 years. This dividing line is not rooted in legislation, including that of Coastal Zone Management, and so has no legal standing. It is therefore a matter for the Board to determine.

It is the considered opinion of the technical advisor that aquaculture in this area **may be licensed,** following a reduction in area from the south to avoid areas of intertidal flats which are used regularly by sanderling, an SCI of the Donegal Bay SPA.

The Technical Advisor, based on the above information, recommends the Board overturn the Ministers decision to refuse the application and grant a variation of the appealed site.

The proposed variation being a reduction in area (c. 33%) of the site from the south, see Figure 11, below. The proposed variation will require new site layout and maps to be provided by the applicant to include the area seaward of the highwater mark and enclosed by a line drawn from the Irish National Grid Reference point:

- 188325, 376300 to Irish National Grid Reference point
- 188650, 376300 to Irish National Grid Reference point
- 188419, 376022 to Irish National Grid Reference point
- 188112, 376021 to the first mentioned point

**Figure 11 Proposed Site Variation**

## 12.0 Draft Determination Refusal /or Grant

It is recommended to overturn the Ministers decision to refuse the application and grant a variation of the appealed license, based on details outlined in Section 11.

**Technical Advisor:** Eoin Cussen, EcoÉireann Ecological Consultants &
Emily Russell, Senior Landscape Architect, Fairhurst

**Date:** 07th August 2020

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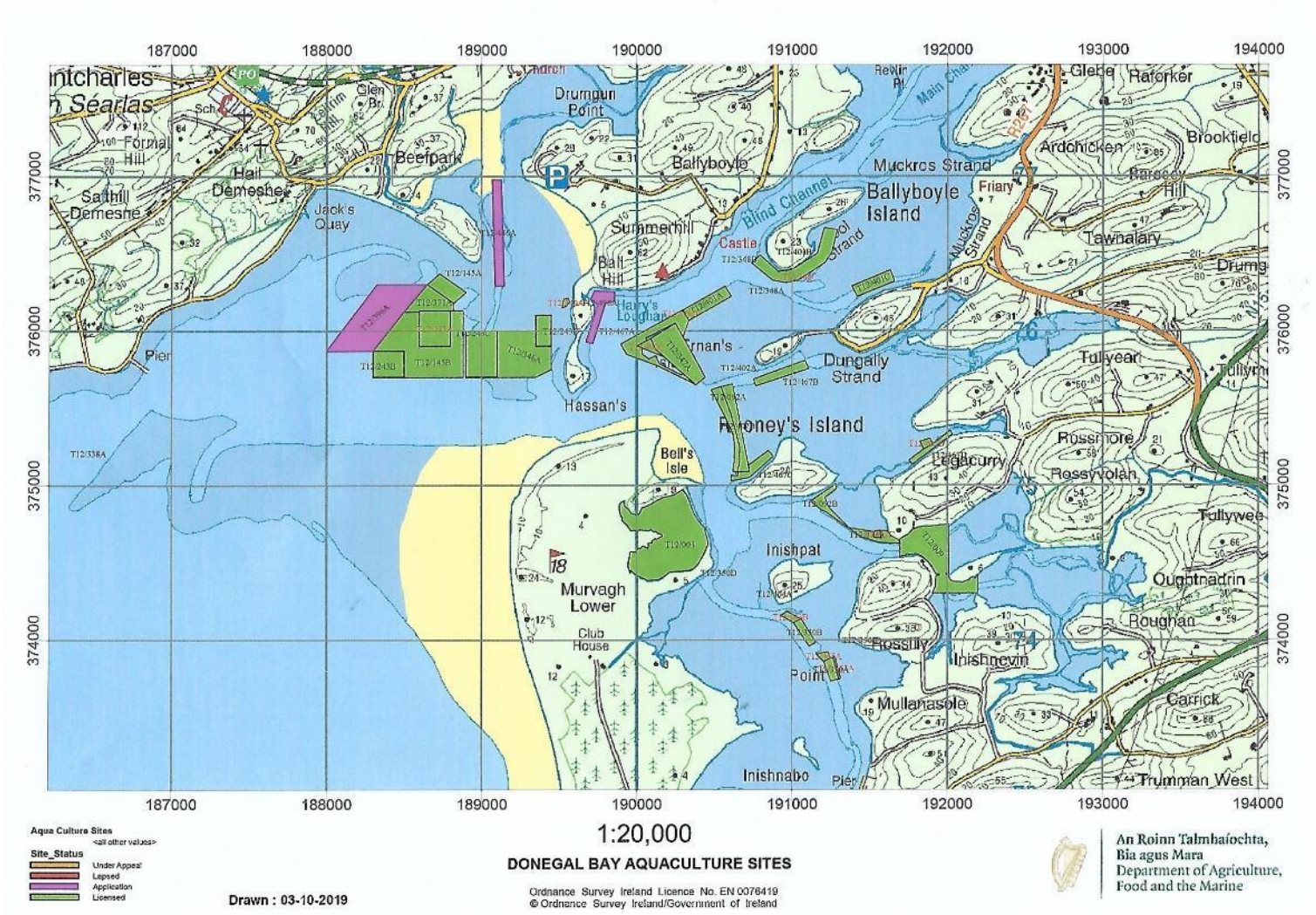
**Appendices**

