AP2/2014

Roaringwater Bay Aquaculture Licence Appeal

Technical Advisors Report

Produced by

AQUAFACT International Services Ltd

On behalf of

Aquaculture Licences Appeals Board

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1 Executive Summary

Description	Objection to the granting of Shellfish Aquaculture Licence in Roaringwater Bay for the cultivation of oysters on bags and trestles
Appeal Reference	AP2/2014
Licence Applications	T5/569 N1,N2 and N3
Department Reference Number	
Applicants	Frank O' Dwyer & Breda Rigney
Minister Decision	10-year Aquaculture Licence and accompanying Foreshore Licence granted by the Minister on 19th December, 2013
Appeal	
Type of Appeal	Appeal against the granting of a new Shellfish Aquaculture Licence
Appellant	Mary McCarthy & Michael McCarthy
Observers	
Technical Advisor	AQUAFACT International Services Ltd.
Site inspection	

2 Appeals Details & Observer Comment/Submission

Date Appeal Received: 3rd February 2014 Mary & Michael McCarthy.

Table 2.1 Location and Applicants of Sites Appealed

Ref. Site No.	Applicant location Roaringwater Bay, Co. Cork
T5/569 N2 & N3	Mr Frank O'Dwyer and Ms Breda Rigney, Bawngore, Church Cross, Skibbereen, Co. Cork

Table 2.1 lists the location licence under appeal as well as the identity of the applicants.

2.1 Appeal Timeframe

Publication notice of the decision to grant the aquaculture and foreshore licences was published in The Southern Star on Saturday January 4nd, 2014. The appeal was submitted within the statutory timeframe of one month from the date of the publication notice in the Southern Star as set out under Section 40 of the Fisheries (Amendment) Act, 1997.

Mary & Michael McCarthy. submitted the appeal on 30th January 2014. The Appeal was received by ALAB on 3rd February 2014.

2.2 Name of Appellant

Mr Michael McCarthy and Ms Mary McCarthy

Inisbeg,

Baltimore,

Co. Cork.

2.3 Name of Observers

There have been no further submissions or observations since the appeal has been submitted.

2.4 Grounds for Appeal

AP2/2014

The Appellant has raised safety concerns about the granting of a new Shellfish Aquaculture Licence and accompanying Foreshore Licence in Roaringwater Bay at T5/569 N2 & N3.

Substantive Issues

The appellants state that the licensed areas T5/569 N2 & N3 are adjacent to their grazing land. The area in question includes two patches of land that are connected by beach at low water and at high water these two areas are effectively two islands.

The appellants state that at low water their cattle move freely between the two grazing areas by way of the beach, but that at high water the animals swim across from one island to the other and to the mainland for water.

It is the appellants' assertion that the presence of oyster trestles in the licensed areas could cause serious injury to their cattle. They state that at high water cattle may potentially swim across areas with trestles resulting in a hazard of injury or drowning.

The appellants state that the presence of 60-90 cattle and bulls in the vicinity of the licensed areas could be a serious hazard to the health and safety of those workers tending the oyster trestles resulting in injury or fatality.

Non-substantive issues

There were no non-substantive issues in relation to this appeal.

2.5 Minister's Submission

Section 44 Part 2 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 has made no further submissions since the appeals were made.

2.6 Applicant Response

As per Section 44 Part 2 of the Fisheries (Amendment) Act 1997 which 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'*, all licence applicants were given the opportunity to reply in writing to the appeal against the granting of their licences.

In reply to the appeal, the applicants Mr Frank O' Dwyer and Ms Breda Rigney made a submission to the Board on 26th February 2014. In their reply they highlight the fact that they currently operate another licensed oyster cultivation site on the Ilen River – site T5/5 on the inside of Inisleigh Island. This site, they state, includes a causeway where cattle cross across the site within 20m of the trestles. They also state oyster culture has been in operation here since 1970 without incident.

The applicants also query the validity of the claim that cattle swim in the area in question stating that to the best of their knowledge there have never been cattle swimming in this locality. They attest that the licensed sites would not restrict access to grazing areas or cause hazard to nearby cattle. In addition they maintain that within the area in question there is no island of consequence detached from the mainland where cattle could graze.

Finally the applicants identify a mapping error in the original Department of Agriculture, Food and the Marine advertisement. The advertisement, they state, differs from their licence application in that sites T5/569 N2 & N3 were located incorrectly in the intertidal area. The applicants state that they have requested that the sites (N2 &N3) be withdrawn, re-drawn and re-advertised.

General Comments

With regard to the mapping error mentioned above in the applicant's response, the applicant has indicated that when he was applying for the granting of new aquaculture licence at T5/569 N1, N2 and N3, he and David Millard (BIM) produced maps based on GPS coordinates of potentially good oyster growing areas within the intertidal near Inishbeg, River Ilen Estuary, Co Cork. This map (dated 1st February, 2012) was submitted subsequent to the application for the new licence (submitted 11th October 2011) and is presented in Figure 2.1 below.

Correspondence from the licensing authority indicates that the boundaries of the new licence areas T5/569 N1, N2 and N3 were established by the Department's Mapping Division based on hand drawn maps (Figure 2.2) it said it had received with the application (11th October 2011). These boundaries were set on 25th October 2011.

The applicant would dispute the maps developed because the resulting boundaries placed some of the licensed site too high on the shore and that trestles placed there would be unsuitable for oyster cultivation. However, these hand drawn outline maps have been forwarded to the technical advisors by the Department on request.

Following feedback from the public consultation phase and consultation with its technical advisers, the Aquaculture and Foreshore Management Division of the Department of Agriculture, Food and the Marine reduced the footprint of the licensed areas T5/569 N1 and N3. N1 was reduced from 0.73Ha to 0.55Ha and N3 was reduced from 1.22Ha to 0.33Ha. The Minister's determination to grant the licences reflected this decision. Figure 2.2 illustrates the original boundaries and the subsequently reduced boundaries for which licences were granted.

The Minister (as the Licensing Authority) made a determination in this case in accordance with section 12 of the Fisheries (Amendment) Act 1997. This provides that the licensing authority shall

determine an application for licence by deciding to grant the licence (as per application) or a variation thereof, or refuse to grant.

In this case the Minister made a determination in accordance with section 12 and granted, in effect, a variation of the original application. In the normal course of events the offer would be communicated to the applicant who could accept or refuse the offer.

The applicant did not refuse the offer, and an appeal was lodged based on the new boundaries. It is the appeal against these new boundaries (AP2/2014) that is the subject of this technical advisors report.

