



Appeal Ref No. 21/2020 & 22/2020
Aquaculture Licences Appeals Board

Carlingford Lough Mussel Appeals

Technical Advisor's Report T01/050A1, T01/082A

Final Version



July 25, 2020



Summary

Description	Appeal against the decision by the Minister for Agriculture, Food and the Marine to refuse to grant and to grant with variations Aquaculture and Foreshore Licences to cultivate mussels in Carlingford Lough, Co. Louth
License Applications	T01/050A1, T01/082A
Appeal References	AP21/2020 & 22/2020
Technical Advisor	Marie Louise Heffernan CEnv, MCIEEM, MSc Aster Environmental Consultants Limited www.aster.ie
Site Inspection	03/06/2020
Applicant	PJ Donnelly and Bryan Hyland
License Application	T01/050A1 AP 21/2020
Minister's Decision	The decision of the Minister of Agriculture, Food and Marine was to grant with variations an Aquaculture license to PJ Donnelly and Bryan Hyland for the cultivation of bottom cultivation of mussels at Carlingford Lough.
Appeal	Appeal by PJ Donnelly and Bryan Hyland against the decision of the Minister of Agriculture, Food and Marine to refuse the entire area of the license applied for T01/050A1.
Appellant	PJ Donnelly and Bryan Hyland
Applicant	Emerald Mussels
License Application	T01/082 AP22/2020
Minister's Decision	The decision of the Minister of Agriculture, Food and Marine was to refuse to an Aquaculture license to Emerald Mussels for the cultivation of bottom cultivation of mussels at Carlingford Lough.
Appeal	Appeal by Emerald Mussels against the decision of the Minister of Agriculture, Food and Marine to the license applied for T01/082
Appellant	Emerald Mussels

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1.0 General Matters / Appeal Details

This report deals with 2 appeals AP21/2020 & 22/2020 corresponding to applications T01/050A1, and T01/082A. It should be noted that although of these appeals are dealt with under Carlingford appeals each is considered individually with the data examined for each application site on a case by case basis.

1.1 Appeal Details & Observer Comments / Submissions

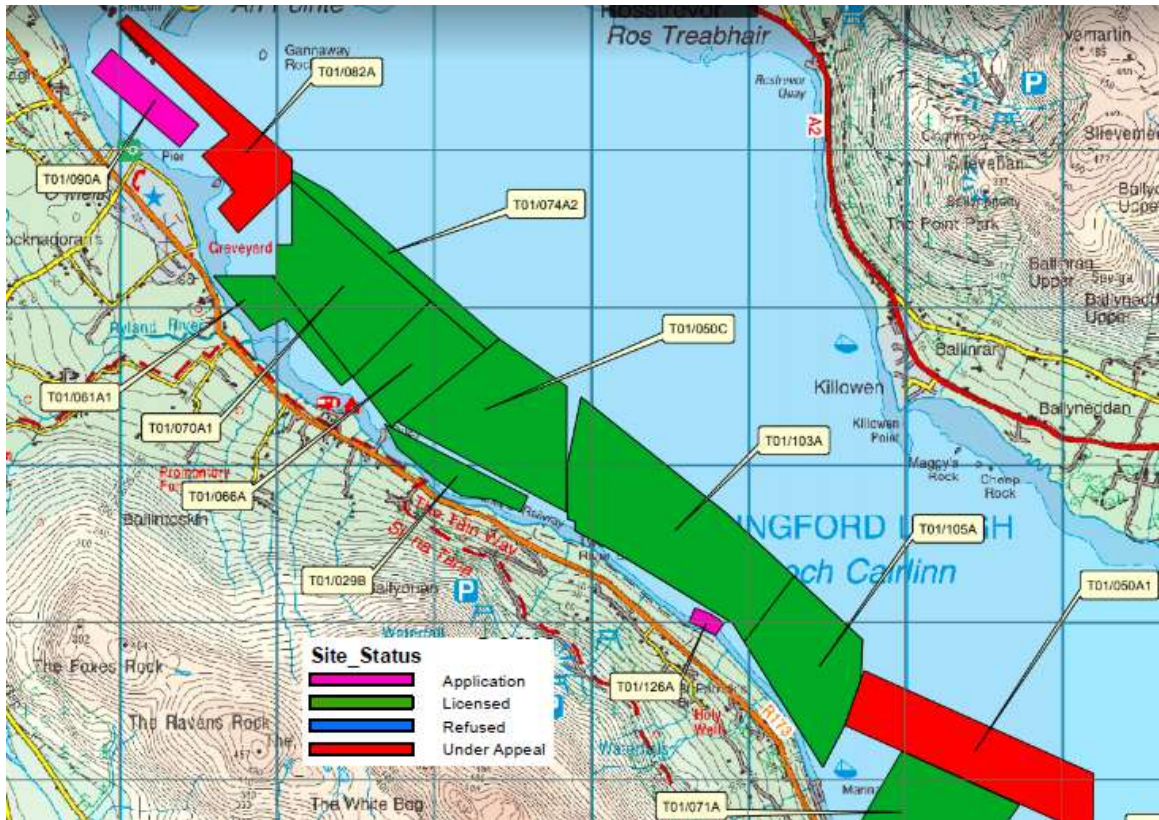
The two appeals are in respect of bottom mussel cultivation located in inner Carlingford Lough. The applicants are T01/50A1 (renewal) and T01/082 (new Licence application). These correspond to AP



Photo 1: Location of T01/082 (AP22/2020) off the shore of Omeath close to Warrenpoint



Photo 2: Location of mussel application T01/050A1 (AP21/2020) close to Carlingford Marina (all photos Adrian Heffernan photography).



Map 1. This map shows extent of Mussel Cultivation at Carlingford. The two appeals appeal in red AP22/2020 (T01/082) to the north and AP21/2020 (T1/050A1)

1.2 Name and Address of Appellants

Site (North to South)	Appellant	Address
T01/082A	<i>Emerald Mussels Ltd</i>	Greencastle Road, Moville, Co. Donegal.
T01/050A1	PJ Donnelly	Muchrange, Greenore, Co.Louth
	Bryan Hyland	Carrowholly, Westport, Mayo. F28 PY00

1.3 Name of Observer

There are no observers for these appeals.

1.4 Grounds for Appeal

T01/082A	<p>The application is for new licence for Bottom Cultivation Mussels.</p> <p>The reason for the refusal was the sites proximity to 1. Omeath Sewage outfall and 2. The Navigation Channel.</p> <p>Grounds for appeal The site is no closer to the channel than a lot of other licensed sites in Carlingford Lough.</p> <p>Point 1. The proximity to the Sewage Outfall. Irish Water sought and were granted planning permission for the treatment works for a new plant to treat the waste water to be commissioned in 2021</p>
T01/050A1	<p>The application is for renewal of licence for Bottom Cultivation Mussels</p> <p>Grounds for appeal Appeal on grounds that the best part of the site, in deeper water, has been removed from the licenced area and the less productive part of the site has been re-licensed.</p>

Substantive Issues

The above grounds for appeal were all considered to be substantive issues

Non Substantive Issues

There were no issues arising

1.5 Minister's submission

Section 44 of the Fisheries (Amendment) Act 1997 part 2 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'

No submissions were received from the Minister or any other party in respect of this appeal.