**Appendix 1 – Licenced and Appealed Sites in Donegal Bay (provided by ALAB)**



**Appendix 2a - Species Listed as Features of Conservation Interest for Donegal Bay SPA (004151)**

| Common Name | Scientific Name | Wintering/ Breeding |
|---|---|---|
| Great Northern Diver | *Gavia immer* | Wintering |
| Light-bellied Brent Goose | *Branta bernicla hrota* | Wintering |
| Common Scooter | *Melanitta nigra* | Wintering |
| Sanderling | *Calidris alba* | Wintering |
| Wetlands | | |

**Appendix 2b - Species Listed as Features of Conservation Interest for Durnesh Lough SPA (004145)**

| Common Name | Scientific Name | Wintering/ Breeding |
|---|---|---|
| Whooper Swan | *Cygnus cygnus* | Wintering |
| Greenland White-fronted Goose | *Anser albifrons flavirostris* | Wintering |
| Wetlands | | |

## Appendix 3 –Features of Conservation Interest for Donegal (Murvagh) Bay SAC

Mudflats and sandflats not covered by seawater at low tide [1140]

Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]

Humid dune slacks [2190]

Common (Harbour) Seal (*Phoca vitulina*) [1365]

## Appendix 4 Site Photographs

*Figure A4.1 View from Jack's Quay, with the Warren Beach and Dunes in the left background*

*Figure A4.2 View across Warren Beach with the aquaculture sites on the right and the Murvagh peninsula in the background*

*Figure A4.3 Extent of Aquaculture sites in view from carpark at Warren Beach*

*Figure A4.4 Remnants of abandoned trestle on the foreshore at Warren Beach*

*Figure A4.5 View of Abandoned Trestles with Active Aquaculture Sites in the Background*