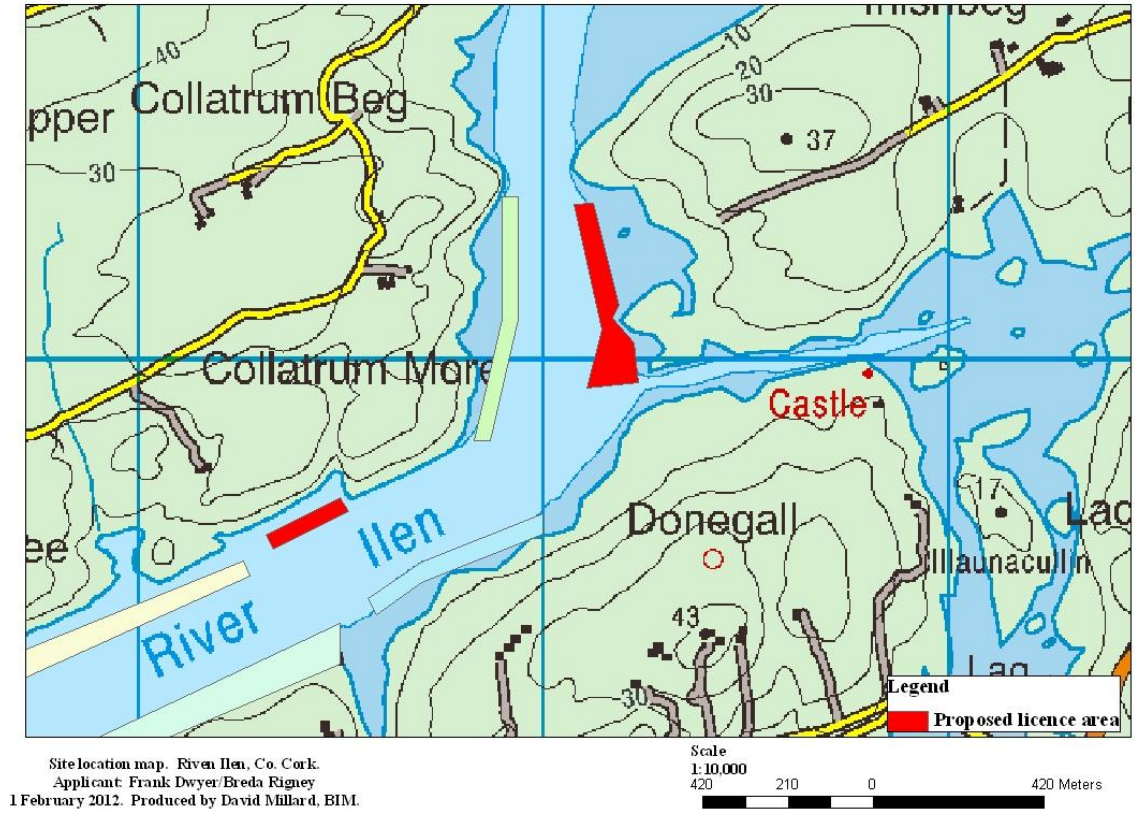

Figure 2.1 Proposed licensed sites submitted by the applicant in February 2012.

Figure 2.2 Original licence boundaries of T5/569 N1-N3 created October 2011 (black outline) and the reduced footprint boundaries of the granted licences (red shading).

3 Consideration of Non-Substantive issues

There were no non-substantive issues in relation to this appeal.

4 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.

An oral hearing has not been requested by the appellant.

5 Minister's file

In line with the particulars of Section 43 of the Fisheries (Amendment) Act 1997 the following documented items were sent to the ALAB from the Minister:

Copy of Aquaculture Licence Application Form

Copy of Aquaculture licence with maps, charts, co-ordinates and drawings

Copy of Foreshore Licence

Copy of E.I.A. Screening Assessment

Copy of Submission to the Minister

Copy of Notification to Applicant of Minister's Decision

Copy of Advertisement of Minister's Decision

Overview Map of sites in Roaringwater Bay (River Ilen)

Copy of Conclusion Statement

Copy of Appropriate Assessment

Copy of Applicants response to concerns and objections.

6 Context of the Area

6.1 Physical Description

The Ilen Estuary is a transitional water body of an area of 9.66km² which is located in the south-west of county Cork (CRFB, 2009). There are numerous islands within the estuary of varying sizes, the largest including Inishbeg, Ringarogy and Spanish island (see Figure 6.1). To the south-west of the estuary lies Sherkin Island, the north-eastern coast of which delineates the transition into coastal water bodies. To the east of Sherkin Island lies Roaringwater Bay, a large, coastal water body with numerous islands which is connected with the Ilen estuary. The estuary is fed mainly by the Ilen River which is a medium sized spate river, approximately 23km long. The Ilen River drains an area of approximately 303km^2, rises in the mountains north of the town at Mullagmesha and is tidal to approximately 1.5km upstream of Skibbereen (CRFB, 2009; RPS, 2013). Substrate within the estuary varies from exposed rock, to gravel, sands and mud. The upper estuary, above Ringarogy Island, is shallow with a substrate consisting mostly a layer of mud over gravel.

Skibbereen, through which the Ilen River flows, is at the head of the estuary and is one of the main population centres in the area with a population of approximately 2,300 people. Baltimore to the south-east has a population of approximately 340 people. Sherkin Island is also inhabited and is accessed via ferry which runs from Baltimore Harbour. Water is abstracted from the Ilen River mid and lower reaches at a rate of 363m^3 day^{-1} and 1,500m^3 day^{-1} respectively. Waste Water Treatment Plants at Skibbereen and Baltimore discharge into the estuary.