1.6 Applicant response

As per Section 44 part 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."

It should be noted that in all five appeals at Carlingford Lough the Appellant is also the Applicant, as the appeals are against the decision by the Minister for Agriculture, Food and the Marine to refuse to grant and to grant with variations Aquaculture and Foreshore Licences to cultivate mussels in Carlingford Lough, Co. Louth.

2.0 Consideration of Non-Substantive Issues

Each issue raised by the appellants is considered substantive and has been reviewed.

3.0 Oral Hearing Assessment

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

Having reviewed the Appeal, the Minister's File, and carried out a site visit, the conclusion is that there is sufficient evidence in the technical reports provided to make a clear decision in relation to the appeals. The appellants not seek an oral hearing. No oral Hearing is recommended.

4.0 Minister's file

Following Section 43 of the Fisheries Amendment Act 1997 the following documented items were sent to the ALAB from the Minister and were reviewed:

	Mussel Appeals	
	T01/082	T01/050A1
Copy of the Application Form with maps, charts, co-ordinates and drawings	X	X
Copy of the Appropriate Assessment Report Special Protection Area	X	X
Copy of the Appropriate Assessment Report Special Area Conservation	X	X
Copy of submission to the Minister	X	X
Copy of relevant observations from technical advisors to the Minister		
Copy of objections to Public Notice	X	X
Copy of the Minister's decision	X	X
Copy of Notification to the Applicant of Minister's Decision	X	X
Copy of the advertisement of Minister's Decision	X	X

5.0 Context of the Area

5.1.1 Physical descriptions

Carlingford Lough is sea inlet that sits on the border between Northern Ireland to the north and the Republic of Ireland to the south. It runs in a North West / South East direction emptying into the Ireland Sea. On its northern shore is County Down and on its southern shore is County Louth. It is fed by both the Newry River and the Newry Canal.

The Lough overall is shallow with the average depth between 2 and 10 m, although the narrow centre channels may be as deep as 25 m. The underlying rock of the wider site is generally limestone and this appears at times in the form of bedrock shore or reefs. Granite boulders are occasionally found as are sand/gravel banks and intertidal mudflats



Photo 3: Carlingford Lough (Bing Maps)

Carlingford Lough has extensive intertidal banks which are gravel with mud and a high proportion of shells in the sediment. Lugworm (*Arenicola marina*) casts and Sandmasons (*Lanice conchilega*) are commonly found. Seaweeds recorded include gut weed (*Enteromorpha*), egg wrack (*Ascophyllum nodosum*) and bladderwrack (*Fucus vesiculosus*).

The shores close to the proposed and existing mussel cultivation area are dominated by empty mussel shells and sand masons.



Photo 4: Sand masons and Mussels shells on shore close to Mussel appeals AP21 and 22 (T01/050A1 and T1/082)

5.1.2 Population

There are two small villages on the southern side of the Lough. These are Carlingford and Omeath. Omeath had 603 people and Carlingford village 1,445 people living there

individuals in the 2016 census. At the head of Carlingford Lough, across the border in Northern Ireland and close to the proposed mussel banks is Newry/Warrenpoint which together have a population of around 35,000.

5.1.3 Climate

Carlingford Lough has a mid oceanic climate. The nearest weather station is Dublin Airport situated around 100km south. Relatively speaking it is a dry part of Ireland with 757mm of rain on average a year. As can be seen from the charts below the temperature is mild throughout the year normally ranging between 2 and 20 degrees.

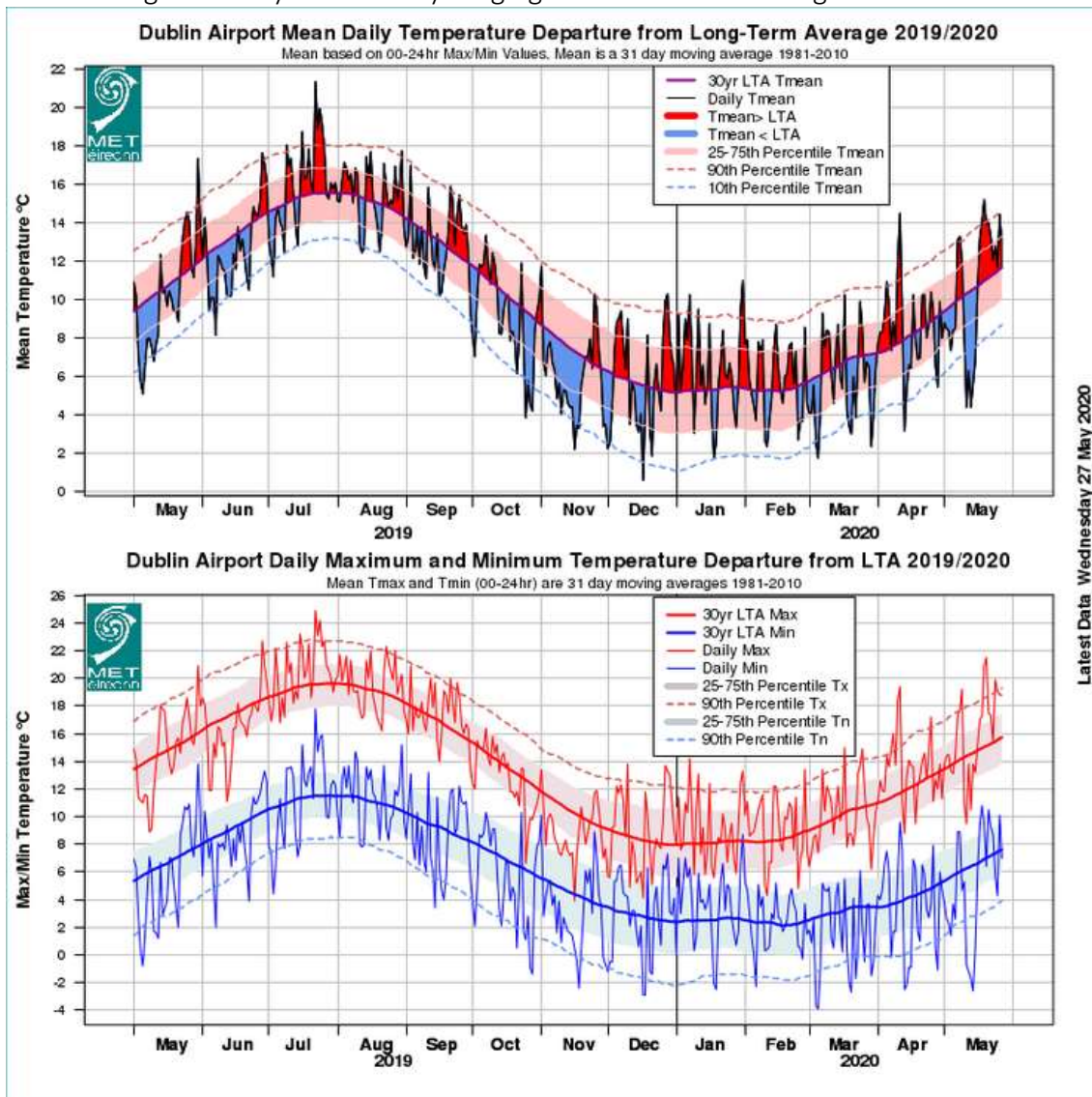


Figure 1: Temperature Data Dublin Airport

5.2 Resource Users

The following text is taken directly from Marine institute Report supporting Appropriate Assessment of Aquaculture in Carlingford Shore SAC and is a detailed description of the type of cultivation taking place within Carlingford Lough