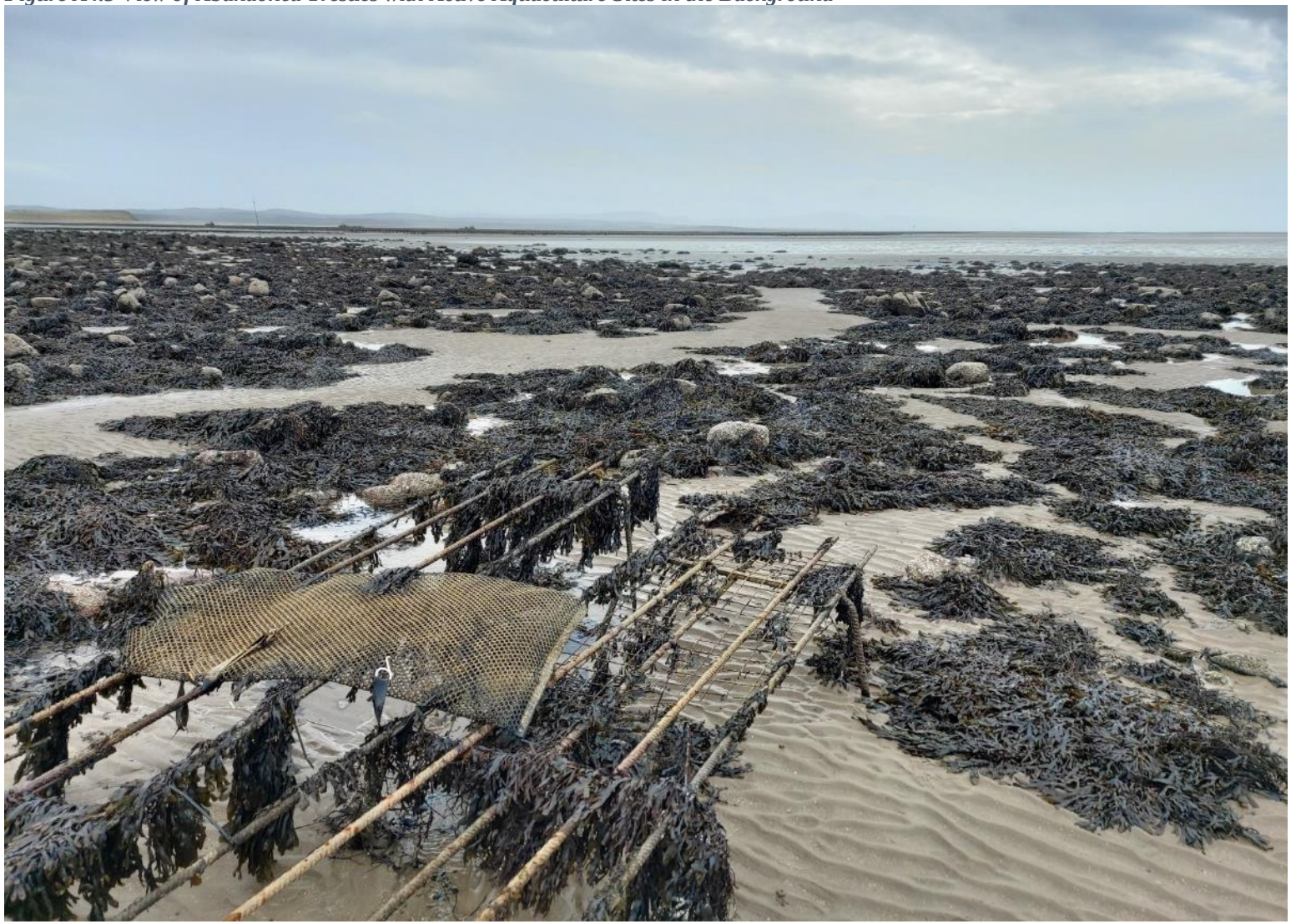


*Figure A4.6 View of Extent of Aquaculture Sites from the Foreshore on Warren Beach Facing the Murvagh Peninsula*

*Figure A4.7 View of the Extent of Aquaculture, from the Foreshore at Warren Beach, with the Murvagh Peninsula in the left background*

*Figure A4.8 Same Position as above but facing SW out to the Atlantic Ocean (Tractor on the left, below, is same tractor centre-right above)*

*Figure A4.9 View of the Western Edge of the Aquaculture Sites and the Edrim River Channel, facing SW out to Sea.*

*Figure A4.10 View of Deep Water Channel (Edrim River Channel) with the Murvagh Peninsula in the left background*