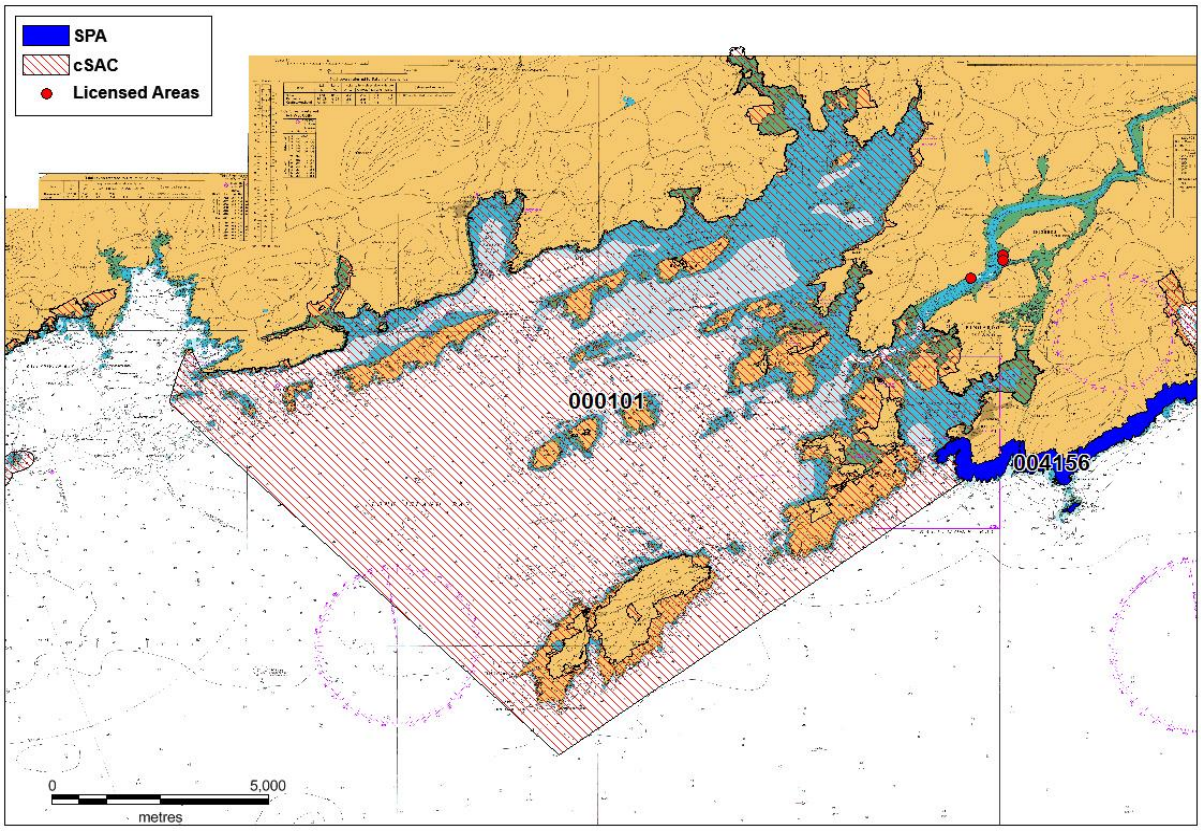

Figure 6.1 Roaringwater Bay and Islands cSAC and Ilen Estuary, Co. Cork . Licensed sites under appeal are illustrated.

6.2 Resource Users

Aquaculture Activity

Including the current licences under appeal 28 licences have been granted with the Baltimore Harbour/Ilen Estuary area for oyster and mussel cultivation.

Angling Activity

The River Ilen is noted for salmon and sea trout angling. Sea-angling in Roaringwater bay, because of the difficulty of access from the shore, is generally carried out in small boats. It is particularly popular in the Baltimore area with shark, bass, monkfish, triggerfish , tope and other species caught. There are some suitable sites for shore fishing for bass and flounder at Ballydehob.

Tourism

No statistics were available for this specific area; however, Fáilte Ireland statistics reported 1,228,000 visitors to Cork city and county in 2012 with associated revenue of 399 million euros (Fáilte Ireland, 2013). Schull Planetarium had 962 visitors in 2012 (Fáilte Ireland, 2014). Popular visitor locations in the area include Skibbereen, Mizen Head, Schull, Bantry and Baltimore for a range of activities including sightseeing, golfing, festivals, sea angling, river fishing, kayaking, cycling/walking tours, whale watching, bird watching, surfing, sailing etc. Various roads around Roaringwater Bay are identified as scenic routes due to their view of the bay (CCC, 2009) and the area is part of the Wild Atlantic Way driving route.

Leisure users of the water body and surrounding area

Carbery Isle Ferries conducts guided tour cruises of the islands of Roaringwater Bay as well as whale and dolphin spotting cruises and sea angling charters.

There are regular year-round ferry services to the islands of Sherkin and Cape Clear from Baltimore's ferry pier and to Heir (or Hare) Island from Cunnamore Pier.

Heir Island Sailing School operates from the island and is accessed from Cunnamore pier by ferry.

Aquaventures is a dive school in the area which runs diving courses, guided tours, boat charter, sea-angling and whale and dolphin watching tours of the bay.

Cape Clear Bird Observatory is located in the North Harbour of the Island and is Ireland’s only active Bird Observatory. The island is accessed by ferry from Baltimore and Schull. The observatory offers wildlife courses including Beginners Birding to Seabirds and Migration.

Agricultural Activity

Farming in the area is mostly small scale, low-density sheep and cattle farming.

Inshore Fishing Activity

There is a diverse range of fishing activities within nearby Baltimore Harbour and Roaringwater Bay There is an intensive autumn pot fishery for shrimp. Lobster and crab are fished throughout the year and Crayfish and demersal fish are targeted with tangle nets and gill nets in the outer bay and beyond. Scallop are fished in the upper part of the Bay in winter and spring. Demersal trawling occurs in the outer part of the Bay throughout the year and there is sporadic mid-water trawling for pelagic fish. Line fishing for mackerel and Pollack is common in summer.

6.3 Environmental Data

Water Quality

Baltimore Harbour- Sherkin is a designated shellfish area and must comply with the Shellfish Directive (2006/113/EC) and the Quality of Shellfish Waters Regulations 2006. Figure 6.2 below shows the Shellfish Area as well as the licensed areas under appeal. These licensed areas (T5/569 N2 and N3 are approximately 70m to the east of the designated area. The site T5/569 N1 is located within the designated area.