5.2.1 Bottom Mussel Cultivation

Mussel operators are licensed to relay mussel seed on aquaculture sites in Carlingford Lough. Sites to the south of the channel are licenced by DAFM and sites to the North of the channel are licenced by DAERA. In the case of the mussel industry there are strong North-South company linkages and vessels operate on multiple sites. All operators are members of the Carlingford Lough CLAMS group.

There are 12 licensed sites and 9 entities involved in mussel cultivation within Carlingford Lough (5 companies and 4 sole traders). At maximum usage (seed relaying) it is estimated that 5 large mussel dredgers (>15m) would represent the total mussel fleet in the Lough. During harvesting it is estimated that 5 aquaculture vessels (4 large and 1 smaller vessel) would represent maximum activity in any 24 hour period.

Dredges typically have a 'mouth' width of between 2 and 4m. Mussel dredges have a flat bar at their leading edge where they interact with the seabed that is designed to skim the surface of the substrate without digging into it. This bar in effect 'peels' the overlying seed mussel 'mat' away from the underlying substrate and in doing so removes the mussel seed which is caught in a bag which follows the bar. Depending on size, vessels may deploy two or a maximum of four dredges at a time. The iron frame of the dredge (depending on vessel size) has a maximum weight of 300 kg. The dredge is composed of a fixed bar (of between 2 and 4m in length, known as the 'mud bar', which is without teeth) and a frame with a net bag attached, which is 2-3m in length to retain the seed mussel catches. The bottom part of the bag is made up of either a chain link matrix or a nylon mesh. The upper part of the bag is made of nylon mesh. In the case where a chain link matrix is used on the lower part of the bag it is common practice for a rubber mat or rope dollies (bits of chafed ropes) to be attached to the belly of the dredge to minimise disturbance of the substrate. In addition, some operators use steel bars across the mouth of the dredge to prevent large rocks or other non-target material from entering the dredge.

Husbandry activities

Seed mussel is fished from the sub-tidal seed areas in ROI, NI and UK waters (Only to NI sites) and transferred to licensed sub-tidal sites in Carlingford for on-growing until harvest. On-growing duration generally varies between 12- 36 months depending on the growth rates and the size of the initial seed input. During on-growing there are a range of

husbandry activities undertaken in the Lough such as predator control and transfer of mussel stocks between licensed sites, these practices are necessary to maximise the ultimate return ratio.

Seed fishing

The location, timing and volume of *Mytilus edulis* seed relaying in Carlingford Lough is dictated by the available seed fishing tides, as specified in the annual seed fishing licences. The seed is relayed on licensed aquaculture sites with the dates and volume specified in the seed fishing licences and allocations issued by DAFM and DAERA and dependent on the vessel registration. The allocation system effectively sets down a maximum allowable catch for the fishery. Current seed allocations were calculated using a range of criteria by the Seed Mussel Advisory Committee (SMAC) in 2005.

Grow out

Predator control and stock movements both within and between licensed sites is an integral part of the mussel production process in Carlingford Lough. Stock is moved to maximise growth rates and to prevent excessive settlement of barnacles or sea squirts on the stock which negatively affect growth rates and market value. Predator control mainly focuses on the control of starfish and green crab. Stars are generally fished with the standard dredge or via “mops” and pots are deployed by operators to control green crab

5.2.2 Periwinkle Picking and Lobster Pots

Periwinkle Picking is the only inshore fishing mapped by the Marine Institute at Carlingford close to Carlingford village. During the low tide site visit 03/06/2020 periwinkle picking was also observed at the tide edge east of Omeath.

Nets are used for inshore fishing outside the mouth of Carlingford Lough and lobster pots to the south

5.2.3 Angling Activity

According to the Loughs agency sea at Carlingford Lough angling is available along the coastline— shore, rock and boat fishing with ray, spurdog, tope and dogfish during the summer months for

The shore around the lighthouse provides for an array of species including mackerel, sea trout (game licence required), pollack, spurdog, ray and dogfish. Bass can also be taken in this area.

Greenore is a commercial port and bottom fishing off this point in low water conditions offers dogfish, with spurdog and ray possible in summer. Wrasse can be taken on float gear near the rocks and weedy margins, whilst autumn / winter codling are mostly caught at night. Greenore is a popular spot for mackerel fishing

The village of Carlingford produces good catches of mackerel in summer, with flounder and whiting in winter.

5.2.4 Leisure Users of the water body & surrounding area

Most of the recreation in the area is either on the water yachting or other boating or hill walking associated with the Cooley Mountains. The shores are not particularly suitable for recreation/swimming being a mixture of mud and gravel with seaweed. However they do attract low numbers of local walkers often with dogs.

5.2.5 Tourism

The area has been a tourist destination since Victorian times when the railway between Dublin and Belfast was opened. The Cooley peninsula situated between the two cities, combined with its scenery and sheltered location make it an important tourist destination. Carlingford is a very attractive heritage village with St Johns Castle and other noteworthy historical buildings.

This area is classified as the Mid-East and Midlands area by Failte Ireland. It has low numbers of international tourists with approximately 1 million visitors annually in 2018 and around half of these from Britain. Domestic visitor numbers are in the region of 1.4 million. The revenue from both domestic and overseas normally is approximately 600 million euro.

5.2.6 Agricultural Activity

The land in this area of Ireland is very productive. In 2010 the CSO carried out a detailed agricultural census by rural district.

The data from the CSO 2010 in relation to County Louth (CSO Area Code CTY 10) which encompasses Carlingford is as follows.

There are 1676 total farms of which 1000 are less than 30 ha in size. Total area farmed is nearly 61,000 ha. Total crops grown occupy c21,000 ha with land given over to silage and hay 14000 ha and grazing land around 26,000 ha.

The area has approximately 80,000 cattle mainly beef production and 67,000 sheep. Total numbers of people working on the farms are 3361 with only 23.7% of the landholders under 44 years old.