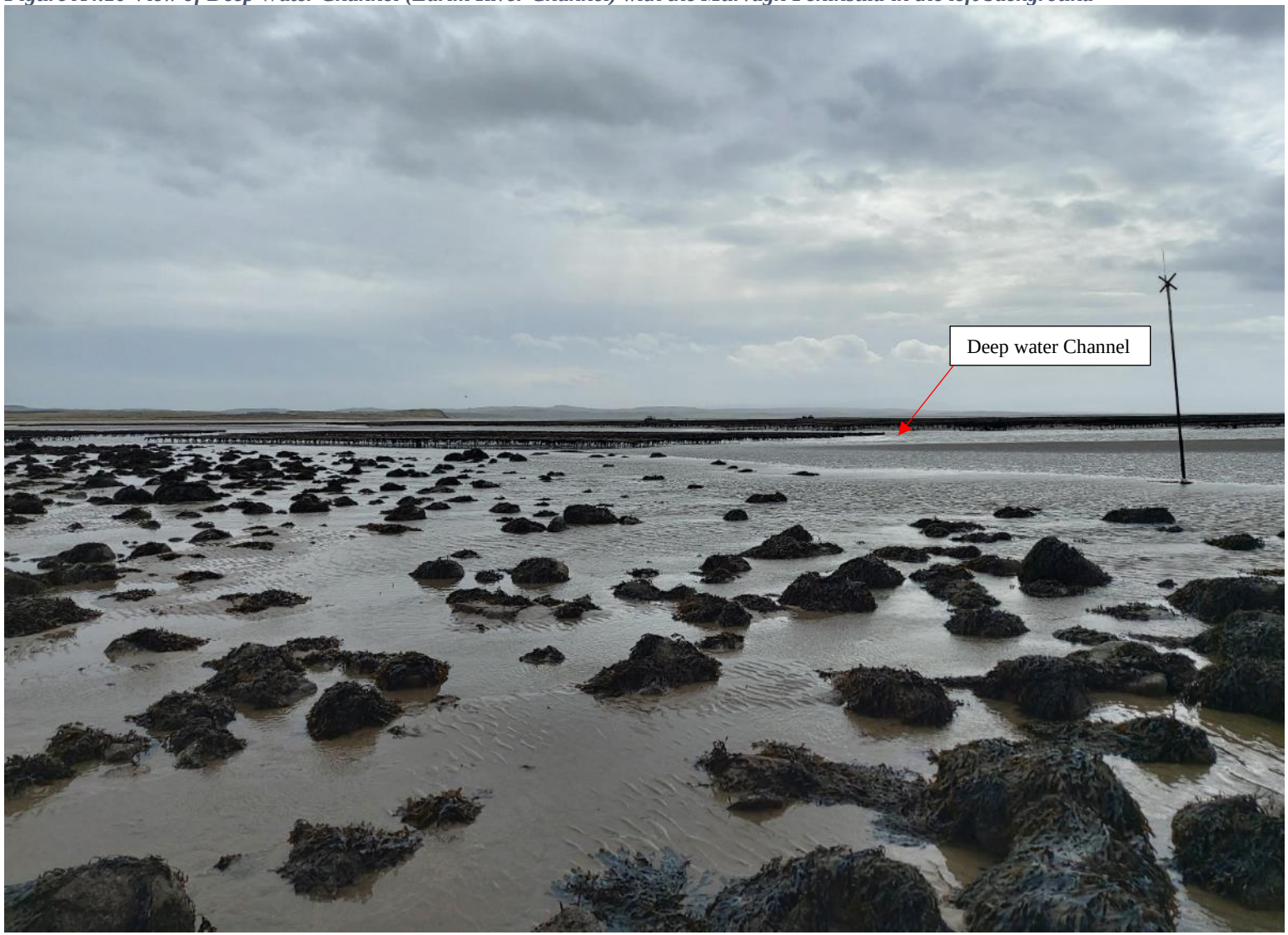


*Figure A4.11 View from the Murvagh Peninsula Across the Aquaculture Sites onto the Carpark at Summerhill*

*Figure A4.12 View from the Murvagh Peninsula Across the Aquaculture Sites onto Warren Beach and Dunes*

*Figure A4.13 View from the Murvagh Peninsula Across the Aquaculture Sites onto Jack's Quay*

*Figure A4.14 View from the Murvagh Peninsula Across the Aquaculture Sites of this section of the Bay*