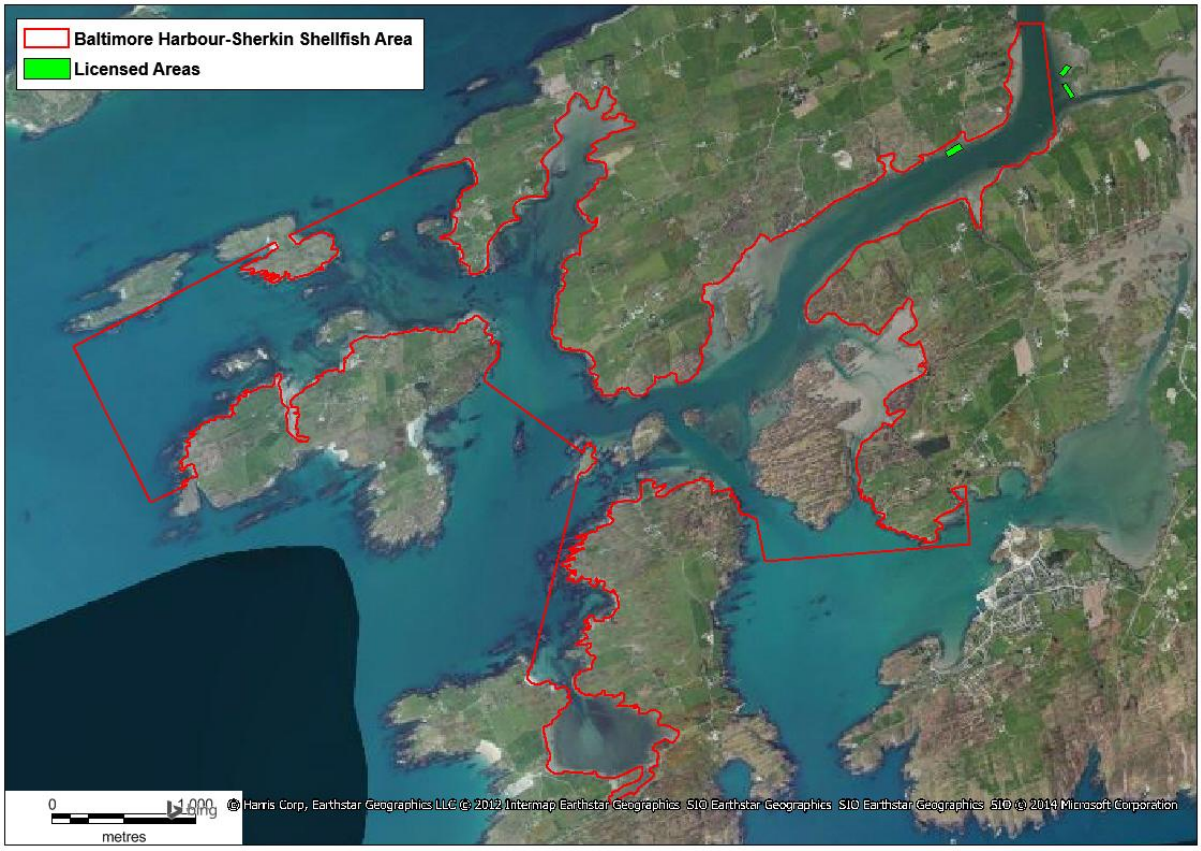

Figure 6.2 Baltimore Harbour-Sherkin Shellfish Designation Area.

6.4 Statutory Status

6.4.1 Nature Conservation Designations

The licence areas are not within a Natura 2000 site. However, these waters flow into and are connected to Roaringwater Bay and Islands which is designated a candidate Special Area of Conservation (cSAC) (site code: IE000101). The cSAC encompasses the majority of the bay and extends to west of Castlepoint (south of Toormore) and east to Baltimore. Bordering the cSAC to the east is Sheep's Head to Toe Head SPA (site code: IE004156). Table 6.1 lists the Qualifying Interests and other features of interest of these Natura 2000 sites.

Table 6.1 Natura 2000 sites and their Qualifying Interests in the vicinity of Roaringwater Bay (NPWS, 1996; NPWS, 2011).

Natura 2000 site	Qualifying Interests	Other features of interest
Roaringwater Bay and Islands cSAC (IE000101)	Large shallow inlets and bays [1160] Reefs [1170] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Harbour porpoise (*Phocoena phocoena*) [1351] Otter (*Lutra lutra*) [1355] Grey seal (*Halichoerus grypus*) [1364] European dry heaths [4030] Submerged or partly submerged sea caves [8330]	Hairy Bird's-foot-trefoil (*Lotus subbiflorus*) Birds-foot (*Ornithopus perpusillus*) Spotted Rock-rose (*Tuberaria guttata*) Pale Dog-violet (*Viola lactea*) *Lanceolate Spleenwort* (*Asplenium obovatum subsp. lanceolatum*) Lesser Centaury (*Centaurium pulchellum*) Sharp-leaved Fluellen (*Kickxia elatine*) Little-robin (*Geranium purpureum*) Deptford Pink (*Dianthus armeria*) Black guillemot (*Cepphus grille*) Great black-backed gull (*Larus marinus*) Herring gull (*Larus argentatus*) Shag (*Phalacrocorax aristotelis*) Sponge (*Tethyspira spinosa*) Yellow Feathers (*Gymnangium montagui*) *Lytocarpia myriophylum* Hydroid (*Tamarisca tamarisca*) Red Sea Fingers (*Alcyonium glomeratum*) Ginger or Chocolate Tiny anemone (*Isozoanthus sulcatus*) Red alga (*Phyllophora sicula*) Red alga (*Spyridia filamentosa*) Maërl (*Lithophyllum dentatum*) Maërl (*Lithothamnion corallioides*) Maërl (*Phymatolithon calcareum*) Eel grass (*Zostera marina)* Sea pea (*Lathyrus japonicas*)
Sheep's Head to Toe Head SPA (IE004156)	Peregrine (*Falco peregrinus*) [A103] Chough (*Pyrrhocorax pyrrhocorax*) [A346]	

6.4.2 Protected Species

Cetacea

All cetacea are protected under the EC Habitats Directive which requires them to be maintained at a favourable conservation status. All ceteaca are listed on Annex IV of the Directive with harbour porpoise *Phocoena* and bottlenose dolphin *Tursiops truncatus* also listed on Annex II of the same directive. In addition, cetacea are protected through inclusion in the 5th Schedule of the Irish Wildlife (Amendment) Act 1976-2005. Harbour porpoise *Phocoena* are also listed on the OSPAR List of Threatened and Declining Species and Habitats.

While the licence areas are not within a Natura 2000 site such as the nearby Roaringwater Bay and Islands cSAC for which harbour porpoise and grey seal *Halichoerus grypus* are qualifying interests, due to the proximity of the licence areas to the cSAC and the mobility of these mammals it is highly likely that they can/do occur in/close to this area.

Figure 6.3 shows the cetacean species recorded by the Irish Whale and Dolphin Group (IWDG) over the last ten years in the vicinity Roaringwater Bay and Ilen Estuary. Verified records obtained from the IWDG website www.iwdg.ie include 86 sightings of bottlenose dolphin *Tursiops truncatus*, 1362 of common dolphin *Delphinus delphis*, 311 harbour porpoise, 21 unidentified dolphin species, 16 unidentified dolphin species (possibly harbour porpoise *Phocoena*, 10 killer whale *Orcinus orca*, 2 unidentified whale species, 65 fin whales *Balaenoptera physalus*, 7 humpback whales *Megaptera novaeangliae*, 5 unidentified large whale species and 104 minke whale *Balaenoptera acutorostrata* within Roaringwater Bay and Islands cSAC within the last 10 years.