5.3 Environmental Data

5.3.1 Water quality and the Water Framework Directive

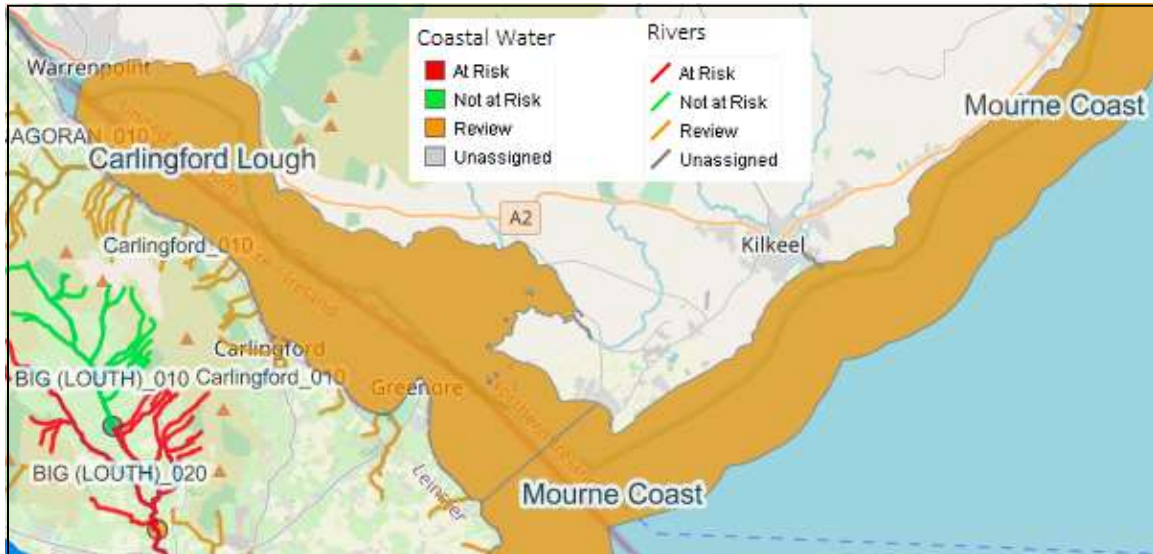
The EU Water Framework Directive (2000/60/EC) requires all Member States to protect and improve water quality in all waters so that Europe achieves good ecological status by 2015 or, at the latest, by 2027. The Directive requires that management plans be prepared on a river basin basis and specifies a structured method for developing these plans.

These are called River Basin Management Plans (RBMP's). RBMPs are plans to protect and improve the water environment. They are prepared and reviewed every six years. The first RBMPs covered the period 2010 to 2015. The second cycle plan covers the period 2018-2021 and was published by the Government on 17 April 2018. These plans include the rivers in the catchment of Carlingford Lough.

The Eastern River Basin District (RBD) RBD incorporates all or part of twelve local authority areas: Dublin (Dublin City, Dun Laoghaire-Rathdown, Fingal, South Dublin) Meath, Kildare, Wicklow, Cavan, Offaly, Westmeath and small parts of Wexford and Louth. It encompasses the catchments of the rivers Liffey, Boyne, Avoca/Vartry and Nanny/Delvin, along with the coastline from Drogheda, Co. Louth to Arklow, Co. Wicklow, and all the groundwater of the region. It also includes 524 natural lakes.

Carlingford Lough receives its water from Northern Ireland and no substantial rivers flow into it from the south. Therefore in this case the Northern Ireland water framework directive maps are more relevant. The north eastern river basin district (NE RBD) covers an area of around 4000 km², including 1000km² of marine waters. It takes in large parts of Counties Antrim and Down and a smaller portion of Londonderry.

The principle river systems are the Lagan, Bush and Quoile as well as the smaller systems draining from the glens of Antrim, and the County Down Coastline. The NE RBD has an extensive coastline including Larne, Belfast and Strangford Loughs, with Lough Mourne, Clea Lakes and Silent Valley the main lakes.



Map 3: Water Framework Directive Map Southern Ireland (Source EPA)

Note The EPA maps show that the in the categories for the Water Framework Directive that Carlingford lough is under review as are the status of rivers entering the lough from the south. The data from Northern Ireland is more relevant as the lough fed by large rivers Lagan, Bush and Quoile.

5.3.2 Shellfish Flesh Monitoring Programme

Sea-Fisheries Protection Authority (SFPA) carries out a number of functions, including protecting and conserving fisheries resources for long-term use; promoting compliance with sea-fisheries legislation; and ensuring seafood safety. They sample the bays and classify them according to the finding of sampling.

Shellfish production areas in Ireland are categorised based on the level of treatment that shellfish require prior to being sold. The best category (Class A) is where shellfish can be sold directly with no pretreatment. Class B requires purification for 48 hours, while Class C is the lowest category and requires the shellfish to be relayed in clean water for a two month period

Shellfish flesh classifications are carried out under the European Communities (Live Bivalve Molluscs) (Health Conditions for Production and Placing on the Market) Regulations, 1996 (S.I. No. 147 of 1996)). In 2019/2020 List of Classified Bivalve Mollusc Production Areas in Ireland (27 June 2019)

Special Protection Areas: Carlingford Lough SPA

Sitecode 004078

Special Area of Conservation Carlingford Shore SAC

Sitecode 002306

The mussel cultivation appeals are outside all Natura 2000 designated areas. The proposed NHA is not designated on a statutory basis.

Special Protection Area

Ireland is required under the terms of the EU Birds Directive (2009/147/EC) to designate Special Protection Areas (SPAs) for the protection of endangered species of wild birds. In particular

- Listed rare and vulnerable species
- Regularly occurring migratory species, such as ducks, geese and waders.
- Wetlands, especially those of international importance, which attract large numbers of migratory birds each year.

Carlingford Lough SPA (Site code 004078) is a wetland of international importance particularly for migratory wildfowl and is selected for the protection of the following bird species

- Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]
- Wetland and Waterbirds [A999]

Special Area of Conservation

Special Areas of Conservation are prime wildlife conservation areas in the country, considered to be important on a European as well as Irish level.

The Habitats Directive lists certain habitats and species that must be protected within SACs. Irish habitats include raised bogs, blanket bogs, turloughs, sand dunes, machair (flat sandy plains on the north and west coasts), heaths, lakes, rivers, woodlands, estuaries and sea inlets. The 25 Irish species which must be afforded protection include Salmon, Otter, Freshwater Pearl Mussel, Bottlenose Dolphin and Killarney Fern.

Carlingford Shore SAC (**Site code** 002306) is designated for the following habitats as listed in Annex I of the Habitats Directive:

Annual vegetation of drift lines [1210]

Perennial vegetation of stony banks [1220]

5.5 Protected Species

5.5.1 Birds

Birds of interest have been recorded off shore here since 2011. The data is extracted from Biodiversity maps. It is data from hectad J11. Which is a ten km grid square encompassing the aquaculture licence application. These birds, as listed, are ones only relevant to the application such as offshore divers, gulls and predatory birds.