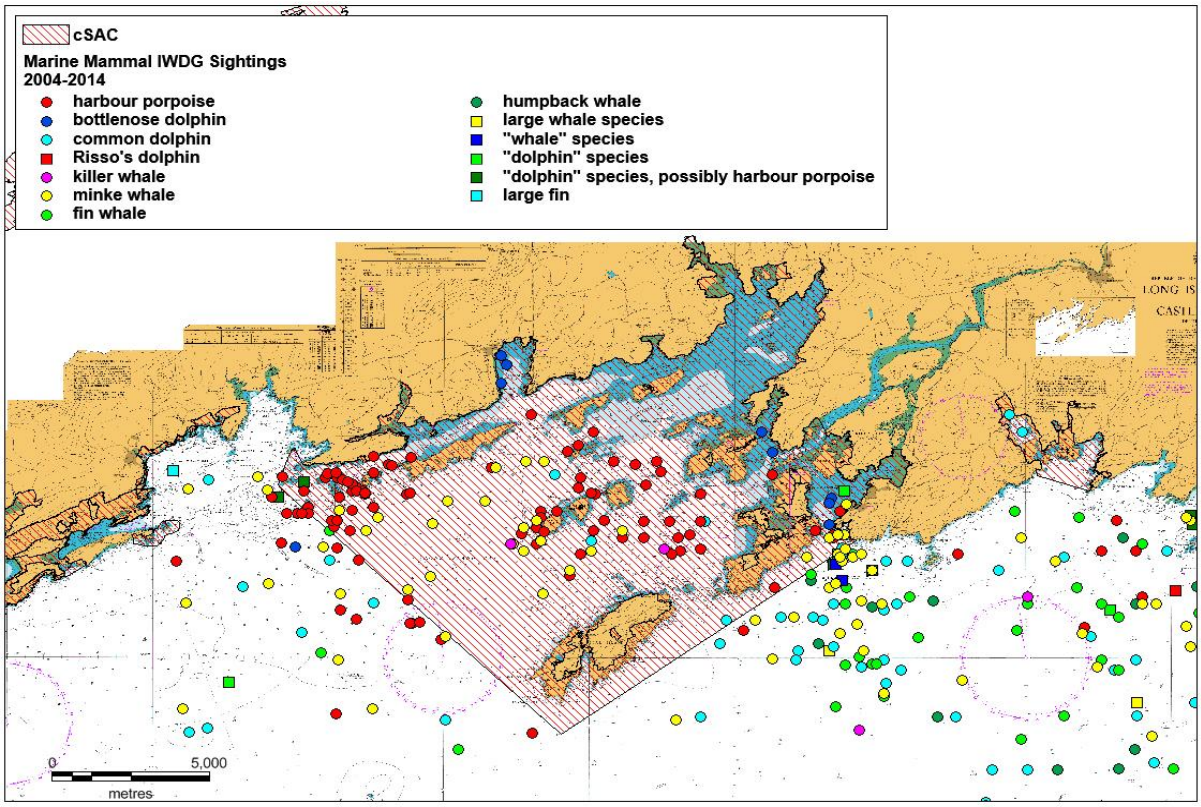

Figure 6.3 Cetaceans recorded by the IWDG in the vicinity of Roaringwater Bay 2004-2014.

Leeney (2007) shows additional observations of common dolphin and harbour porpoise (maximum count: 5) recorded by vessels of opportunity, the majority occurring just off the north-west coast of Cape Clear Island and between Cape Clear and Sherkin Islands.

Seals

Both grey seal *Halichoerus grypus* and harbour seal *Phoca vitulina* are protected under Annex II of EC Habitats Directive and the Irish Wildlife (Amendment) Act.

As stated above the licence areas are not within a Natura 2000 site. However grey seal are a qualifying interest for the close by Roaringwater Bay and Islands cSAC and due to the connectivity of the areas as well as the mobility of these mammals, the is highly likely that they may occur within/close to the licence areas. Grey seal are known to breed, moult and rest on various islands within the bay. Breeding sites include Castle Island, the Calf Islands and Cape Clear Island. Moulting sites include Mannin Island, Carrigviglash Rocks and Calf Island East. Resting sites include Illaun Crubeen, Mannin Island, Carrigviglash Rocks, Inishleigh, Calf Island Middle and Cape Clear.

Roaringwater Bay is also an important site for harbour seals with maximum counts 74, 95 and 66 in the years 2009, 2010 and 2011 respectively. Sites such as Aghillaun (a small island adjacent to the mouth of the Ilen River) and the Creeveens (within Ballydehob Bay) are of local importance as haul-out sites for this species (NPWS, 2012).

Otters

Otter *Lutra lutra* is protected under the Irish Wildlife Acts (1976 & 2000) and is also listed on Annexes II and IV of the EU Habitats Directive. The Annex II listing requires Member States to designate SACs for the protection of the species and as such otter is a qualifying interest of Roaringwater Bay and Islands cSAC. While outside areas designated as aquatic or terrestrial habitat for otter as part of the Roaringwater Bay and Islands cSAC, it is likely that otters occur in/close to the licence area due to the mobility of the animal and the proximity of the sites.

Atlantic Salmon

The Atlantic salmon *Salmo salar* is listed in annexes II and V of the EU Habitats Directive as a species of European importance. Atlantic salmon occur within the River Ilen, which is a medium sized spate river which runs through Skibbereen. The Ilen is a good salmon angling location with good runs of spring salmon. Sea trout also occur in the River Ilen.

Avifauna

Roaringwater Bay and Islands cSAC has an important population of chough *Pyrrhocorax* as well as several pairs of peregrine falcons *Falco peregrinus*, both of which are listed on Annex I of the EU

Birds Directive and are qualifying interests for Sheep's Head to Toe Head SPA (site code: IE004156), south of Baltimore.

Pearl Mussel

The freshwater pearl mussel *Margaritifera margaritifera* is a highly threatened animal, recently categorised as critically endangered across Europe. Owing to its threatened status and dramatic decline, the freshwater pearl mussel is listed on Annex II and Annex V of the Habitats Directive. The status of the species across the EU was assessed in 2007 and found to be bad throughout. In Ireland, all populations of the species were considered unfavourable-bad. The main cause of the poor status and the ongoing decline of the species across Ireland and Europe is sedimentation and enrichment (eutrophication) of its habitat (www.npws.ie). Pearl mussels are found in the Ilen and Leamawaddra rivers.

European eel

The European eel *Anguilla Anguilla* is a species under threat, in recent decades, this species has undergone a dramatic decline throughout its range and is listed on Annex II of CITES (Convention on International Trade in Endangered Species).

According to EU legislation, EC1100/2007 Ireland has drawn up national eel management plans at river-basin level and must allow 40% of adult eels to escape from inland waters to the sea, limit fisheries, make it easier for fish to migrate through the rivers and restock suitable inland waters with young eel. The European eel *Anguilla anguilla* is known to reside in the Ilen River and Caol River (CRFB, 2009).

6.4.3 Statutory plans

While Cork County Council's Bantry Electoral Area, Local Area Plan, August 2011 and Draft Cork County Development plan 2013 have no specific plans regarding aquaculture in the county or in Roaringwater Bay (CCC, 2011; CCC, 2013). The council does mention in general terms the support for further growth and development of this industry in areas such as Bantry, Ballydehob and Heir Island and their support for the use of existing port facilities for catching and processing fish.