Bird	Source	Protected Species: Wildlife Acts	Birds of conservation concern	EU Birds Directive Annex I
Brent Goose (<i>Branta bernicla</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Common Buzzard (<i>Buteo buteo</i>)	Birds of Ireland	Protected Species: Wildlife Acts		
Common Goldeneye (<i>Bucephala clangula</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Common Greenshank (<i>Tringa nebularia</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Common Guillemot (<i>Uria aalge</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Common Raven (<i>Corvus corax</i>)	Birds of Ireland	Protected Species: Wildlife Acts		
Common Redshank (<i>Tringa totanus</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Red List	
Common Shelduck (<i>Tadorna tadorna</i>)	Birds of Ireland	Protected Species: Wildlife Acts	Amber List	
Eurasian Curlew (<i>Numenius arquata</i>)	Birds of Ireland	Protected Species: Wildlife Acts	Red List	
Eurasian Oystercatcher (<i>Haematopus ostralegus</i>)	Birds of Ireland	Protected Species: Wildlife Acts	Amber List	
Eurasian Teal (<i>Anas crecca</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	

Table 1: Table of other birds of Interest and their conservation status (continued next page)

Eurasian Wigeon (<i>Anas penelope</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
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European Golden Plover (<i>Pluvialis apricaria</i>)	Birds of Ireland	Protected Species: Wildlife Acts	Red List	Annex I Bird Species
European Shag (<i>Phalacrocorax aristotelis</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Great Black-backed Gull (<i>Larus marinus</i>)	Birds of Ireland	Protected Species: Wildlife Acts	Amber List	
Great Cormorant (<i>Phalacrocorax carbo</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Great Crested Grebe (<i>Podiceps cristatus</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Greater Scaup (<i>Aythya marila</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Grey Heron (<i>Ardea cinerea</i>)	Birds of Ireland	Protected Species: Wildlife Acts		
Hen Harrier (<i>Circus cyaneus</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts		Annex I Bird Species Amber List
Herring Gull (<i>Larus argentatus</i>)	Birds of Ireland	Protected Species: Wildlife Acts	Red List	
Lesser Black-backed Gull (<i>Larus fuscus</i>)	Birds of Ireland	Protected Species: Wildlife Acts	Amber List	
Little Egret (<i>Egretta garzetta</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts		Annex I Bird Species
Little Grebe (<i>Tachybaptus ruficollis</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Mallard (<i>Anas platyrhynchos</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts		
Mew Gull (<i>Larus canus</i>)	Birds of Ireland	Protected Species: Wildlife Acts	Amber List	
Northern Fulmar (<i>Fulmarus glacialis</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts		
Northern Lapwing (<i>Vanellus vanellus</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Red List	

Table 1: Table of other birds of Interest and their conservation status (continued next page)

Peregrine Falcon (<i>Falco peregrinus</i>)	Birds of Ireland	Protected Species: Wildlife Acts		Annex I Bird Species
Razorbill (<i>Alca torda</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Red Knot (<i>Calidris canutus</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Red List	
Red-breasted Merganser (<i>Mergus serrator</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts		
Red-necked Grebe (<i>Podiceps grisegena</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts		
Red-throated Diver (<i>Gavia stellata</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Ringed Plover (<i>Charadrius hiaticula</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts	Amber List	
Ruddy Turnstone (<i>Arenaria interpres</i>)	Bird Atlas 2007 - 2011	Protected Species: Wildlife Acts		
Surf Scoter (<i>Melanitta perspicillata</i>)	Rare birds of Ireland	Protected Species: Wildlife Acts		

Table 1: Table of other birds of Interest and their conservation status

The birds found are very typical of the Irish coast with waders and wildfowl recorded most often in winter and low numbers of birds of prey using the lough for foraging.

5.5.2 Sea mammals -

Otters *Lutra lutra* are designated under Annex II EU Habitats Directive. There are records from the Biodiversity Ireland maps in the vicinity of Carlingford. The habitat in the bay is suitable and the intertidal area is likely to be used by foraging otters.

Seals

Grey seals (*Halichoerus grypus*) and Common Seal (*Phoca vitulina*) are designated under Annex II EU Habitats Directive. Sightings of 10 or more individuals of both species were recorded in Carlingford Lough in April and May 2018.

5.5.3 Cetaceans

These records (table 2) presented below are post 1995 and were collected by the Irish Whale and Dolphin Group Cetacean Sightings (www.iwdg.ie) and sourced on Biodiversity Ireland maps hectad J20.

Name	Habitats Directive
Bottle-nosed Dolphin (<i>Tursiops truncatus</i>)	Annex II
Common Porpoise (<i>Phocoena phocoena</i>)	Annex II
Common Dolphin (<i>Delphinus delphis</i>)	Annex IV
Striped Dolphin (<i>Stenella coeruleoalba</i>)	Annex IV

Table 2: Post 1995 sightings of Whales and Dolphins in vicinity of Carlingford Lough

Mussel aquaculture appeal sites are possibly used by some of these species occasionally.

5.6 Statutory Plans

The *Louth County Development Plan 2015-2021* was adopted on 28th September 2015. The Plan contains an overall strategy for the proper planning and sustainable development of County Louth over the lifetime of the Plan.

Relevant sections are as follows

Development Zone 3 - To protect the recreational and amenity value of the coast. The coastline of County Louth stretches from the County Down border, along Carlingford Lough and Dundalk Bay to the Boyne Estuary outside Drogheda. It is of considerable intrinsic, special amenity and recreational value. Furthermore, the coastline is home to a variety of natural habitats and many species of flora and fauna. The coastline is protected by a number of statutory designations. Special Areas of Conservation (SAC), proposed Natural Heritage Areas (pNHA) and Special Protection Areas (SPA) designations cover much of the coastline.

Natural Heritage and Biodiversity

Natural heritage comprises the biological and geological underpinnings of our existence, our biodiversity and geodiversity, which express themselves through our farming, wildlife and landscapes (and to some degree, our built heritage). Biodiversity (short for biological diversity) refers to the whole variety of life on earth. It includes habitats and ecosystems, covering all plants, animals and micro-organisms both on land and in the water. Biodiversity relates to both wildlife and to domesticated crops and animals. Wildlife conservation is a legal requirement of development plans and is good for people as well as for wildlife. County Louth is rich in biodiversity, thanks to an extensive coastline (stretching from Carlingford Lough to the Boyne Estuary), marine environments, wetlands, woodlands, rivers and upland habitats. Together, these habitats support a rich variety of plant and animal species.

A total of 9 Landscape Character Areas were identified in County Louth. These represent geographical areas with a particular landscape type or types. The premier category is of International Importance. This classification relates to Carlingford Lough and Mountains including West Feede Uplands.

Areas of Outstanding Natural Beauty County Louth contains two distinct areas that have been designated as Areas of Outstanding Natural Beauty (AONB) by reason of their unspoiled natural landscapes and spectacular scenic quality.

AONB1 Carlingford and Feede Mountains

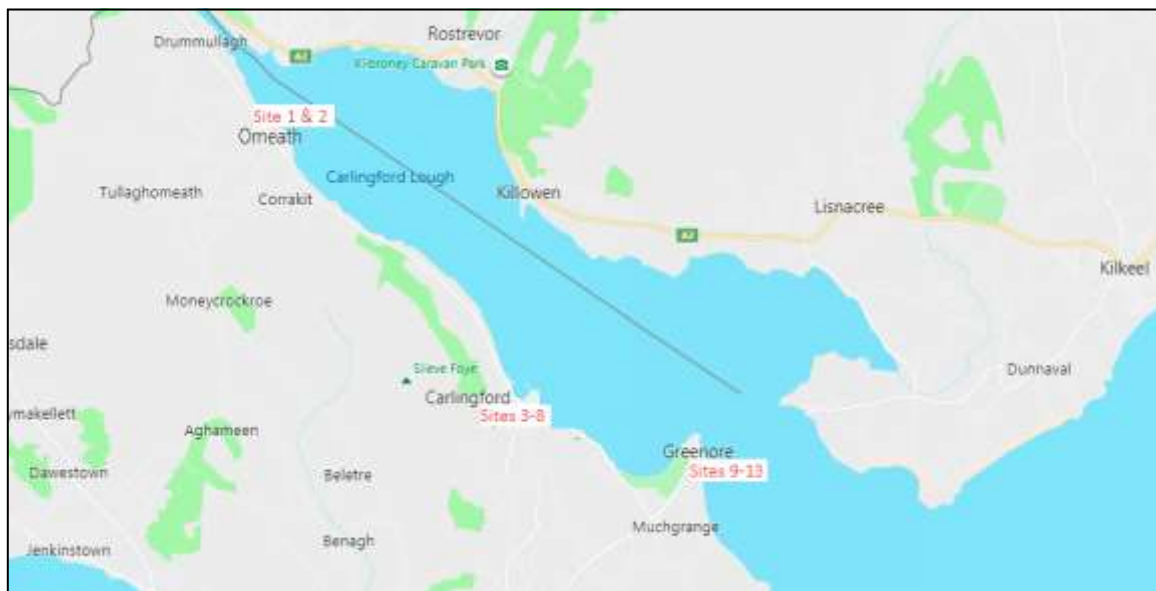
AONB2 Clogherhead and Port Oriel

Spectacular views are available from a number of vantage points over Carlingford Lough to the Mourne Mountains in Northern Ireland and the Ring of Gullion in County Armagh and over Dundalk Bay to central and south County Louth.

No specific mention is made in respect of aquaculture in the County Development Plan

5.7 Man-made heritage

National Monuments Service data of recorded National Monuments in the area was accessed and the map is presented below is any located within or immediately adjacent to Carlingford Lough and thus licence application appeal areas.



Map 5: National Monuments in the vicinity of Carlingford Lough Source (Reproduced under OSI License number EN 0070910)

There are many multiple national monuments at Carlingford Lough and these have no relevance to aquaculture so the data presented only relates to those within 50m of the shore. There are three groups of sites one at Ormeath, one at Carlingford village and a third at Greenore.

Site 1. National Monument Record Reference Reg. No. 13833010
National Monument of regional importance house dating to 1780-1820

Site 2. National Monument Record Reference Reg. No. Reg. No. 13833008
National Monument of regional importance house dating to 1780-1820

Site 3. National Monument Record Reference Reg. No. 13825044
National Monument of regional importance pier/jetty dating to 1830 - 1850

Site 4. National Monument Record Reference LH005-042002-
King John's Castle is a Anglo-Norman masonry castle situated in the townland of Liberties Of Carlingford dates from the twelfth century

Site 5. National Monument Record Reference LH005-042022-
This Souterrain is situated in the townland of Liberties Of Carlingford dates and is within the Curtilage of King John's Castle

Site 6. National Monument Record Reference Reg. No. Reg. No. 13825048
National Monument of regional importance boathouse dating to 1850 - 1890

Site 7. National Monument Record Reference Reg. No. 13825043
National Monument of regional importance pier/jetty dating to 1840 – 1860

Site 8. National Monument Record Reference LH005-029002-
Church situated in the townland of Liberties Of Carlingford

Site 9. National Monument Record Reference Reg. No. Reg. No. 13831026
National Monument of regional importance Hotel dating to 1865 - 1885

Site 10. National Monument Record Reference Reg. No. 13831044
National Monument of lighthouse keeper's house 1820 to 1840

Site 11. National Monument Record Reference Reg. No. Reg. No. 13831043
National Monument of regional importance lighthouse dating to 1825 - 1835

Site 12. National Monument Record Reference Reg. No. Reg. No. 13831038
National Monument of 5 workers houses dating to 1860 - 1880

Site 13. National Monument Record Reference LH009-012
Prehistoric site - lithic scatter situated in the townland of Greenore

5

6.0 Section 61 Assessment

Section 61 of the Fisheries Amendment Act 1997

states that “The licensing authority, in considering an application for an aquaculture licence or an appeal against a decision on an application for a licence or 11 revocation or amendment of a licence, shall take account, as may be appropriate in the circumstances of the particular case, of- (a) the suitability of the place or waters at or in which the aquaculture is or is proposed to be carried on for the activity in question, (b) other beneficial uses, existing or potential, of the place or waters concerned, (c) the particular statutory status, if any, (including the pro-visions of any development plan, within the meaning of the Local Government (Planning and Development) Act, 1963 as amended) of the place or waters, (d) the likely effects of the proposed aquaculture, revocation or amendment on the economy of the area in which the aquaculture is or is proposed to be carried on, (e) the likely ecological effects of the aquaculture or proposed aquaculture on wild fisheries, natural habitats and flora and fauna, and (f) the effect or likely effect on the environment generally in the vicinity of the place or water on or in which that aquaculture is or is proposed to be carried on- (i) on the foreshore, or (ii) at any other place, if there is or would be no discharge of trade or sewage effluent within the meaning of, and requiring a licence under section 4 of the Local Government (Water Pollution) Act, 1977, and (g) the effect or likely effect on the man-made environment of heritage value in the vicinity of the place or waters.”

6.1 Site Suitability

6.1.2 Site Suitability Mussel Appeals

The mussel cultivation sites T01/082 and T01/050A1 under appeal **are suitable** for the intended purpose for the following reasons:

1. The adjoining areas are already successfully cultivated for mussel cultivation
2. Within a designated shellfish water

However T01/082 is **unsuitable** for the following reasons

Proximity to or interference with

1. The Omeath waste water treatment outfall
2. Navigation Channels

6.2 Other uses

6.2.1 Tourism/ Leisure /Recreation

The mussel cultivation sites are T01/082 and T01/050A1. Here the shore is unaffected but there would be additional boats present within the lough during seeding and harvesting operations if these licences were granted. This may interfere to a small extent with recreational yachting or boating.

There will be no significant impact of T01/082 and T01/050A1 visually or spatially in respect of tourism or recreation.

6.2.2 Fishing/ bait digging

Periwinkle picking was observed during site visit at inner Carlingford Lough. This activity is also mapped mid bay by the marine institute. Mussel cultivation as identified by appeal location will not interfere with this activity.

The proposed mussel appeal areas will **not significantly impact** on harvesting users or the fisheries of the area.