Other schemes mentioned in the Local Area Plan include a new water and sewerage scheme in Schull which should be complete from 2014-2016. Cork County Council also have plans to commence Skibbereen (River Ilen) Flood Relief Scheme by late 2014 and will take two years to complete.

6.4.4 Water Quality Status

Baltimore Harbour is situated on the coast of County Cork in the South Western River Basin District. The harbour is open to the west, but much of the south, east and north is sheltered by islands and

the mainland. The designated shellfish area within the bay is 8.5 km^2 in area. It encompasses open water, sheltered areas and the lower reaches of the Ilen estuary.

The contributing catchment of the shellfish area is 483.46 km^2 in area (Map 3). There are three main rivers entering the designated area, the Rathruane, the Bawnaknockane and the Leamawaddra.

Article 5 of the Shellfish Directive (2006/113/EC) and section 6 of the Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006) require the development of Pollution Reduction Programmes (PRPs) for designated shellfish areas in order to support shellfish life and growth and to contribute to the high quality of directly edible shellfish products. Shellfish PRPs relate to bivalve and gastropod molluscs, including oysters, mussels, cockles, scallops and clams.

Waterbodies designated as shellfish areas are strictly monitored for pH, temperature, colouration after filtration, suspended solids, salinity, dissolved oxygen, petroleum hydrocarbons, organohalogenated substances, dissolved metals, faecal coliforms, substances affecting the taste of shellfish and saxitoxin (produced by dinoflagellates).

Within the Shellfish designated area there are two Classified Production areas for Live Bivalve Mollusc production – Sherkin Kinnish (from Drawlaun Point to Long Point) and Sherkin North (which covers the licensed sites).

The 2013 classification of shellfish production areas in Ireland classified Sherkin Kinnish live bivalve production as 'Class A', and Sherkin North as 'Class B' for the purposes of EC Regulation 854/2004 and monthly samples of each species are taken from every production area and tested for *E. coli* in one of the Marine Institute's contracted national laboratories. The results from these analyses are used to classify the area according to criteria set down in EU regulation 854/04. The Sea Fisheries Protection Authority has issued the 2013 Classification of Shellfish Production Waters. Areas from which live bivalve molluscs are harvested for human consumption are classified as being Class A, B or C depending on the quality of the waters from which they are taken. Shellfish harvested from Class A areas may be marketed for direct human consumption, product harvested from Class B or C areas require further purification or treatment before being placed on the market. (www.sfpa.ie).

There are five urban waste water treatment plants within the catchment area (Ballydehob, Baltimore, Drimoleague, Schull and Skibbereen). Three of these are designated 'at risk' due to insufficient plant capacities for current and projected future loads.

There are two known significant combined sewer overflows (CSO) within the catchment. Both are situated in close proximity to the shellfish area at Baltimore and Schull. Monitoring in this shellfish area does not indicate any water quality issues which are likely to be associated with CSOs and therefore they are unlikely to be affecting shellfish water quality in this shellfish area.

There are three water treatment plants in the catchment (Schull, Baltimore and Skibbereen) and all have been designated as 'at risk' of impacting their surrounding water environment. However, monitoring does not indicate any water quality issues which are likely to have arisen from these plants and therefore it is unlikely that they are affecting shellfish water quality in this shellfish area.

In addition, according to the Shellfish Pollution Reduction Characterisation Report for Baltimore Harbour (2010), there are 4,993 onsite sewage treatment systems in the catchment and their density is much higher than the national average. The risk to surface waters and groundwaters from pathogens and phosphorus is high throughout the catchment as is the likelihood of inadequate percolation. Many of these systems are therefore located in hydrologically unsuitable conditions. Many are located in coastal regions, in the vicinity of the shellfish area. Other factors which affect the likelihood of these systems to impact surface and groundwaters are whether suitable types of systems are selected, whether they are installed correctly, whether they are properly maintained and whether they are situated close to the designated shellfish area or to ditches, drains, watercourses, wells or boreholes. It is therefore likely that a substantially smaller number than the total number of systems in the catchment are posing a risk to surface and groundwaters. However, monitoring in this shellfish area does not indicate any water quality issues which are likely to be associated with this source. Therefore, these systems are unlikely to be affecting shellfish water quality in this shellfish area (SPRP, 2010).

There are five Section 4 licensed industries in the catchment but none of them have been deemed to be 'at risk' and none of them is a likely source of the faecal contamination and elevated chromium levels indicated by shellfish and WFD monitoring. Therefore, even though one of them is discharging directly into the shellfish area, they are unlikely to be affecting shellfish water quality in this shellfish area.

Over 75% of the area of this catchment is farmed land and the estimates of livestock density and fertiliser usage are high compared to the national averages. The EPA's diffuse model risk assessment, which investigates the relationship between catchment attributes (percentages of diffuse land cover including agriculture), water chemistry and ecological status, highlights several diffuse risk areas in the catchment. Also, the wet soils in the catchment and the high slopes in the upper reaches could results in agricultural runoff in these areas. However, monitoring in this shellfish area does not indicate any water quality issues which are likely to be associated with agriculture and therefore agriculture is unlikely to be affecting shellfish water quality in this shellfish area.

Ecological water quality status

The Ilen Estuary has been assigned 'Moderate' water quality status in the SW Region River Basin Management Plan. Key pressures include point source waste water treatment plants as well as activities related to agriculture within the catchment. These are the primary source of nutrient enrichment to water bodies while a number of septic tanks located within the water management unit are in areas of very high or extreme risk (Source – SW Region, River Basin Management Plan (CCC, 2011)). Additional pressure on water quality in this SAC could arise from rural and urban settlement provided for in Cork County Development Plan 2009 and the Skibbereen EA Local Area Plan 2011 (Baltimore and Oileain Chleire). The EPA has assigned and ecological risk score of 1a to this coastal waterbody, indicating that it is at risk of not achieving a 'Good' status (Data from the EPA ENVISION webite http://gis.epa.ie/Envision/ accessed 08/05/2014).

Bathing water quality

There are no specific bathing waters within Roaringwater Bay. The nearest bathing areas are Barley Cove near Mizen Head and Tragumna, East of Lough Hyne. Both these sites have good bathing water quality and the latter was a Blue Flag Beach in 2013 (See http://splash.epa.ie/#).