6.2.3 Navigation

The mussel cultivation appeal areas are AP 21 and 22 (T01/082 and T01/050A1).

T01/082

There were several objections by state bodies to licensing this new site in Carlingford

The Marine Survey office stated that “in this location “a mussel dredge would collapse the bank of the channel at worst and cause more frequent dredging to be carried out at best. Insofar as the strip bordering the channel is so narrow **it would be the opinion of the MSO not to allow this development to proceed in its current layout for the above reason”**.

Marine Engineering Division expressed that concern that:“This is a new application ...is close to the navigation channel on its north side and ...it is important there should be a suitable separation distance allowed for between the mussel appeal area and the dredged channel side slope edge in order to minimise impact of dredging and navigation usage on mussel culture activity and vice versa. A minimum distance of 100m is recommended which would result in the section of this site running in and close to the navigation channel should not be licensed for shellfish culture. However **it is recommended due to the proximity of the proposed appeal area ... to the navigation channel (amongst other items) that this application be refused.**

The proposed mussel appeal area will **significantly impact** on navigation the area.

T01/050A1

Marine Engineering Division and Marine Survey Office have no objections from a navigational viewpoint to this application

The proposed mussel appeal area will **not significantly impact** on navigation the area.

6.3 Statutory Status

Mussel Appeals

The mussel cultivation sites are T01/082 and T01/050A1.

The mussel cultivation appeals are outside all Natura 2000 designated areas but within 2km of the designated areas and thus subject to appropriate assessment

All these aquaculture appeal areas are within 15km of a designated Natura 2000 site and thus subject to Appropriate Assessment. The potential impact will be addressed under section 8.0.

6.4 Economic effects

All the aquaculture appeals are linked to existing enterprises which support jobs in the Carlingford Lough area. Aquaculture is positive for the economy in this area

The licensing of proposed mussel appeal areas is **not likely to have a positive effect** on the local economy of the area as Carlingford Lough is already at and exceeding its carrying capacity for mussels..

6.5 Ecological Effects

Section 61 (e) considers the likely effect that the proposed aquaculture operation would have on wild fisheries, natural habitats and the fauna and flora of the area.

Mussel appeals

T01/082 and T01/050A1

According to the submission to the minister by Coastal Zone management

1. No significant effects arise regarding wild fisheries;
2. The site is not within a Natura 2000 site but is immediately adjacent to the Carlingford Shore SAC (Site Code: 002306) and Carlingford Lough SPA (Site Code: 004078).
3. Taking account of the recommendations of the Appropriate Assessment the aquaculture activity at this site is consistent with the Conservation Objectives for the SAC/SPA.
4. No significant impacts on the marine environment and the quality status of the area will not be adversely impacted.
5. The Appropriate Assessment for the SAC raises questions in respect of the carrying capacity of the area in the inner Lough to Greenore.

Other protected species

Cetaceans. Although a variety of cetaceans including are known offshore Mussel bottom cultivation would not interfere with these mammals.

The proposed licensed sites would have a **no significant negative** impact on these species if granted.

Other Birds

Wildfowl, waders, divers and cormorants are recorded in the area and are likely to use the Lough for foraging. Mussel cultivation is not likely to have any negative impact on these birds. Predatory birds such as Buzzard will not likely be impacted on as there are many thousands of wild birds and other wildlife to prey on within the area.

The proposed licensed sites would have **no significant negative** impact on these species.

6.6 General Environmental Effects

The Department's Scientific Advisors the Marine Institute, are of the view that there will be no significant impacts on the marine environment and that the quality status of the area will not be adversely impacted by any of the Mussel appeals.

The proposed mussel areas will **not significantly impact** on known ecological status of the Area

6.7 Effect on man-made heritage

There are no effects anticipated on the man-made environment heritage of value in the area; The proposed aquaculture appeals will **not significantly impact** on known man-made heritage of the area.

6.8 Conclusion

A technical review was carried out by Aster Environmental Consultants Ltd in relation to Appeals against the decision by the Minister for Agriculture, Food and the Marine to refuse to grant and to grant with variations Aquaculture and Foreshore Licences to cultivate mussels in Carlingford Lough, Co. Louth

6.8.1 Site Suitability

T01/082	This site was considered unsuitable by MED due to proximity to or interference with The Omeath waste water treatment outfall Navigation Channels
T01/050A1	This site was considered suitable by MED for cultivation of mussels.

6.8.2 Other Uses

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

T01/082	No impacts on recreation, tourism, fishery or any other identified
T01/050A1	No impacts on recreation, tourism, fishery or any other identified

6.8.3 Statutory Status

Some of the proposed developments have the possibility of significant impacts on Natura 2000 network for the following reasons. Please also see Section 8.

Impact on Special Protection Area

T01/082	If licence granted no impact on SPA is predicted according to the Appropriate assessment report prepared by Atkins 2019
T01/050A1	If licence granted no impact on SPA is predicted according to the Appropriate assessment report prepared by Atkins 2019

Impact on Special Area of Conservation

T01/082	There was is no identified direct/indirect impact on the qualifying interests of the SAC. Carrying capacity was examined in relation to cumulative impact and a significant impact was identified in this section of the bay in respect of impact on phytoplankton abundance.
T01/050A1	There was is no identified direct/indirect impact on the qualifying interests of the SAC. Carrying capacity was examined in relation to cumulative impact and a significant impact was identified in this section of the bay in respect of impact on phytoplankton abundance.

6.8.4 Economic effects

There would be **no positive effect** on the economy of the area, if the proposed licences were granted as the Lough has reached its carrying capacity in respect of mussel cultivation in these areas. .

6.8.5 Ecological Effects

No significant impacts on natural habitats, wild fisheries and fauna and flora of the area were identified as pertaining to grant of these appeals.

The Appropriate Assessments looked at Terns nesting, seal haul outs and location of Zostera beds and there are no overlap of these sensitive areas with these mussel applications.

See above under Statutory Status for the impact on SPA/SACs

6.8.6 General Environmental Effects

There are **no significant general environmental** effects predicted as a result of the proposed development. None were identified in terms of invasive species, water quality or any other.

Man-made Heritage

There is **no negative impact** predicted on the man-made heritage of value predicted in the area is predicted to result from a grant of the proposed operations for the following reasons. No national monuments were identified in the subtidal areas where these mussel cultivation operations occur

These were the findings of the technical expert.

6.9 Confirmation re Section 50 Notices

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

7.0 Screening for Environmental Impact Assessment.

No EIA screening was prepared in respect of these applications. As the decision is to recommend refusal none is required.

8.0 Appropriate Assessment.

Lough. One in respect of the SPA (Atkins, 2019) and the other in respect of the SAC (Marine Institute, 2019). The following is a summary and interpretation of the data in respect of the licenced areas.