6.5 Man-made heritage

According to the Archaeological Survey of Ireland, there are numerous sites of archaeological interest located around the coast of Roaringwater Bay and on the islands within the Bay. These include tower remains on Castle Island; burial ground, bullaun stone and miner's complex on Horse Island; cross and burial ground on Skeam West; promontory fort on Calf Island East; mass rock and holy well on Hare Island; cup-marked stone, Franciscan priory, barracks and more on Sherkin Island; stone row, leper hospital, fulacht fia, megalithic passage tomb and more on Cape Clear (see http://webgis.archaeology.ie/NationalMonuments/FlexViewer/). The Department of Arts, Heritage and the Gaeltacht (DAHG) raised no objections to the development from an underwater archaeological perspective.

There are numerous shipwrecks within the area these include:

- Illyrian: A steamer which sank in 1884 on the eastern side of Cape Clear Island (51°26'N; 09°29'W). Wreckage is very broken up with remains mostly consisting of a large anchor and two boilers. (http://www.divesitedirectory.co.uk/dive_site_ireland_cork_baltimore_wreck_illyrian.html accessed 08/05/14).
- Stephan Whitney: A wreckage south-west of Calf Island.
- Huntress: A timber trawler which sank in 1996, 1km North of Calf Island.
- Enoch Bonner: Sank in 1917, 500m north of Cape Clear Island.
- A Spanish trawler which sank west of Cape Clear Island.
- Nestorian: Sank in 1917, south-west of Cape Clear Island. The remains of which are well spread out close to the cliffs south of the Bill of Cape.
- Hourtien: A trawler which sank in 1931, 2km south-east Cape Clear Island.
- Malmanger: A 5600 ton boat sank in 1917, 4km south of Baltimore (http://www.baltimorediving.com/map.htm accessed 08/05/14).
- Mystique: A fishing vessel sunk to the north of Calf Island East (http://diving.ie/roaringwater-bay-west-cork/ accessed 08/05/14).
- Alondra: A steam ship lost on 29/12/1916 near Kedge Island, Baltimore (51°27'40"N; 09°20'44"W).
- Dido: A barque which sank in 1883 near Kedge Island (51°28'N; 09°19'W). However, very little remains except for a few anchors and a lengths of metal (http://www.divesitedirectory.co.uk/ireland_cork_baltimore.html accessed 08/05/14).

- Memphis: A steam ship lost near Dunlough Bay Mizen Head Co Cork in 1896. Very little wreckage remains.
- Irada & Bohemian: There are remains of several steamers and coasters north of the Mizen Head. These include the Irada which sank in 1908 and the Bohemian which sank in 1887. Wreckage remains of these, albeit with very little structure (http://www.tempoweb.com/diveireland/mizen.htm accessed 08/05/14).

7 Section 61 Assessment

7.1 Site Suitability

The proposed sites under appeal are new licensed areas. However, oyster farming has been carried out in the Ilen Estuary since the 1970s. Figure 7.1 illustrates the licensed areas under appeal.

During the statutory consultation phase An Taisce raised concern about the risk of successful reproduction of pacific oysters in the area. The Department cite a survey by Kochmann *et al.* (2013) that investigated the feral populations of pacific oyster throughout Ireland. It stated that it was noteworthy that none were found within Roaringwater Bay even though oysters have been cultivated in the bay since 1980. This it proposed was as a result of the hydrological and morphological characteristics that facilitate pacific oyster settlement stating that the 6 day residence time of water in the bay was much less than the 21 days required for increased risk of settlement. Additionally as the proposed sites under appeal are located within the Ilen Estuary the residence time is likely to be less than that of Roaringwater Bay. However, in order to further mitigate any risks, licence conditions stipulating the use of triploid oysters in the bay and the sourcing of ½ grown seed from within the jurisdiction were added to the licence.

Figure 7.1 Location of the new licensed sites under appeal in the Ilen Estuary. The red and green lines indicate the low and high water marks.

Figure 7.2 Location of the licensed areas in relation to the appellants' grazing land.

It is apparent from Figure 7.2 that the licensed area T5/569 N2 encroaches on 3rd party, privately owned land (labelled Grazing Area 'B'). The licence under appeal was granted for aquaculture on the foreshore, therefore the technical advisors would advise that the boundaries be redrawn as illustrated in Figure 7.3. This would result in a slight reduction in licensed area from 0.34 Ha to 0.3331 Ha. The new coordinates and area for site N2 would be as follows:

Site T5/569 N2 (0.3331ha)

The area seaward of the high water mark and enclosed by a line drawn from Irish National Grid Reference point

105213, 030067 to Irish National Grid Reference point

105261, 029986.98 to Irish National Grid Reference point

105261.04, 029967.67 Irish National Grid Reference point

105241, 029958 to Irish National Grid Reference point

105186, 030054 to first mentioned point.

Figure 7.3 Advised new boundaries of site T5/569 N2.

7.2 Other Uses

As highlighted in section 6.2, there are numerous other users operating within Baltimore Harbour/ Ilen Estuary including farmers, inshore fisheries, other shellfish farmers, cruising vessels and various leisure activities.

Although the proposed licensed sites are new established, oyster culture has been carried out in the estuary since the 1970s. The management of aquaculture in the area by Roaringwater Bay CLAMS and the operation of a navigational safety management plan ensure that the proposed sites will minimal impact on most other users of the area over the last decade. It is a condition of the licences that the licence holder is required to join and actively participate in such codes of 'good neighbour behaviour' as may be adopted and organised by the Roaringwater CLAMS. Failure to participate, as reported to the licensing authority by the CLAMS group secretary, in such good practice will be regarded as breach of licence conditions

The Marine Survey Office stated it had no objection to this development from a navigational point of view, neither had the Commissioner of Irish Lights.

The Sea Fisheries Protection Authority stated it had no objection to the development.

Concerns raised by the appellants with regards to site suitability

The appellants own the agricultural land situated between site N2 and N3 and at the south east corner of N2 (labelled 'Grazing Area A and Grazing Area B in Fig. 7.2 above). At low water the appellants state that their cattle move freely between the two grazing areas and the mainland by way of the beach. It is the appellants' assertion that the presence of oyster trestles in the licensed areas could cause serious injury to their cattle. They state that at high water the two grazing areas effectively become islands and cattle may potentially swim across areas with trestles resulting in a hazard of injury or drowning.

It is the opinion of the technical advisors that the location of the licensed areas on the foreshore are sufficiently distant from the accessible areas of the agricultural land for them to be a hazard at low water. The grazing areas in question are also only cut off from the main land during extreme spring high tides and it is again the opinion of the technical advisors that trestles are located at sufficient distance for this hazard to be negligible.

The appellants state that the presence of 60-90 cattle and bulls in the vicinity of the licensed areas could be a serious hazard to the health and safety of those workers tending the oyster trestles resulting in injury or fatality.

The licensed areas in question are located on state owned foreshore. There is a public right of access to the foreshore and it is the duty of the owner of the livestock that may potentially pose a risk of injury on state owned land to mitigate against this. Additionally it is the responsibility of the workers within the licensed area on the foreshore to follow their own health and safety protocols.

7.3 Statutory Status

The licensed sites under appeal are not located within in any Natura 2000 designated sites. However, the lower reaches of Ilen Estuary and Baltimore Harbour are located within Roaringwater Bay and Islands cSAC (site code: IE000101) and towards the south is Sheep's Head to Toe Head SPA (site code: IE004156).

The Marine Institute's Article 6 Assessment of Aquaculture and Fisheries in Roaringwater Bay assessed the impact of various methods of fishing and aquaculture on the sensitive habitats within the cSAC. The majority of intertidal oyster culture within the cSAC is carried out on intertidal sedimentary habitats which are not designated. As the licences under appeal are located outside the cSAC there will be no significant impact on sensitive habitats within the cSAC.

Licence conditions stipulate the use of triploid oyster stock to mitigate against the risk of establishment of a wild or naturalised population of pacific oysters in the cSAC. A second licence condition stipulates that half-grown oysters (where utilised) must be sourced from within the jurisdiction to prevent the introduction of alien species.

7.4 Economic Effects

It is estimated that the proposed licensed areas under appeal will employ two full time and up to three part time staff.

7.5 Ecological Effects

Each of the proposed licence renewal sites were pre-screened by the EIA Screening group in order to consider on a case by case basis whether the proposed aquaculture developments were likely to have a significant impact on the environment. The EIA Pre-Screening Assessment concluded that the environmental effects from the proposed activity will be minimal and not significant and that an Environmental Impact Assessment is not required. . It is the opinion of the technical advisors that the EIA Pre-Screening Assessment and the Article 6 Assessment of Aquaculture and Fisheries in Roaringwater Bay sufficiently assessed the potential impacts of the proposed aquaculture activities on the environment and that an EIS was not required in this instance.

7.6 General Environmental Effects

Results of the Shellfish Waters Directive do not indicate any water quality issues in the vicinity of the proposed licensed areas.

The production of faeces and pseudofaeces by oysters and the impact of the deposition of same on the seafloor is likely to be minimal. This is because the sites are well flushed and build-up of excess organic matter with subsequent reduction in oxygen is considered unlikely

The implementation of proper waste management procedures will ensure the removal of any old ropes, floatation devices and other material associated with the cultivation process. Amounts of discarded shells will be small and build-up of excess on site will not be permitted.

Emissions associated with the husbandry and harvesting of shellfish from boats and other machinery are not expected to have a significant effect.

There is likely to be no significant general environmental effects as a result of the proposed granting of licences.

7.7 Effect on Man-made heritage

While there are numerous shipwrecks within Roaringwater Bay and the surrounding waters, as previously stated in Section 6.5, The Department of Arts, Heritage and the Gaeltacht (DAHG) raised no objections to the development from an underwater archaeological perspective.

8 Section 61 Conclusions

Site Suitability

The sites under appeal are suitable for oyster culture in Ilen Estuary for the following reasons:

(1) Oyster culture has been carried out successfully in estuary since the 1970s
(2) The site is located just outside a regularly monitored Shellfish Designated Area
(3) The short residence time of water in the bay means that the potential for establishment of a wild population of pacific oysters is negligible

Other Uses

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

(1) The licensed sites are located on the foreshore. They are deemed to be at a sufficient distance from nearby accessible agricultural land render hazards to livestock as negligible.
(2) The management of Roaringwater Bay by the CLAMS and the operation of a navigational safety management plan have ensured that the proposed sites will have minimal impact on other users of the area. As a condition of the licence, the licence holder is required to join and actively participate in such codes of 'good neighbour behaviour' as may be adopted and organised by the Roaringwater CLAMS. Failure to participate, as reported to the licensing authority by the CLAMS group secretary, in such good practice will be regarded as breach of licence conditions.

Statutory Status

The proposed development has a non-significant impact on the statutory status of the area for the following reasons:

(1) There will be no loss of qualifying interest or sensitive habitats within the cSAC as a result of the proposed aquaculture activity
(2) the use of triploid oyster stock will mitigate against the risk of establishment of a wild or naturalised population of pacific oysters in the cSAC.
(3) The sourcing of half-grown oysters from within the jurisdiction to prevent the introduction of alien species to the cSAC

Economic Effects

There will be a positive effect on the economy of the area for the following reasons:

It is estimated that the proposed licensed areas under appeal will employ two full time and up to three part time staff.

Ecological Effects

There is a non-significant effect on the natural habitats, wild fisheries and fauna and flora of the area as a result of the proposed development. An EIA pre-screening assessment was carried out by the EIA screening group and it concluded that the environmental effects from the proposed activity would be minimal and not significant and that an Environmental Impact Statement would not be required for the proposed licence renewals.

General Environmental Effects

There are non-significant general environmental effects as a result of the proposed development for following reasons:

(1) There are no significant effects on the general environment of the foreshore as a result of the proposed development provided proper waste management procedures are followed
(2) The production of faeces and pseudofaeces by cultivation of oysters on trestles should not impact the benthic environment as the sites are well flushed and the build up of excess organic matter with subsequent reduction in oxygen is not considered likely.
(3) There are likely to be no significant emissions from machinery used in harvesting and husbandry.

Man-made Heritage

There is no effect on the man-made heritage of value in the area as a result of the proposed licence applications. While there are numerous sites of man-made heritage in the environs of Roaringwater Bay and a substantial number of shipwrecks, the Department of Arts, Heritage and the Gaeltacht raised no objections to the development from an underwater archaeological perspective.

9 Recommendations

In accordance with Section 59 of the Fisheries (Amendment) Act 1997 and amendments the Technical Advisor recommends **granting** the licences for the site reference numbers T5/569, N1, N2 and N3. However, as the site T5/569 N2 was licensed encroaching upon 3rd party, privately owned land, it is recommended that the boundaries of this site be redrawn.

It is the opinion of the Technical Advisor that the EIA Pre-Screening Assessment and the Article 6 Assessment of Aquaculture and Fisheries in Roaringwater Bay adequately considered the potential impacts of aquaculture on the environment. An EIS was not required in this instance.

10 Conclusions

- The sites under appeal are suitable for oyster trestle culture.
- The renewal of licences will have no *significant* impact on other uses of the area (recreational, agricultural, fishing *etc.*)
- The proposed licences will a *non-significant impac*t on the statutory status of the area
- The proposed licences will have a *positive* effect on the economy of the area
- The proposed licences will have *no significant* effects on wild fisheries, natural habitat and flora and fauna populations
- There are no significant general environmental effects expected as a result of the licence renewals
- There are no effects anticipated on the man-made heritage of value in the area as a result of the renewal of the licences

In conclusion, we would advise to grant the licence applications under appeal.

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