8.1 Special Protection Area

Mussel appeals T01/082 and T01/050A1 (AP21 and 22)

According to the Atkins Appropriate Assessment report “Subtidal mussel cultivation is located entirely outside of Carlingford Lough SPA. Subtidal waters deeper than 0.5m are beyond the feeding range for Light-bellied Brent geese and would not be used by geese for foraging. As noted, while birds may occasionally roost on such waters during daylight hours, Light-bellied Brent geese using Carlingford Lough roost overnight in Dundalk Bay. Patterns of boat activity ... should not therefore negatively impact on Brent geese use of the SPA. In conclusion, it is not anticipated that Light-bellied Brent geese would be negatively impacted by the licencing of mussel cultivation in Carlingford Lough. This includes renewal of existing licences and new applications”.

No significant impact predicted by licencing Mussel appeal areas at Carlingford lough in respect of appropriate assessment related to the Special Protection Area.

8.2 Special Area of Conservation

Where the overlap between subtidal mussel aquaculture activities, and a feature is zero and there is no likely interaction of risk identified, it has been screened out and not considered further.

Mussel cultivation

As there is no overlap with intertidal and subtidal aquaculture activities and the qualifying interests of the Carlingford Shore SAC, significant adverse impacts on the SAC conservation features can be discounted. This assessment can therefore stop at the screening stage.

No significant direct or indirect impact predicted by licencing Mussel appeal areas at Carlingford lough in respect of appropriate assessment related to the Special Area of Conservation.

8.3 Carrying Capacity

As part of the Appropriate Assessment for Carlingford Shore SAC an assessment was done of carrying capacity this is an important issue for the long terms sustainability of the industry as it can impact on growth rates as well the success and recruitment of wild species. The conclusion was that the ecological carrying capacity in Carlingford appears to be exceeded in all, bar two, aquaculture sectors.

The ecological carrying capacity model considered the likely impact filtration by shellfish aquaculture species will have on the background chlorophyll (Chla) levels in the lough (SMILE-Ferreira et al (2007)). It is clear that all bar one sector relative to the current licensing considerations exceed or are close to the 30% threshold. This would suggest that all sectors inside Greenore cannot accommodate any additional aquaculture

activities and that in some sectors the level of existing activity might be reduced. It is important to note that the models assume that all sites are being utilised and there is full occupancy of the aquaculture sites. As indicated above some sites are likely to be underutilised.

Examining the models predictions relative to the position of the appeals the following table is presented. This gives an indication of the percentage reduction in Chlorophyll levels (related to phytoplankton abundance) based on the area of licensed sites in 2007.

Appeal Code	Predicted % reduction due to aquaculture
T01/082	41.933%
T01/050A1	30.22%

This table is an interpretation of the data presented in the SAC Appropriate Assessment and relies on estimation of location of mussel appeal areas in relation to the sections analysed in the model described. Nonetheless the evidence is that the innermost mussel licence application (T01/082) is in an area already under severe stress in respect of its carrying capacity and T01/050A1 is close to the 30% threshold.

Carrying capacity is the number of people, animals, or crops which a region can support without environmental degradation. In this case it relates to mussel cultivation. The abundance of wild phytoplankton determines what quantities of mussels can be grown in Carlingford successfully. If too many areas are licensed then the time from seed to market is longer, with economic impacts for the producers. Therefore licensing the correct tonnage from a bay is critically important both ecologically and socioeconomically. In addition, the MED refer to the lack of available mussel spat for ongrowing which is another limiting factor in licensing for mussel cultivation.

A significant impact is predicted by licencing Mussel appeal areas at Carlingford lough in respect of carrying capacity.

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

It was concluded that all 2 appeals were valid and the questions posed by the appellants and observers have been fully addressed by this report.

10.0 Recommendation of Technical advisor with reasons and Considerations

Having carried out an inspection of the proposed appeal areas , reviewed the appropriate literature and in (accordance with Sections 59 & 61 of the Fisheries (Amendment) Act 1997, it is recommended to **refuse the licence for T01/082A and grant with variation T01/50A1.**

Mussel Cultivation

T01/082A	<p>The application is for new Licence for Bottom Cultivation Mussels. The reason for the refusal was the sites proximity to 1. Omeath Sewage outfall and 2. The Navigation Channel.</p> <p>Grounds for appeal The site is no closer to the channel than a lot of other licensed sites in Carlingford Lough and Irish Water sought and were granted planning permission for the treatment works for a new plant to treat the waste water to be commissioned in 2021</p> <p>The information regarding the sewage treatment may form the basis of a successful appeal if that alone were the reason for refusal. However, in this case there are several concerns.</p> <p>The first of which is site suitability. The Marine Survey office stated that “a mussel dredge would collapse the bank of the channel at worst and cause more frequent dredging to be carried out at best”. For this reason the site is unsuitable fundamentally for mussel cultivation as it is likely to interfere with navigation.</p> <p>In addition there is another factor which would indicate that refusal is the correct decision. The Appropriate Assessment carried out for the SAC by the Marine Institute identified carrying capacity as an issue in this particular sector of the Lough. The model indicates that licenced aquaculture in section 29 where this application lies utilises 41.933% of the available phytoplankton. This far exceeds the recommended threshold of 30% as indicated by the report. Therefore additional mussel cultivation here would not be sustainable.</p> <p>Therefore, the recommendation of the Technical Advisor is to uphold the Minister’s decision to refuse this licence.</p>
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T01/50A1	<p>The appeal is on the grounds that the best part of the site, in deeper water, has been removed from the licenced area and the less productive part of the site has been re-licensed.</p> <p>MED is of the opinion that site T01/50A1 should be reduced in area and recommends a reduction that would omit the east section close to Carlingford outfall and much of the deeper water on its north side. This decision is in line with the refusal above at T01/082. However, in this case there is no evidence that use of a mussel dredge at this location will increase need for ongoing dredging at this location.</p> <p>However, there are other issues to consider. MED is concerned that the site has been underutilised “Utilisation of this site has been nil since seed was laid down in 2008; 400 tonnes of seed was laid but got no harvest from it. The underutilisation of this site is mainly due to shortage of spat from the Irish Sea. It is understood that if sufficient spat were to materialise some year from the Irish Sea mussel seed resource that this site might be put to more use. Low utilisation of this site in period 2009-2012 is confirmed by DARD black box data on vessel activity on Carlingford Bay sites in that period”</p> <p>The technical advisor recognises that sites that are not utilised are stopping the growth of the industry in Carlingford and agrees with the MED decision.</p> <p>The Appropriate Assessment carried out for the SAC by the Marine Institute identified carrying capacity this sector of the Lough. The model indicates that licenced aquaculture in section where this application lies utilises 30.22% of the available phytoplankton.</p> <p>This just about exceeds the threshold of 30% as indicated by the report. The model assumes that the licensed sites (including the original licensed area of this site at 100.335ha) are operational. The reduction of the site to 61.05 hectares will bring the phytoplankton usage to under 30% and this is back to sustainable levels.</p> <p>Therefore, the recommendation of the Technical Advisor is to uphold the Minister’s decision to renew this licence with variation.</p>
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11.0 Draft Determination

It is recommended to uphold the Minister’s decision for all appealed areas.

Technical Advisor: Marie Louise Heffernan Aster Environmental Consultants Ltd

Date: 18/08/2020

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